West Virginia University is a land-grant, research institution founded in 1867. WVU is a student-centered learning community meeting the changing needs of West Virginia and the nation through teaching, research, service, and technology.

The West Virginia University Undergraduate Catalog 2011–2012 is a general source of information about course offerings, academic programs and requirements, expenses, rules, and policies. In order to reach the goals and fulfill the mission of the University, the courses, requirements, and regulations contained herein are subject to continuing review and change by the West Virginia Higher Education Policy Commission, the WVU Board of Governors, University administrators, and the faculties of the schools and colleges. The University, therefore, reserves the right to change, delete, supplement, or otherwise amend the information, course offerings, requirements, rules, and policies contained herein without prior notice. The indicia depicted are registered trademarks of West Virginia University. Copyright © West Virginia University, 2011.
### West Virginia University Calendar 2011–12*

#### Fall 2011

<table>
<thead>
<tr>
<th>Date/Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, August 18</td>
<td>New Student Orientation</td>
</tr>
<tr>
<td>Friday, August 19</td>
<td>On Campus First Day of Classes</td>
</tr>
<tr>
<td>Monday, August 22</td>
<td>Late Registration Fee in Effect for All Students</td>
</tr>
<tr>
<td>Friday, August 26</td>
<td>Last day to Register, Add New Courses, Make</td>
</tr>
<tr>
<td></td>
<td>Section Changes, Change Pass/Fail and Audit</td>
</tr>
<tr>
<td>Tuesday, August 30</td>
<td>Eid-al-Fitr (Day of Special Concern)</td>
</tr>
<tr>
<td>Monday, September 5</td>
<td>Labor Day Recess: University Closed</td>
</tr>
<tr>
<td>Thursday, September 29</td>
<td>Rosh Hashanah (Day of Special Concern)</td>
</tr>
<tr>
<td>Friday, October 7</td>
<td>Last day to Drop a Class</td>
</tr>
<tr>
<td>Thursday, October 13 at noon</td>
<td>Mid-Semester</td>
</tr>
<tr>
<td>Friday, October 28</td>
<td>Last day to Change Pass/Fail/Audit</td>
</tr>
<tr>
<td>Friday, November 11</td>
<td>Veterans’ Day (Day of Special Concern)</td>
</tr>
<tr>
<td>Saturday, November 19 thru Sunday, November 27</td>
<td>Thanksgiving Recess</td>
</tr>
<tr>
<td>Thursday, December 8</td>
<td>Last day to Withdraw from the University</td>
</tr>
<tr>
<td>Friday, December 9</td>
<td>Last day of Classes</td>
</tr>
<tr>
<td>Sunday, December 11</td>
<td>December Convocation</td>
</tr>
<tr>
<td>Monday, December 12 thru Saturday, December 17</td>
<td>Final Examination Week</td>
</tr>
<tr>
<td>Sunday, December 18</td>
<td>Winter Break Begins</td>
</tr>
<tr>
<td>Wednesday, December 28</td>
<td>Degree Conferring Date</td>
</tr>
<tr>
<td>Friday, January 6</td>
<td>Dean’s reports on Graduates Due in Office of University Registrar</td>
</tr>
</tbody>
</table>

#### Spring 2012

<table>
<thead>
<tr>
<th>Date/Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday, January 5</td>
<td>New Student Orientation</td>
</tr>
<tr>
<td>Friday, January 6</td>
<td>On Campus First day of Classes</td>
</tr>
<tr>
<td>Monday, January 9</td>
<td>Late Registration Fee in Effect for All Students</td>
</tr>
<tr>
<td>Friday, January 13</td>
<td>Last day to Register, Add New Courses, Make</td>
</tr>
<tr>
<td></td>
<td>Section Changes, Change Pass/Fail and Audit</td>
</tr>
<tr>
<td>Monday, January 16</td>
<td>Martin Luther King’s Birthday Recess: University Closed</td>
</tr>
<tr>
<td>Friday, February 24</td>
<td>Mid-Semester</td>
</tr>
<tr>
<td>Thursday, March 1 at noon</td>
<td>Last day to Drop a Class</td>
</tr>
<tr>
<td>Friday, March 16</td>
<td>Mid-Semester Reports Due</td>
</tr>
<tr>
<td>Wednesday, March 21</td>
<td>Naw-Ruz (Day of Special Concern)</td>
</tr>
<tr>
<td>Saturday, March 24 thru Sunday, April 1</td>
<td>Spring Recess</td>
</tr>
<tr>
<td>Friday, April 6</td>
<td>Friday Before Easter Recess: University Closed</td>
</tr>
<tr>
<td>Thursday, April 26</td>
<td>Last day to Withdraw from the University</td>
</tr>
<tr>
<td>Friday, April 27</td>
<td>Last day of Classes</td>
</tr>
<tr>
<td>Monday, April 30 thru Saturday, May 5</td>
<td>Final Examination Week</td>
</tr>
<tr>
<td>Wednesday, May 9</td>
<td>Dean’s reports on Graduates Due in Office of University Registrar</td>
</tr>
<tr>
<td>Saturday, May 12</td>
<td>Alumni Day</td>
</tr>
<tr>
<td>Saturday, May 12</td>
<td>Commencement</td>
</tr>
<tr>
<td>Sunday, May 13</td>
<td>Commencement</td>
</tr>
</tbody>
</table>

#### 12-Week Summer Session 2012

<table>
<thead>
<tr>
<th>Date/Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, May 21</td>
<td>Registration</td>
</tr>
<tr>
<td>Monday, May 21</td>
<td>On-Campus First Day of Classes</td>
</tr>
<tr>
<td>Monday, May 28</td>
<td>Memorial Day Recess: University Closed</td>
</tr>
<tr>
<td>Friday, June 29</td>
<td>Final Exam for First Six-Week Session</td>
</tr>
<tr>
<td>Wednesday, July 4</td>
<td>Independence Day Recess: University Closed</td>
</tr>
<tr>
<td>Friday, August 10</td>
<td>Final Exam for Second Six-Week Session</td>
</tr>
<tr>
<td>Friday, August 17</td>
<td>Degree Conferring Date (No Ceremonies)</td>
</tr>
</tbody>
</table>

*Note: Late registration fee in effect on the second day of class for all classes.

*See http://calendar.wvu.edu/
Contents

WVU websites .................................................................................................................. 1
Calendar .......................................................................................................................... 2
West Virginia Higher Education Governance, Board of Governors ......................... 4
Frequently Contacted Offices ...................................................................................... 5
WVU Administration .................................................................................................... 6
General Information .................................................................................................... 10
  Mission ....................................................................................................................... 10
Support Services .......................................................................................................... 13
Admission ..................................................................................................................... 16
Enrollment and Registration ....................................................................................... 23
Special Programs ......................................................................................................... 35
Residency ..................................................................................................................... 47
Course Credits, Terms, Classification ........................................................................ 48
Academic Progress ...................................................................................................... 51
Courses .......................................................................................................................... 61
Colleges and Schools .................................................................................................. 64
Course Descriptions ................................................................................................... 310
Faculty ......................................................................................................................... 548
West Virginia Higher Education Governance*

Earl Ray Tomblin, Governor (acting)

West Virginia Higher Education Policy Commission

Dr. Brian Noland, Chancellor
David K. Hendrickson, Esq., Charleston, Chairman
Dr. Bruce Berry, Morgantown, Vice Chairman
Jenny Allen, Shepherdstown
Kathy G. Eddy, Parkersburg, Secretary
John Estep, Morgantown
Dr. John Leon, Fairmont
David Richard Tyson, Esq., Huntington
Bob Brown, Ex-Officio, Charleston, Chair, WV Council for Community and Technical College Education
Kay H. Goodwin, Ex-Officio, Secretary of Education the Arts
J. Ted Mattern, Ex-Officio, State Superintendent of Schools

West Virginia University Board of Governors

Ellen S. Cappellanti, Charleston
Dr. Thomas S. Clark, Bruceton Mills
James W. Dailey II, Martinsburg
Thomas V. Flaherty, Charleston
Raymond J. Lane, Menlo Park, CA
Diane Lewis, Morgantown
Carolyn Long, Little Birch, Chair
William O. Nutting, Wheeling
Andrew A. (Drew) Payne, Ill, Charleston, Vice Chairman
Edward L. Robinson, Charleston
James R. Rogers, Hurricane, WV
Dr. Charles M. Vest, Washington, D.C.
William D. Wilmloth, Wheeling, WV
Jo Y. Morrow, Morgantown, Classified Staff Representative
Dr. Nigel N. Clark, Faculty Representative
Dr. Robert K. Griffith, Faculty Representative
Chris Lewallen, Student Representative

*Current as of February, 2011.

West Virginia University is governed by the West Virginia University Board of Governors and the West Virginia Higher Education Policy Commission. James P. Clements is the 23rd President of West Virginia University.

West Virginia University is a member of the Higher Learning Commission. The University’s educational programs are accredited by the Higher Learning Commission North Central Accreditation (NCA) of Colleges and Schools and by the appropriate accreditation agencies for professional programs.

West Virginia University is an Equal Opportunity/Affirmative Action Institution. The University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color, or national origin in the administration of any of its educational programs or activities, or with respect to admission or employment. Further, faculty, staff, students, and applicants are protected from retaliation for filing complaints or assisting in an investigation under the University's Equal Opportunity/Affirmative Action Plan. Inquiries regarding the University’s non-discrimination policy may be sent to the director, Affirmative Action Office/Equal Employment Opportunity Programs, West Virginia University.— Office of the President.
<table>
<thead>
<tr>
<th>Frequently Contacted Offices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Programs</strong></td>
</tr>
<tr>
<td>Provost and Vice President for Academic Affairs</td>
</tr>
<tr>
<td>West Virginia University</td>
</tr>
<tr>
<td>P.O. Box 6203</td>
</tr>
<tr>
<td>Morgantown, WV 26506-6203</td>
</tr>
<tr>
<td>Phone: (304) 293-5701</td>
</tr>
<tr>
<td>FAX: (304) 293-7554</td>
</tr>
<tr>
<td><a href="http://provost.wvu.edu/">http://provost.wvu.edu/</a></td>
</tr>
<tr>
<td><strong>Office of Admissions</strong></td>
</tr>
<tr>
<td>West Virginia University</td>
</tr>
<tr>
<td>P.O. Box 6009</td>
</tr>
<tr>
<td>Phone: (304) 293-2121 or 1-800-344-WVU1</td>
</tr>
<tr>
<td>FAX: (304) 293-8832</td>
</tr>
<tr>
<td><a href="http://adm.wvu.edu/">http://adm.wvu.edu/</a></td>
</tr>
<tr>
<td><strong>Office of the University Registrar</strong></td>
</tr>
<tr>
<td>West Virginia University</td>
</tr>
<tr>
<td>P.O. Box 6878</td>
</tr>
<tr>
<td>Morgantown, WV 26505-6009</td>
</tr>
<tr>
<td>Phone: (304) 293-5355</td>
</tr>
<tr>
<td>FAX: (304) 293-8991</td>
</tr>
<tr>
<td><a href="http://registrar.wvu.edu">http://registrar.wvu.edu</a></td>
</tr>
<tr>
<td><strong>Graduate Programs</strong></td>
</tr>
<tr>
<td>Office of Graduate Education and Life</td>
</tr>
<tr>
<td>West Virginia University</td>
</tr>
<tr>
<td>P.O. Box 6897</td>
</tr>
<tr>
<td>Morgantown, WV 26506-6897</td>
</tr>
<tr>
<td>Phone: (304) 293-7173</td>
</tr>
<tr>
<td>FAX: (304) 293-8657</td>
</tr>
<tr>
<td><a href="http://grad.wvu.edu/">http://grad.wvu.edu/</a></td>
</tr>
<tr>
<td><strong>Housing and University Apartments</strong></td>
</tr>
<tr>
<td>West Virginia University</td>
</tr>
<tr>
<td>P.O. Box 6430</td>
</tr>
<tr>
<td>Morgantown, WV 26506-6430</td>
</tr>
<tr>
<td>Phone: (304) 293-4491</td>
</tr>
<tr>
<td>FAX: (304) 293-4825</td>
</tr>
<tr>
<td><a href="http://housing.wvu.edu">http://housing.wvu.edu</a></td>
</tr>
<tr>
<td><strong>Scholarships, Work-Study, and Veterans Educational Assistance</strong></td>
</tr>
<tr>
<td>Student Financial Aid Office</td>
</tr>
<tr>
<td>West Virginia University</td>
</tr>
<tr>
<td>P.O. Box 6004</td>
</tr>
<tr>
<td>Morgantown, WV 26506-6004</td>
</tr>
<tr>
<td>Financial Aid Phone: (304) 293-5242</td>
</tr>
<tr>
<td>FAX: (304) 293-4890</td>
</tr>
<tr>
<td>Scholarships Phone: (304) 293-4126</td>
</tr>
<tr>
<td>FAX: (304) 293-4544</td>
</tr>
<tr>
<td><a href="http://www.finaid.wvu.edu">http://www.finaid.wvu.edu</a></td>
</tr>
<tr>
<td><strong>Student Life</strong></td>
</tr>
<tr>
<td>Dean of Students</td>
</tr>
<tr>
<td>West Virginia University</td>
</tr>
<tr>
<td>P.O. Box 6411</td>
</tr>
<tr>
<td>Morgantown, WV 26506-6411</td>
</tr>
<tr>
<td>Phone: (304) 293-5611</td>
</tr>
<tr>
<td>FAX: (304) 293-7028</td>
</tr>
<tr>
<td><a href="http://studentlife.wvu.edu">http://studentlife.wvu.edu</a></td>
</tr>
</tbody>
</table>
West Virginia University Administration

Senior Administrators
President, James P. Clements
Provost and Vice President for Academic Affairs, Michele Wheatly
Chancellor for Health Sciences, Christopher Colenda

President's Office
President, James P. Clements
Chief of Staff, Jay Cole
Executive Officer for Policy Development, Jennifer Fisher
Special Assistant to the Governing Board, Valerie Lopez
Director of Intercollegiate Athletics, Oliver Luck
Special Assistant to the President, Sara A. Master
Executive Officer for Social Justice, Jennifer A. McIntosh
Director of Internal Audit, William Quigley
Executive Director of University Events, Robin Yorty
Provost and Vice President for Academic Affairs, Michele Wheatly
Senior Associate Provost, Russell K. Dean
Associate Provost for Graduate Academic Affairs, Jonathan Cumming
Associate Provost for Undergraduate Academic Affairs, Elizabeth Dooley
Associate Provost for Information Technology, Rehan Khan
Associate Provost for International Academic Affairs, Michael Lastinger
Associate Provost for Extension and Public Service, David Miller
Associate Provost for Academic Personnel, C. B. Wilson
University Registrar, Steve Robinson
Campus Provost, WVU Potomac State College, Kerry Osdell
Campus Provost, WVU Institute of Technology, Scott Hurst

Vice President for Administration and Finance, Narvel Weese
Senior Associate Vice President for Finance, Dan Durbin
Associate Vice President for Facilities and Services, Randy Hudak (Interim)
Associate Vice President for Planning and Treasury Operations, Elizabeth Reynolds
Assistant Vice President for Finance, Anjali Halabe
Assistant Vice President for Facilities Management, Randy Hudak

Chancellor for Health Sciences, Christopher Colenda
Vice President for Planning and Operations, Fred R. Butcher
Chief Financial Officer for Health Sciences, Wendy King
Associate Vice President for Health Sciences–Charleston Division, L. Clark Hansbarger
Associate Vice President for Health Sciences–Eastern Division, Mitch Jacques
President, West Virginia University Hospitals, Inc, Bruce McClymonds

Vice President for Human Resources, Margaret Phillips

Vice President for Legal Affairs, and General Counsel, William H. Hutchens, III
Senior Deputy General Counsel, April Min
Deputy General Counsel, Jacquelyn Core
Deputy General Counsel, David Fryson

Vice President for Research and Economic Development, Curt Peterson
Associate Vice President for Research and Economic Development, Mridul Gautam
Assistant Vice President for Research Administration and Director of Sponsored Programs, Alan Martin

Vice President for Student Affairs, Kenneth D. Gray
Associate Vice President for Student Affairs and Enrollment Management Services, Brenda Thompson
Associate Vice President for International and Global Outreach, David Stewart
Assistant Vice President for Student Affairs, Barbara Copenhaver-Bailey
Assistant Vice President for Student Affairs, Michael Ellington
Assistant Vice President for Student Health and Wellness, Cathy Yura

Vice President for University Relations, Christine M. Martin
Associate Vice President for Integrated Marketing Operations, Tricia Petty
Assistant Vice President for University Communications, Becky Lofstead

President and CEO, West Virginia University Alumni Association, Steve Douglas
Chair, West Virginia University Faculty Senate, Alan Stolzenberg  
Chair, West Virginia University Staff Council, Jo Morrow  
President, West Virginia University Student Government Association, Christopher Lewallen

**Deans**
- College of Business and Economics, Jose V. Sartarelli
- College of Creative Arts, Paul K Kreider
- College of Engineering and Mineral Resources, Eugene V. Cilento
- College of Human Resources and Education, Dee Hopkins
- College of Law, Joyce McConnell
- College of Physical Activity and Sport Sciences, Dana D. Brooks
- Davis College of Agriculture, Natural Resources, and Design, Rudolph P Almasy *(Interm)*
- Dean of Students, Corey Ferris *(Interim)*
- Eberly College of Arts and Sciences, Robert H Jones
- Extended Learning, Sue Day-Perroots
- Honors College, Keith Garbutt
- Perley Isaac Reed School of Journalism, Maryanne Reed
- School of Dentistry, Louise Veselicky *(Interim)*
- School of Medicine, Arthur J. Ross III, Dean
- School of Nursing, Georgia Narsavage
- School of Pharmacy, Patricia A. Chase
- University Libraries, Frances O’Brien

**Directors**
- AAO/EEO Program, ADA Compliance, Jennifer A. McIntosh
- Accounting and Financial Systems, Anjali Halabe
- Administrative Technology Solutions, Kate Hazen
- Admissions, Marilyn Potts
- Alumni Association, Stephen L. Douglas
- Athletics, Oliver Luck
- Blanchette Rockefeller Institute of Neuroscience, D. Max Francis
- Bureau of Business and Economic Research, Tom S. Witt
- Career Services Center, David L. Durham
- Center for Black Culture and Research, Marjorie Fuller
- Center for Chinese Business, William B. Riley Jr.
- Center for Women’s Studies, Ann Oberhauser
- Center for Writing Excellence, Laura Brady
- Center on Aging, Alan M. Ducatman *(Interim)*
- Congressional Relations, Mary Bowman
- Cultural Resource Management Program, Chad Proudfoot
- Dining Services, David Friend
- Economic Development, Russ Lorince
- Environmental Health and Safety Office, John Princke
- Financial Services, Lisa Lively
- Financial Aid, Kaye Widney
- Institute for Public Affairs, Kevin Leyden
- Institute of Occupational Environmental Health, Christopher Martin
- Institutional Research, Roberta Dean
- Internal Auditing, William R. Quigley
- Mary Babb Randolph Cancer Center, Scot C. Remick
- Military Science, Air Force ROTC, Lt. Col Jeremy Anfinson
- National Research Center for Coal and Energy, Richard Bajura
- Parents Club, Sabrina Cave
- Physical Plant HSC, Leonard Lewis
- Printing Services, Geraldine M. Ireland
- Procurement Services, Philip Charneskie
- Public Safety/Police Department, Robert E. Roberts
- Regional Research Institute, Randall W. Jackson
Research Compliance, Daniel Vasgird
Research Communication, Gerrill Griffith
Sponsored Programs, Alan B. Martin
Student Health Services, Jan Palmer
Student Recreation Center, David H. Taylor
Technology Transfer, Bruce Sparks
Telecommunications, Timothy P. Williams
Undergraduate Academic Services Center, Anita Mayer
University Affiliated Center for Developmental Disabilities, Ashok Dey
University Events, Stephanie Ballard Conrad
University Housing, Corey Farris
University Relations-Design, Angela M. Caudill
University Relations-News, John Bolt
University Relations-Video, John E. Duwall
University Relations-Web, Cathy Orndorff
Visitors Center, Danica Ann Wilburn
WVU Press, Carrie Mullen

Distinguished Chairs and Professors
Jame Abraham, Bonnie Wells Wilson Eminent Scholar and Distinguished Professorship in Oncology
Gerald G. Ashdown, James H. “Buck” and June M. Harless Professor of Law
Karl Barth, Samples Professorship of Civil and Environment of Engineering
Robert M. Bastress, John W. Fisher II Professor of Law
Chris Bise, Charles T. Holland Professor of Mining Engineering
Robert E. Blobaum, Eberly Family Distinguished Professor of History
Paula F. Bone, Nathan Haddad Professor of Business Administration
Melanie Booth-Butterfield, Peggy Rardin McConnell Chair of Speech Communications
Laura Brady, Eberly Distinguished Professor of Outstanding Teaching (ECAS)
James E. Brick, Dr. Edmund B. Flink Chair of Internal Medicine
Jim Brown, K-Mart Corporation Chair of Marketing
Vincent P. Cardi, Bowles, Rice, McDavid, Graff & Love Professor of Law
Tim Carr, Marshall S. Miller Energy Professor of Geology
William H. Carter, Warren Point Chair of Internal Medicine
Judith Charlton, Jane McDermott Shott Chair of Ophthalmology
Myra Chiang, Distinguished Professorship of Special Care to Children in Pediatric Specialty
Nigel N. Clark, George B. Berry Chair of Engineering
Franklin D. Cleckley, Arthur B. Hodges Professor of Law
Patrick Conner, Eberly College Centennial Professor of English
Robert Dailey, Davis-Michael Professor of Animal and Veterinary Sciences
Julio Davalos, Claude W. Benedum Professor for Outstanding Teaching
Robert DiClerico, Eberly Family Professor for Outstanding Teaching
Charles R. DiSalvo, Woodrow A. Potesta Professor of Law
Barry A. Edelstein, Eberly Family Distinguished Professor of Clinical Psychology
Boyd Edwards, The Ruth and Russell Bolton WVU Professor of Outstanding Teaching
Eloise Elliott, The Ware Family Distinguished Professorship
John Ernest, Eberly Family Distinguished Professor of American Literature
Ali Feliachi, Electric Power Systems Professor of Engineering
Donald C. Fidler, Dana L. and Peggy M. Farnsworth Chair of Educational Psychiatry
Melanie Fisher, Martha & Larry Schwab Endowment for International Health
Kenneth Fones-Wolf, The Stuart and Joyce Robbins Chair in History
Mathis P. Frick, O. F. Gabriele Chair of Radiology
James J. Friedberg, Hale J. and Roscoe P. Posten Professor of Law
Frank Gagliano, Claude W. Benedum Professor of Theatre
Keith Garbutt, Eberly Family Professor for Outstanding Teaching (ECAS)
Laura Gibson, Alexander B. Osborn Distinguished Professor in Hematological Malignancies Research
Robert L. Goodman, E. J. Van Liere Medicine Professorship
Rakesh K. Gupta, George and Carolyn Berry Professor of Chemical Engineering
Ludwig Gutmann, Hazel Ruby McQuain Chair of Neurological Research
Joe D. Hagan, Barnette Professor of Political Science (ECAS)
Donald E. Hall, Jackson Family Distinguished Chair of English
Trevor M. Harris, Eberly Family Professor of Geography
Alison Helm, J. Bernard Schultz Endowed Professor of Art
JoAnn Hornsby, Interim Hazel Ruby McQuain Arthritis/Rheumatic Disease Chair
Timothy Jackson, Charles E. “Jim” Compton Chair of Nutrition
Abnash Jain, Abnash C. Jain Distinguished Professorship in Cardiology
Thomas Kammer, Eberly College Centennial Professor of Geology
Mark Koepke, Robert C. Byrd Professorship
Rodney Kovach, William Welton Dermatology Endowment
Kennon A. Lattal, Eberly College Centennial Professor of Psychology
Richard D. Layne, Grace Kinney Mead Chair of Geriatrics
David Lederman, Robert L. Carroll Chair in Physics
Huey Hannah Lin, J. Vance and Florence Highland Johnson Teaching Professor of Chinese Studies
Diana Knott Martinelli, Widmeyer Communications Professor of Public Relations
Robert S. Maust, Louis F. Tanner Distinguished Professor of Public Accounting
Michael Mays, Eberly Distinguished Professor of Outstanding Teaching (ECAS)
Joyce E. McConnell, William J. Maier, Jr. Dean and Thomas R. Goodwin Professor
Marjorie A. McDiarmid, Steptoe & Johnson Professor of Law and Technology
Patrick C. McGinley, Charles H. Haden, Jr. Professor of Law
Gerald McGonigle, Mabel DeVries Tanner Endowed Professor of Theatre and Dance
James McGraw, Eberly Family Professor of Biology
James A. McLaughlin, Robert L. Shuman Professor of Law
Daniel McNeil, Eberly Family Professor for Outstanding Public Service
Bonnie Morris, The Go-Mart, Inc. Professorship
Keith Morris, Ming Hsieh Distinguished Professor of Forensic and Investigative Science
Tracy Morris, Eberly Family Professorship of Teaching
William Neal, James H. Walker Chair of Pediatric Cardiology
John Parker, N. Leroy Lapp Professor of Pulmonary and Critical Care Medicine
Syd S. Peng, Charles E. Lawall Chair of Energy Resources
William P. Petros, Mylan Chair of Pharmacology
Christopher Plein, Eberly Family Professor for Outstanding Public Service
Lois Raimondo, Shott Chair of Journalism
Scot Remick, Laurence & Jean DeLynn Chair of Oncology
Richard A. Riley, Louis F. Tanner Distinguished Professor of Public Accounting
Terry L. Rose, Ernest L. Hogan Chair of Life Insurance
J. Michael Ruppert, Jo & Ben Statler Eminent Scholar and Chair, Breast Cancer Research
Mary Ann Samyn, The Ruth and Russell Bolton Teaching Professorship
Earl Scime, Eberly Family Distinguished Professor of Physics
Kenneth Showalter, C. Eugene Bennett Chair of Chemistry
Russell S. Sobel, James Clark Coffman Distinguished Chair of Entrepreneurial Studies
Janice Spleth, Armand E. and Mary Singer Professorship of the Humanities (ECAS)
Donley Studlar, Eberly Family Professor of Political Science
Richard A. Riley, Louis F. Tanner Distinguished Professor of Public Accounting
Mary Ann Samyn, The Ruth and Russell Bolton Teaching Professorship
Kenneth Showalter, C. Eugene Bennett Chair of Chemistry
Russell S. Sobel, James Clark Coffman Distinguished Chair of Entrepreneurial Studies
Janice Spleth, Armand E. and Mary Singer Professorship of the Humanities (ECAS)
Donley Studlar, Eberly Family Professor of Political Science
William Tse, Eminent Scholar in Hematological Malignancies Research
Michael Vernon, Sanger Chair of Family Planning and Reproductive Physiology
Kung Wang, Eberly Family Professorship of Chemistry
Stephen Wetmore, Romeo Lim & Maria Lim Chair of Otolaryngology
Brian D. Woerner, Stephanie and Raymond J. Lane Endowed Professor
John Zanevanski, Asphalt Technology Professor of Civil and Environmental Engineering
C. Q. Zhang, Eberly Family Professorship of Mathematics
Established in 1867, West Virginia University (WVU) is the state's only research, doctoral degree granting, and land-grant University. WVU provides high-quality programs of instruction, offering over 185 degree programs at the undergraduate, graduate, and first-professional levels. WVU fosters basic and applied research and scholarship and engages in and encourages other creative and artistic work. Health science programs are taught at the WVU Robert C. Byrd Health Sciences Center through schools of medicine, dentistry, nursing, and pharmacy, including allied health programs and graduate programs in basic health sciences. WVU is also home to the state's only law school.

Only ten other state universities share WVU's complex mission as a land-grant, research-oriented, public university with a comprehensive health sciences center. The term “land-grant” derives from the congressional Morrill Acts of 1862 and 1890, which gave federally owned land to each state, to be sold for funds to establish colleges offering programs in agriculture and engineering. Since its founding in 1867, WVU has developed into a center of graduate and professional education, research, and extension programs in West Virginia.

WVU combines the breadth of academic opportunities offered by a major research institution with the atmosphere of a small school. Currently, WVU, including the regional campuses of Potomac State College of West Virginia University and West Virginia University Institute of Technology, enrolls approximately 31,952 students, of which more than 7,178 are graduate and professional students. However, the undergraduate student/faculty ratio is 27:1 and enrollment in one of the University’s 15 colleges and schools offers students the warmth and friendliness of a small academic community. The diversity of our student body is evident in its student body, with all 55 counties of West Virginia, 50 states and D.C., and nearly 100 other countries represented. The WVU system has an annual budget in excess of $850 million and a research budget of more than $129 million.

WVU campuses combine traditional and modern architectural styles; nine full buildings, a portion of White Hall on the downtown campus, and two buildings at Coopers Rock are listed on the National Register of Historic Places. Many of these original buildings, including Stalnaker Hall, have been restored and renovated. The downtown campus is linked to the Evansdale campus and the Robert C. Byrd Health Sciences Center by the Personal Rapid Transit (PRT) system, which uses automated, electric-powered cars that operate on a concrete-and-steel guideway. The PRT permits quick and easy access to major locations within the University and downtown Morgantown.

WVU programs and services are accessible throughout West Virginia. Regional campuses include Potomac State College of West Virginia University and West Virginia University Institute of Technology. WVU operates the Charleston Division of the Robert C. Byrd Health Sciences Center and the Wheeling Division of the School of Medicine. In addition, there are several Extended Learning Regional Centers throughout the state.

WVU operates eight experimental farms in Hardy, Jefferson, Monongalia, Monroe, and Preston counties; five experimental forests in Monongalia, Preston, Randolph, and Wetzel counties; and the state 4-H Camp and a museum of mid-nineteenth century life at Jackson’s Mill.

The Mission of West Virginia University

Founded in 1867, West Virginia University is the flagship land-grant, doctoral degree-granting research university in the state of West Virginia. As such, the institution occupies a unique position within the state.
West Virginia University's primary mission is to provide high-quality programs of instruction at the undergraduate, graduate, and professional levels; to stimulate and foster both basic and applied research and scholarship; to engage in and encourage other creative and artistic work; and to bring the resources of the University to all segments of society through continuing education, extension, and public service activities.

Opportunities to conduct pioneering research and scholarship help attract high quality faculty and students. Students and faculty work together to create exciting and productive paths for investigation and development. WVU nurtures these symbiotic interactions to build intellectual, social, and economic development for all of West Virginia.

WVU's special responsibility is to seek out, challenge, educate, and help create opportunities for those West Virginia citizens who can benefit from its programs, especially those who have demonstrated high achievement or who possess excellent potential.

West Virginia University recognizes that diversity enriches the institution and the society it serves. The University is committed to social justice and to practicing the principles of equality of opportunity and affirmative action.

**Instruction**

Degrees are awarded at the baccalaureate, master's, doctoral, and professional levels. The University offers approximately 77 undergraduate programs 122 graduate degree programs as well as numerous certificate programs through the departments/divisions of 15 colleges and schools:

- The College of Business and Economics, which includes: Accounting; Business Management; and Economics and Finance.
- The College of Creative Arts, which includes: Art; Music; Theatre and Dance.
- The College of Engineering and Mineral Resources, which includes Chemical Engineering; Civil and Environmental Engineering; the Lane Department of Computer Science and Electrical Engineering; Industrial and Management Systems Engineering; Mechanical and Aerospace Engineering; Mining Engineering; and Petroleum and Natural Gas Engineering.
- The College of Human Resources and Education, which includes: Counseling/Rehabilitation Counseling/Counseling Psychology; Curriculum & Instruction/Literacy Studies; Educational Leadership Studies; Special Education; Speech Pathology and Audiology; Technology/Learning & Culture.
- The College of Law.
- The Davis College of Agriculture, Natural Resources, and Design, which includes the divisions of: Animal and Nutritional Sciences; Design and Merchandising; Plant and Soil Sciences; Forestry; and Resource Management.
- The Eberly College of Arts and Sciences, which includes: Africana Studies; Biology; Chemistry; Communication Studies; Creative Writing; Cultural Research Management; English; Foreign Languages; Forensic and Investigative Science; Geology and Geography; History; International Studies; Leadership Studies; Mathematics; Multidisciplinary Studies; Native American Studies; Social Work; Sociology and Anthropology; Philosophy; Physics; Political Science; Psychology; Public Administration; Regents; Religious Studies; School of Applied Social Sciences; Slavic and Eastern European Studies; Social Work; Sociology and Anthropology; Statistics; and Teacher Education.
- The Perley Isaac Reed School of Journalism, which includes: Journalism; Advertising; Public Relations; Television; and Integrated Marketing Communications.
- The School of Dentistry, which includes: Dental Hygiene; Endodontics; Orthodontics; Prosthodontics; and Dental Surgery.
- The School of Medicine, which includes: Anesthesiology; Behavioral Medicine and Psychiatry; Community Medicine; Emergency Medicine; Exercise Physiology; Family Medicine; Medicine; Neurology; Neurosurgery; Obstetrics and Gynecology; Occupational Therapy; Ophthalmology (Eye); Orthopedics; Otolaryngology; Pathology; Pediatrics; Physical Therapy; Radiology; Surgery; and the HSC branch campus at Charleston.
• The School of Nursing, which includes: Health Promotion and Risk Reduction; the Department of Health Restoration, and Departments of Nursing at WVU-Charleston and WVU-Tech.
• The School of Pharmacy, which includes: Basic Pharmaceutical Sciences; Clinical Pharmacy; and Pharmaceutical Systems and Policy.
• The College of Physical Activity and Sport Sciences, which includes the departments of: Coaching and Teaching Studies; and Sport Studies.
• Potomac State College of West Virginia University
• West Virginia University Institute of Technology.

Research and Scholarship
Research, scholarship, or creative activity of distinction is expected within every school or college of the University. Indeed, most of the advanced research and scholarship carried out in West Virginia finds its home at West Virginia University. The assessment of the quality both of research and teaching is given heavy weight in tenure, promotion, and other personnel decisions affecting faculty members.

The University supports and is supported by numerous institutes for the promotion of interdisciplinary studies and research. These units include the National Research Center for Coal and Energy, the Regional Research Institute, the Mary Babb Randolph Cancer Center, the Center on Aging, the Institute for Public Affairs, the Center for Women’s Studies, the Bureau of Business and Economic Research, the Harley O. Staggers National Transportation Center, the West Virginia Water Research Institute, the Appalachian Hardwood Center, the Concurrent Engineering Research Center, the Institute of Occupational and Environmental Health, the Center for Excellence in Women's Health, and others.

Service
By virtue of its service mission as a land-grant institution and its position as the major center of research and development in West Virginia, the University has a responsibility to work with business and government leaders to promote the economic development of West Virginia. Through credit and non-credit educational programs and working partnerships with industry, government, and public schools, the University plays an important role in all geographic regions in West Virginia.

WVU contributes to the development and enhancement of West Virginia's economic, educational, social, and health status through its programs of instruction and research and through its programs of outreach. To serve the State and its people, the University offers instructional and service programs in every county through the West Virginia University Extension Service. Additionally, the WVU Agricultural and Forestry Experiment Station sponsors applied and basic research throughout West Virginia, directly benefiting industries critical to the state. The West Virginia University Health Sciences Center (HSC) serves the people of all 55 counties of West Virginia through direct patient care both at its campuses and at outreach clinics located throughout the state. The HSC maintains a cancer information service, a drug information service, and a poison control center. It provides extensive support services for rural physicians, including a free telephone consultation program, specialty care support, monthly educational opportunities, and computerized access to resources in the Health Sciences Center Library. The health professionals of the HSC conduct basic research focusing on the specific needs of West Virginians.

Government and Organization of WVU
Effective July 1, 2001, the West Virginia Board of Governors is vested by law with the authority for the control and management of the University. The board includes 13 lay members, two faculty members, and one student member. The University president, appointed by the Board of Governors, is the chief executive officer of the University.

The West Virginia Higher Education Policy Commission is responsible for policy development and other statewide issues. The commission consists of seven members appointed by the governor, the secretary of education and the arts, and the state superintendent of schools.
The Faculty Senate is the vehicle for faculty participation in the governance of the University. It is a legislative body with original jurisdiction over all matters of academic interest and educational policy that concern the entire University or affect more than one college or school. The senate's decisions are subject to review and approval by the president and the Board of Governors. Senators are elected by members of the University faculty to represent their colleges and other constituencies. Each senator represents 20 members of the University faculty. The senate is presided over by an elected chair.

Three faculty members serve on the Vice Presidents’ Advisory Committee for Promotion and Tenure. The president meets regularly with the cabinet and monthly with the Faculty Senate Executive Committee, the Staff Council, and Student Government Association. The University Faculty Assembly includes the president as presiding officer, professors, associate professors, assistant professors, instructors holding appointments on a full-time basis, and other persons engaged in full-time professional activities. The assembly meets once a year.

West Virginia University has a tradition of strong student administration that represents student opinion to the administration and faculty. Student administration has three main units: the executive branch, the board of governors, and the judicial board. Students also serve on University-wide committees and on the Mountainlair Advisory Council.

The Staff Council is an advisory council to the president of the University and a means for all classified employees to express their opinions about job conditions, fringe benefits, employee relations, or other areas that affect their jobs.

Local 814 of the Laborers’ International Union of North America, AFL-CIO, represents employees throughout the University and its affiliates. These employees are in craft/maintenance, service, clerical, and technical job categories, with a wide variety of job classifications. Laborer’s Local 814 is the only recognized union at the University by agreement through the Memorandum of Accord.

Support Services

University Libraries

The West Virginia University Libraries include the Downtown Campus Library; the Charles C. Wise Jr. Library; the Evansdale Library; the Health Sciences Library, located in the Robert C. Byrd Health Sciences Center; and the Law Library, located in the Law School.

The WVU Libraries provide access to electronic resources 24 hours a day at http://www.libraries.wvu.edu. These resources include the online catalog, eBooks, journals, and databases. The WVU Libraries’ collections parallel the University’s academic offerings. Books, periodicals, electronic resources, microforms, government publications, databases, maps, manuscripts, media, and access to information via the Internet provide a major academic resource for students and faculty. Also, library staff members provide a wide range of in-person and online services including reference assistance, circulation, interlibrary loan, and library instruction.

The WVU’s Libraries onsite collections include over 1.8 million books and more than 33,900 current journal subscriptions. In keeping with WVU’s mission of technological excellence, the WVU Libraries offer students high-speed public use computers, Ethernet connections, wireless access points, electronic access to more than 229 networked databases, and more than 33,000 online full-text electronic journals. Through the Libraries’ membership in the Pennsylvania Academic Library Consortium, WVU students and faculty have access to over 36 million books in 75 member libraries. The West Virginia and Regional History Collection houses manuscripts, folk music, newspapers, photographs, and public records, and is the foremost historical library and archive in the state. The Libraries’ Appalachian Collection is one of the nation's best resources for Appalachian regional culture. The WVU Libraries are a depository library for U.S. government publications, and the Evansdale Library is a patent depository for U.S. patents.
The WVU Libraries are innovators in identifying, acquiring, and making accessible a broad range of electronic library resources. The Libraries constantly update technology and add resources to provide the most current and convenient information resources and services to its users. The Libraries were pioneers in the management of electronic theses and dissertations and in electronic course reserves.

Library hours vary with the academic term and are available online.

**The Office of the Chief Information Officer**

**Office of Information Technology**

The Office of the Chief Information Officer and the Office of Information Technology (OIT) are committed to the land-grant mission of West Virginia University.

The Office of Information Technology’s mission is to provide a secure, reliable, and robust information technology infrastructure that supports innovation and discovery, pedagogy, public service, and maintain essential production services and systems. The goals of OIT are to be customer focused and a performance driven organization that empowers the University community through the use of information technology, to enrich the academic experience for students, and to strengthen the ability of faculty and staff to teach, learn, conduct research, and to provide public service throughout West Virginia, the nation, and beyond.

OIT endeavors to be the state, regional, and national leader in information technology and to be recognized for its expertise and best practices in the delivery of secure and reliable technology services and solutions.

OIT supports University computing facilities, high technology classrooms (http://oit.wvu.edu/ctec/), paid printing services, and test and survey scanning services. OIT provides a Help Desk that offers a broad range of technical support. A listing of Help Desk services is available at http://oit.wvu.edu/helpdesk/. In addition, OIT offers free Wi-Fi network access (encrypted and unencrypted) at various locations on campus (http://oit.wvu.edu/wireless/), instructional technology software and services (http://oit.wvu.edu/slic/), and training workshops (http://oit.wvu.edu/training/).

A comprehensive list of technology resources can be found at http://oit.wvu.edu/services/.

**Instructional Technology Resource Center**

The Instructional Technology Resource Center (http://itr.c.wvu.edu) increases the extent to which technology enhances the quality of teaching and learning at WVU. Our mission is to support, promote, and enhance teaching effectiveness at the University through instructional strategies and faculty development. We promote methods that enable the University to achieve its goals of providing a student-centered, technology-enhanced educational experience for all students. To accomplish this mission we engage in the following activities:

- Provide resources so that faculty can broaden their pedagogical exploration and reflection.
- Provide assistance with course development and integration of technologies into the course curriculum.
- Design, promote, and host faculty development opportunities through collaborative projects, training, and consulting services.

**Office of Social Justice**

West Virginia University’s role as the doctoral degree-granting, research, land-grant University gives the institution a special responsibility as a leader in the area of social justice. The pursuit of truth underlying the University’s mission focuses attention on issues of diversity, power, and perspective, so that students, faculty, and staff may study and work in a climate of academic freedom and social responsibility, developing the skills, knowledge, and self-esteem necessary for participation as world citizens.

Equal opportunity is a fundamental goal in a democratic society, and WVU shares the responsibility for achieving that equity. The institution is committed, therefore, to ensuring that all persons, including women, people of color, persons with disabilities, veterans,
and persons of different religions, sexual orientations, ages, and international, ethnic, and economic backgrounds benefit from the many opportunities the institution provides.

In keeping with this responsibility, members of the academic community are expected to demonstrate civility and mutual respect for all persons, understanding and appreciation for all persons, to express that perspective in every dimension of the institution's life and mission, and to work cooperatively, representing not only the interests of their own groups but also those of the wider community.

Individuals believing they may have been illegally discriminated against by West Virginia University may file a complaint with the President's Office for Social Justice, B 1 Stewart Hall. Additional information is also available on the WVU website http://socialjustice.wvu.edu/policies_and_training.

The importance of WVU’s social justice program goes beyond the benefits that accrue to any one person or group to strengthening the University itself and enhancing its ability to accomplish the missions entrusted to it by the people and the State of West Virginia.

Office of Disability Services
The Office of Disability Services is located at G30 Mountainlair, phone (304) 293-6700, http://socialjustice.wvu.edu/office_of_disability_services. The office provides accommodations to qualified students with documented permanent or temporary disabilities as they pursue their academic careers at WVU. Its services and accommodations are in keeping with the WVU commitment to provide both architectural and programmatic accessibility. Accommodations vary from student to student, are based on the functional limitations of each individual student, and are provided free of charge.

Accommodations may include:
- priority preregistration,
- arranging for classroom accommodations,
- alternative testing accommodations such as extended time and/or a separate testing environment,
- class materials in accessible formats,
- providing accessible transportation to and from class,
- providing referrals for assistive technology, and numerous other services.

Any student who requires accommodations must contact the Office of Disability Services as soon as possible, as it takes time to submit and review documentation as well as provide accommodations. Students are responsible for providing appropriate documentation of their disabilities, which usually comes from a physician, psychologist, or other licensed professional. The documentation must clearly state a current diagnosis and specific functional limitations, and provide test data that substantiates a “significant impairment” in functioning.

All information provided about a student’s disability is confidential and is stored separately from other records. Information about a student’s disability will not be disclosed without the written authorization of the student unless required by law or a need-to-know basis.

Prospective students with disabilities should also contact WVU Admissions, (304) 293-2121, and the program of interest for specific information concerning application procedures and admission requirements. All students admitted to WVU must meet current admission requirements.

Housing and University Apartments
The University owns and operates 16 residence halls with a capacity of approximately 5,500. All single, first-year students (including transfer students with freshman class status) are required to live in University housing. Exceptions include students living at home with parents within a 50 mile radius of WVU, students age 21 or older, married students, and students with children. After the first year, students have the option to live on campus and will receive priority in room selection. Accessible housing is available. The Assignments Office, M63 Brooke Tower, (304) 293-2811, provides information about on-campus, undergraduate housing.
The Office of Housing and University Apartments also operates apartment complexes. Although primarily for graduate students, the Medical Center Apartments houses married students, students with dependents, and students age 21 or older, based on availability. Information about University-owned apartments is available by calling (304) 293-5840. Information for both offices can be obtained online at http://housing.wvu.edu.

**Divisional Campuses**

**Potomac State College of West Virginia University**

Potomac State College of West Virginia University, situated in West Virginia’s Eastern Panhandle in the town of Keyser, offers over 50 associate degrees, eight two-year, fast-track career and technical programs and provides students with undergraduate liberal arts and sciences and pre-professional studies. Additionally, the college offers two four-year degrees in business management and criminal justice. See http://www.potomacstatecollege.edu for more information.

**West Virginia University Institute of Technology**

The West Virginia University Institute of Technology is WVU’s southernmost campus. Located in Montgomery, WVU Tech serves the region and the state by preparing students at the associates’ and baccalaureate levels for careers in the basic and applied sciences. WVUIT addresses the statewide and regional needs for delivery of engineering and technical programs through extension offerings, continuing education, and consultative activities of the faculty. WVU Tech currently offers certificates and associate’s degrees in 15 fields, and baccalaureate degrees in 26 fields. See http://www.wvutech.edu for more information.

**Morgantown Area**

Greater Morgantown has 28,000 permanent residents; Monongalia County, 84,000. WVU is the largest single employer in the county. On the east bank of the Monongahela River, which flows north to Pittsburgh, Morgantown is situated on rugged terrain in the Appalachian highlands. The altitude varies from 960 feet above sea level in Morgantown to 2,100 feet at nearby Cooper’s Rock. The area’s temperate climate has four distinct seasons of about equal length. Morgantown averages 40 inches of precipitation a year. Autumn is beautiful when the leaves turn red, orange, and yellow. A north-south interstate highway (I-79) is one mile west of Morgantown. U.S. 19 and U.S. 119 pass through Morgantown in a north-south direction. Interstate 68, an east-west highway, links I-79 at Morgantown to I-81 and I-70 in the Cumberland/Hagerstown, Maryland, region.

Because of WVU’s resources, the Morgantown area is a major research center in the Appalachian region. Five federal agencies have research facilities in the area. The Department of Health and Human Services (Appalachian Laboratory for Occupational Safety and Health), The Forest Service (Forestry Sciences Laboratory), the National Energy Technology Laboratory of the Department of Energy, the Natural Resource Conservation Service (West Virginia headquarters), and the National Institute for Occupational Safety and Health.

**Admission**

WVU provides excellent educational programs for well-prepared students. The goal of the University’s admission policy is to select applicants who will succeed academically and socially. If space is limited, the better-prepared students are admitted.

WVU enrolls a diverse student population. While preference is given to West Virginia residents, qualified students from other states and countries are encouraged to apply. The University is committed to the goal of equal educational opportunity for all students: no candidate is denied admission because of race, religion, color, sex, sexual orientation, marital status, age, handicap or disability, veteran status, or national origin.

The primary emphasis in admissions is on academic promise. All of the required materials submitted by the applicant—application, transcripts, and test results—are reviewed carefully.
You may receive an application for admission at many local high schools, access it online at http://apply.wvu.edu/, or write to: Office of Admissions, P.O. Box 6009, Morgantown, WV 26506-6009. Telephone (304) 293-2121; e-mail: go2wvu@wvu.edu.

Some colleges and programs have admission standards that exceed the minimal requirements for admission to the University. For example, admission to the forensics major in the Eberly College of Arts and Sciences, and to the professional programs in the Division of Physical Therapy and the School of Pharmacy, among others, is competitive, and preference is given to West Virginia residents. Admission to the University does not ensure admission into a specific major or to a specific school or college.

**Freshman Admissions**

Students can submit an application online or complete the application and mail it to WVU at the address above. An official high school transcript, ACT/SAT test scores, and proof of immunizations must also be submitted. Upon graduation, please ask your high school counselor to send an official final high school transcript verifying graduation to the Office of Admissions.

**Admission Requirements**

To be considered for freshman admission, a student must successfully complete the following high school credits:

- 4 units of English (including grammar, composition, and literature)
- 3 units of social studies (including U.S. history)
- 4 units of college preparatory mathematics (three units must be algebra I and II and plane geometry)
- Select majors may require a fourth math considered to be higher than Algebra II.
- 3 units of science (ALL units must be laboratory science.)
- 2 units of the same foreign language
- 1 unit of fine arts

These requirements are in addition to the GPA and test score criteria needed to review the applications, as noted below.

**Grade Averages and Test Scores**

Your high school grade point average and your comprehensive tests are the major criteria used to determine your admission to WVU. WVU accepts either ACT (American College Testing) or SAT (Scholastic Aptitude Test) scores.

High school graduates from West Virginia are eligible to be considered for admission with a 2.0 grade point average and either a composite ACT score of 19 or a combined math and critical reading SAT score of 910. Non-residents are eligible to be considered for admission with a 2.50 overall grade point average and either an ACT composite score of 21 or a combined math and critical reading SAT score of 990. If space is available and you have the required high school units, the GPA, and the test scores, you will be admitted. Therefore, we encourage eligible students to apply as soon as possible after September 15 of their senior year. If you do not meet one of the requirements, you may still apply, and the Admissions Review Committee will review your application. Please submit a written statement telling of any extenuating circumstances. Each application is reviewed individually and given full consideration.

**GED**

If you have completed a General Equivalency Degree (GED) with an average standard score of 2250 (450) or above, request that the State Department of Education mail copies of your scores to the Office of Admissions. Also request that the high school you last attended send a copy of your transcript to WVU, listing the coursework you completed.

If you graduated fewer than five years before your admission request, you must present ACT or SAT scores with your application. If it is more than five years since your class graduated from high school or you earned your GED diploma and you have not attended another college, WVU may waive some of the admission requirements.
ACCESS (Attaining College Credits and Experiences while in Secondary School)

High school students who have completed their junior year with a 3.0 GPA may be admitted to take college courses before high school graduation. An ACCESS application for admission must be submitted along with your high school transcript and a letter of permission from your parent(s) or guardian(s) and your high school counselor or principal. Coursework completed at the University must be at a level beyond that available in the high school setting.

Early Admission

WVU will admit a limited number of rising high school seniors who are academically high achievers and socially prepared to enter college before high school graduation. If you have completed your junior year in high school with 3.5 GPA or higher and a 26 enhanced ACT composite or 1170 on the SAT, and you have completed all requirements for graduation from high school except senior English you may apply for early admission. In addition to submitting the freshman admission application and required documents (see Freshman Admissions) your principal or guidance counselors must submit a letter supporting your application. Your parent(s) or guardian must also submit a letter of support for your application. Once the above requirements are met, you will be interviewed for the Early Admissions Program. Accepted students are admitted as full-time students with all of the rights and privileges offered other students.

Veterans

Veterans not meeting minimal admission requirements may be reviewed for admission by the Admissions Review Committee. If you want information about the various forms of aid for veterans, contact the Veterans Advocate at the Student Financial Aid Office or write to: Financial Aid Office, 2nd floor Mountainlair, P.O. Box 6004, Morgantown, WV 26506-6004; phone: (304) 293-5242; e-mail: finaid@mail.wvu.edu.

Aid to dependents of totally disabled veterans is also available.

If you have at least one year of active military service, you may receive college-level credit if you submit a copy of your DD214 or a SMART or AARTS transcript to the Office of Admissions’ Transfer Unit.

Robert C. Byrd Health Sciences Center

Admission to the undergraduate and professional programs at the Robert C. Byrd Health Sciences Center requires a separate application process. Downloadable web applications are available for dental hygiene, nursing, medical laboratory science, and pathologists’ assistant at http://adm.wvu.edu/home/health_sciences_students. All other health sciences applications may be obtained from the Health Sciences Admissions Office at 1170 Health Sciences North, Box 9815, Morgantown, WV 26506–9815 or by calling (304) 293–3521.

Incoming freshmen wishing to apply to nursing may use the regular undergraduate application available online at http://apply.wvu.edu/.

Transfer Students: Intra-University

If you are a student at Potomac State College of WVU or WVU Institute of Technology, you must complete the Change of Campus form to transfer to the Morgantown campus. The form can be found at: http://adm.wvu.edu/r/download/42219. You must meet admission requirements and also meet the requirements of the program you wish to enter.

If you want to transfer to WVU at Morgantown before completing two semesters at any of our regional or branch campuses, you will need to have been eligible for freshman admission.
Transfers from Other Accredited Institutions

We welcome you as a transfer student if you have completed post-secondary studies at a regionally accredited college or institution. To be eligible to enroll as a transfer student at WVU, you must have at least a 2.0 grade point average in all college work attempted. In addition, if you have fewer than 12 transferable credit hours, you must also meet freshman admission standards. Some individual programs and majors have different course requirements and higher grade point average requirements.

To be considered for transfer admissions, you must submit a completed application for undergraduate admission and arrange for an official transcript of all college work attempted to be sent to the Office of Admissions. Admissions can only accept transcripts sent directly from Registrars’ Offices. Transcripts issued to you, or a facsimile (fax) transcript, are not considered official. Before final admission is granted, you must submit an official transcript covering all subjects taken after your application to WVU. If you have fewer than 29 transferable credit hours, you will be ranked as a freshman; you must submit ACT or SAT scores and a high school transcript as part of your application. We evaluate transferable credit after receipt of complete official transcripts and admission to WVU. All application material must be received in the Office of Admissions by August 1 for fall admission and December 1 for spring admission.

If you are transferring more than 58 semester hours, you must meet the entrance requirements for the specific program you wish to enter. Individual consideration is given to a limited number of students with more than 58 transferable hours who do not meet specific program requirements.

Credits and grades for college-level courses completed at any institution in the West Virginia state system of higher education may be transferable toward a bachelor’s degree.

For institutions outside the West Virginia system and West Virginia private colleges and universities, beginning Spring 2012, grades and credits are transferable for college-level courses. For consideration for Latin Honors, all grades are included in the GPA calculation.

In all cases, the application of transfer credit toward completion of a bachelor’s degree is determined by the school or college upon enrollment.

Transfer credits from two-year community colleges and junior colleges outside the West Virginia Regional Campus System are limited to 72 hours of lower-division courses.

International Student Admission

West Virginia University is authorized under federal law to enroll non-immigrant foreign nationals as International students. International students wishing to enroll as undergraduate students at WVU must comply with the stated academic requirements for admission and with certain additional academic and non-academic requirements.

Application deadlines are as follows:
• Fall Semester – April 1
• Spring Semester – October 1
• Summer – February 15

International students applying for admission to WVU must submit the following:
• Completed International Student Admission Application.
• Application service fee.
• Results of the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). TOEFL results must be sent to WVU directly from the Educational Testing Service (ETS) and the IELTS results must be sent directly from the University of Cambridge Local Examinations Syndicate.
• Original or certified copies of an official academic record in original language of issue.
• Original or certified copy of all certificates or diplomas in original language of issue.
• Official English translations of academic record and certificates/diplomas.
• For Visa documents: Certification of financial support and a copy of current passport.
International applicants who have completed high school in the United States may also be required to submit ACT or SAT results.

The above items should be sent to Admissions, West Virginia University, P.O. Box 6009, Morgantown, WV 26506-6009, and must be received by the application deadline. If possible, all application material should be submitted at one time (TOEFL/IELTS scores and official transcripts from United States institutions should be requested so that all material arrives at WVU close to the same date). Incomplete applications cannot be guaranteed consideration for the desired semester.

**Required Academic Credentials**

Applicants must submit academic records from all secondary and post-secondary institutions attended regardless of whether grades were issued or credit was received. WVU requires that original or certified copies of the original academic documents from non-United States institutions be submitted. The required documents include the official academic record (showing course titles, dates taken, and grades received), and diploma(s) or certificate(s) showing degree awarded. These documents must be in the original language of issue. Official English translations must be included. Translations must be literal, word-for-word translations, and must indicate actual grades received, not an interpretation of the grades. Applicants who have studied in the United States are required to have the institution(s) in the U.S. send the official transcript directly to WVU.

Documents received by WVU become the property of WVU and cannot be returned to the applicant or copied for the applicant. It is therefore recommended that students who receive only one original copy of credentials submit certified copies with the application.

**English Language Proficiency**

All applicants whose first language is not English must provide proof of English language proficiency. WVU uses the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) as the measure of English language proficiency. A score of 61 on the internet-based TOEFL, 173 on the computer-based TOEFL or 500 on the paper-based TOEFL or 6.0 on the IELTS is the minimum required. Applicants should make arrangements to take the TOEFL well in advance of the desired date of enrollment at WVU. Information about registration for the TOEFL can be obtained by writing to: TOEFL/TSE Services, P.O. Box 6151, Princeton, NJ 08541-6151, USA, or by contacting the local office of the United States Information Service (USIS). Information about registration for IELTS can be obtained by accessing the IELTS website at http://www.ielts.org.

TOEFL results are not required for applicants who have received a high school diploma or a bachelor's degree from schools in the United States.

In some cases, it may be possible to consider applications from students who lack adequate TOEFL or IELTS scores and who will enroll in WVU's Intensive English Program. Such applicants must contact the Intensive English Program directly and notify the Office of Admissions of their intentions. Admission to the Intensive English Program does not guarantee admission to the University or to a specific program of study. Inquiries should be directed to the Intensive English Program, WVU Department of Foreign Languages, P.O. Box 6297, Morgantown, WV 26506-6297; phone: (304) 293-3604; online: http://iep.wvu.edu.

**Financial Documents and Student Visa**

International students requiring a form I-20 or DS 2019 for student or exchange visa must provide certification of adequate financial resources. Generally, the student is required to provide an official bank statement showing the availability of the appropriate funds. If a private sponsor will be the student's source of support, the sponsor must submit a letter showing intent to sponsor and an official bank statement showing the availability of the appropriate funds. Other forms of support could include sponsorship certifications from the student's government or sponsoring agency. In all cases, original or certified copies of financial/sponsorship documents must be submitted before the I-20 or DS 2019 can be issued.
Other Admission Categories

Transient/Visiting Students Coming to WVU

Students wanting to take a course at WVU and have the credit transferred to another college or university, must complete a Transient/Visiting Application and send an official statement of good standing indicating an overall grade point average of 2.0 or above from their current institution to the Office of Admissions.

Readmission

If a student leaves the University for at least one complete semester, an application for readmission must be submitted to the Office of Admissions. Decisions on readmission are based on your WVU academic standing.

If another institution(s) was attended, readmission will be based on your WVU academic standing along with academic work earned at any other institution attended after leaving WVU. In order to be readmitted, you must obtain an overall grade point average of 2.0 at all institutions attended since leaving WVU or present a combined overall grade point average of 2.0 from all institutions attended including WVU.

If you are transferring credit from institutions outside the West Virginia System of Higher Education, WVU will accept credit only for courses in which you earned a grade of D or higher, provided the other conditions have been met.

If you have been suspended from the University, you must be reinstated by the dean of the school or college to which you wish to be admitted before you apply for readmission.

If you have been suspended for academic reasons or have less than a 2.0 overall grade point average when you leave WVU and you take courses at other institutions during your suspension, you cannot automatically transfer these courses to WVU upon readmission. You must achieve an overall GPA of 2.0 for a semester of at least 12 hours for full-time students or 12 hours accumulated over several semesters for part-time students after your readmission in order to have the appropriate credit entered on your record. Once a student has completed this requirement, the student must contact the Office of Admissions so the transfer credit can be entered on the academic transcript.

Undergraduate Non-Degree

Students with one or more bachelor’s degrees from an accredited college or university (including WVU) who want to enroll for undergraduate credit may be admitted as non-degree students. Post-baccalaureate students who are not working toward a graduate degree may earn undergraduate credit and will be assessed undergraduate fees. Candidates for admission to this classification who are not graduates of WVU must submit an undergraduate application and an official transcript from the institution granting the latest degree. The Office of Admissions can only accept transcripts sent from the Registrar’s Office of the institution previously attended. Transcripts issued directly to the student or facsimile (fax) transcripts are not considered official. WVU students need only to apply with an undergraduate application.

WVU will admit students who are not degree candidates, but who wish to take additional courses. If you meet University requirements, please submit a complete application and official transcripts from all institutions previously attended. If you have completed fewer than 29 college-level credits, please submit an official high school transcript.

Second Degree Students

College graduates wanting to earn a second bachelor’s degree are required to submit an undergraduate application and official transcripts from all institutions previously attended. The Office of Admissions can only accept transcripts sent from the Registrars’ Offices of these institutions. Transcripts issued directly to the student or facsimile (fax) transcripts are not considered official. In general, admission is granted on the basis of a cumulative grade point average of at least 2.0 in the first baccalaureate. Selected majors, such as forensics, engineering, and business and economics, have higher requirements.
After you are admitted, the individual department evaluates your transcript and applies any appropriate credit from the first baccalaureate toward completion of the second. All residence requirements must be met to receive a second bachelor’s degree. (See Residence Requirements).

**Academic Forgiveness Policy**

WVU allows academic forgiveness to some students who are not successful in their first attempt at higher education within the WV system.

To be eligible, a student cannot have been enrolled at any higher education institution for at least five calendar years. In order to determine your eligibility, you must complete the Academic Forgiveness Form, which is available at the Office of Admissions.

The conditions and rules of the academic forgiveness policy are as follows:

- Admission or readmission to WVU under the academic forgiveness policy is contingent upon satisfying the above stated non-enrollment period. In addition, a recommendation that the student be admitted under the academic forgiveness policy must be submitted by the dean of the college or school that the student plans to enter, and the recommendation must be approved by the Office of the Vice President for Academic Affairs.
- Upon admission to WVU under this policy, the student will be credited with the hours earned for courses completed with a grade of D or higher.
- Grades earned during any prior enrollment period will not be counted for purposes of calculating the student’s grade point average, but grades earned will remain on the student’s permanent record.
- The student must meet and complete all coursework required to meet the college’s or school’s requirements for graduation, but under no circumstances after the student has been admitted under the academic forgiveness policy shall the student complete fewer than 64 credit hours prior to earning a degree.
- A student admitted to WVU under this policy will follow all regulations regarding probation, suspension, and expulsion.

**Immunization Requirements**

Requirements for immunizations are posted on the Admissions’ website at: http://adm.wvu.edu/freshman/immunization_requirements.

**WVU Transient Students**

In order to take a course or courses at another school, a student must have written approval from his or her advisor, dean, and director of admissions or designee. To receive such approval, a student must have an overall 2.0 grade-point average. All approved college-level work is accepted for transfer from accredited institutions, provided the above requirements have been met. To view a list of schools and courses already reviewed, visit http://tes.sa.wvu.edu/. In addition, an official transcript must be received by the Office of Admissions before any coursework can be counted toward degree requirements.

**Advanced Placement Program (AP)**

WVU encourages you to work to your full capacity and to earn your degree at your own learning speed. As a high school junior or senior, you can take college-level courses at your school in conjunction with the College Entrance Examination Board (CEEB). The Advanced Placement Service administers three-hour examinations to show competency equal to that received by taking the actual college course. The chart can be found at the WVU Office of Admission’s website: http://apply.wvu.edu/admissions/freshmen/credits.aspx.

**College Level Examination Program (CLEP)**

If an incoming student has gained a significant level of maturity through life experiences, he or she may receive college credit for those educationally-related experiences through the College Level Examination Program (CLEP) of the CEEB. A policy of the WVU Board of Governors allows University credit to be awarded for successful completion of
CLEP subject examinations, except English composition and freshman English. Up to 35 hours of general education or elective credit may be earned for successful performance on the CLEP general examinations. Although this program was designed primarily for adults, exceptionally well-qualified high school seniors may use the CLEP program. The chart at the WVU Office of Admission's website: http://adm.wvu.edu/freshman/ap__clep_and_ib indicates the areas for which WVU grants credit based on the minimum scores required. It should be noted that no student is eligible for CLEP credits after he or she has enrolled at WVU.

A student with at least one year of active military service may receive college-level credit by submitting a copy of his or her DD214 or a Sailor/Marine/ACE Registry Transcript (SMART) or Army/ACE Registry Transcript System (AARTS) transcript. The chart can be found at http://adm.wvu.edu/freshman/ap__clep_and_ib.

International Baccalaureate (IB)

West Virginia University welcomes applications from students who have attended high schools that offer the international baccalaureate program. Credit given varies with level (standard or higher) and with score. The chart can be found at http://apply.wvu.edu/admissions/freshmen/credits.aspx.

Enrollment and Registration

Tuition and Fees

The WVU Office of Admissions assigns enrolling students a residency classification for admission, fee, and tuition purposes. Students who are legal residents of West Virginia pay "resident" tuition at WVU; students who are residents of other states and nations pay "non-resident" tuition.

Tuition and fee structures additionally vary by academic program at WVU. Current tuition and fee costs can be found at http://adm.wvu.edu/home/cost_of_attendance.

Academic Common Market

West Virginia provides its residents the opportunity, through the Academic Common Market (ACM) and through other contract programs, to pursue academic majors or programs not available within the state. The contract programs and the ACM permit West Virginians to enter out-of-state institutions at reduced tuition rates. The ACM provides access to numerous undergraduate and graduate programs. The programs are restricted to West Virginia residents who have been accepted for admission to one of the specific programs at the designated out-of-state institutions. Through reciprocal agreements, WVU allows residents of states within the ACM to enroll in undergraduate and graduate programs on an in-state tuition basis. Further information may be obtained from the Associate Provost for Undergraduate Academic Affairs, Stewart Hall, West Virginia University, P.O. Box 6203, Morgantown, WV 26506-6203, or you may visit the SREB Academic Common Market site for eligible programs http://www.sreb.org/page/1304/academic_common_market.html. Application must be made through the higher education authority of the state of residence. West Virginia residents should apply through the West Virginia Higher Education Policy Commission, 1018 Kanawha Boulevard East, Charleston, WV 25301. For more information see their brochure at https://www.wvhepc.org/academic/ACM_Brochure.pdf.

Regional contract programs have been established for study in optometry, podiatry, and veterinary medicine. Visit http://home.sreb.org/acm/rcp/StateInfo.aspx?state=52 for additional information.

SREB Academic Common Market

Through the Southern Regional Education Board (SREB) Academic Common Market, WVU allows students from SREB member states to enroll in certain WVU programs at in-state tuition rates. Typically these degree programs are not available to students in their home state. In addition to West Virginia, SREB member states are Alabama, Arkansas, Delaware, Florida (graduate only), Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina (graduate only), Oklahoma, South Carolina, Tennessee, Texas (graduate only), and Virginia. Please refer
to the SREB website for the most current information about programs offered to residents of your state. See Academic Common Market on page 23 for more information.

**Extended Learning**

The cost of courses offered through Extended Learning varies according to program. The most recent tuition for online programs at WVU can be found at [http://elearn.wvu.edu/Registration/tuitionFees](http://elearn.wvu.edu/Registration/tuitionFees).

**Fee Regulations**

All West Virginia University fees are subject to change without notice. A nonrefundable service fee of $50 must accompany the application for admission to graduate studies. All fees are payable to the Office of Student Accounts at registration. Arrangements with the Office of Student Accounts for payment from officially accepted scholarships, loan funds, grants, or contracts shall be considered sufficient for acceptance of registration. All students should register on days scheduled for registration at the beginning of each semester or summer session. Any student failing to complete registration on regular registration days is subject to a late registration fee.

Registering students pay the fees shown in the fee charts, plus special fees and deposits as required.

WVU places restrictions on students who have outstanding debts to a unit or units of the University. The restriction may include, but is not limited to, the withholding of a student’s registration, diploma, or transcript. No transcripts are issued to any student before payment is made of all tuition, fees, and other indebtedness to any unit of the University.

**Types of Fees**

**Special Fees, Library Fee, and Technology Fee**

Special fees provides students with access to the WVU Mountainlair Student Center, the Daily Athenaeum newspaper, University radio station, Student Recreation Center, Student Health Services, Athletics (student admission to WVU football, basketball, and other sporting events), student affairs activities, and the Personal Rapid Transit (PRT) system. The library fee provides students with access to and support from the University Libraries. The technology fee supports University computer centers and campus technology development. All students, regardless of whether or not they have been granted a tuition waiver must pay these mandatory fees.

**Laboratory Fees**

Many departments assess laboratory or other equipment fees to provide availability to consult specific departments concerning nonrefundable equipment deposits and laboratory fees.

**Music Fees**

All music majors must pay a fee that entitles them to assigned practice space daily. Band and orchestra instruments may be rented by the semester. Contact the College of Creative Arts for details regarding these fees.

**Extended Learning Fees**

Fees for credit hours for Extended Learning courses vary by program. Students should inquire of individual programs and view fee schedules at [http://elearn.wvu.edu/Registration/tuitionFees.html](http://elearn.wvu.edu/Registration/tuitionFees.html).

**Other Fees**

There are other fees for certain services and functions provided by the University. Check with the University office providing the service or function in question to find out the current fee. Also, individual programs may have additional fees.

**Refund of Tuition and Fees**

Current information on refunding can be found on the WVU Finance Division’s webpage [http://finance.wvu.edu/osa/refunds.cfm](http://finance.wvu.edu/osa/refunds.cfm).
Non-Sufficient Funds Check Policy
Payments of tuition, fees, and other charges by check, draft, or money order are subject to WVU’s Non-Sufficient Funds Check Policy. A copy of the policy is available in the Office of Student Accounts. A service charge of $25.00 is collected on each check returned unpaid by the bank upon which it was drawn. The service charge on unpaid, returned check(s) is subject to change in accordance with state law.

Identification Card
Students registered for the current semester are eligible for an identification card (Mountaineer Card). The Mountaineer Card gives WVU students access to certain activities and privileges depending on fees assessed. Students assessed the on-campus fees have free access to Student Recreation Center, the PRT, Student Health, athletic events, and may ride the local bus system (MountainLine) by using their ID card. On and off-campus students have access to the WVU Libraries and the Mountainlair’s WVUUp-All Night activities. Students taking Extended Learning classes may opt to pay the on-campus fees to participate in the other activities. WVU reserves the right to refuse issuance of an identification card; misuse may result in confiscation of the card. For more information about the Mountaineer Card visit http://www.wvu.edu/~wvucard/ or at wvucard@mail.wvu.edu.

Residency Policy
Residency policy is established by the WV Higher Education Policy Commission Series 25 and is posted at http://adm.wvu.edu (click on Residency Classification). Section 1 of the residency policy bulletin contains general information regarding its scope and dates of adoption. Remaining sections are excerpted below.

Higher Education Policy Commission Series 25
Section 2. Classification for Admission and Fee Purposes
2.1 Students enrolling in a West Virginia public institution of higher education shall be assigned a residency status for admission, tuition, and fee purposes by the institutional officer designated by the president. In determining residency classification, the issue is essentially one of domicile. In general, the domicile of a person is that person’s true, fixed, permanent home and place of habitation. The decision shall be based upon information furnished by the student and all other relevant information. The designated officer is authorized to require such written documents, affidavits, verifications, or other evidence as is deemed necessary to establish the domicile of a student. The burden of establishing domicile for admission, tuition, and fee purposes is upon the student.

2.2 If there is a question as to domicile, the matter must be brought to the attention of the designated officer at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning domicile shall be subject to institutional disciplinary action and will be charged the non-resident fees for each academic term theretofore attended.

2.3 The previous determination of a student’s domiciliary status by one institution is not conclusive or binding when subsequently considered by another institution; however, assuming no change of facts, the prior judgment should be given strong consideration in the interest of consistency. Out-of-state students being assessed resident tuition and fees as a result of a reciprocity agreement may not transfer said reciprocity status to another public institution in West Virginia.

Section 3. Residence Determined by Domicile
3.1 Domicile within the state means adoption of the state as the fixed, permanent home and involves personal presence within the state with no intent on the part of the applicant or, in the case of a dependent student, the applicant’s parent(s) to return to another state or country. Residing with relatives (other than parent(s)/legal guardian) does not, in and of itself, cause the student to attain domicile in this state for admission or fee payment purposes. West Virginia domicile may be established upon the completion of at least 12 months of continued presence within the state prior to the date of registration, provided that such 12 months’ presence is not primarily for the purpose of attendance at any institution of higher education in West Virginia.
3.2 Establishment of West Virginia domicile with less than 12 months’ presence prior to the date of registration must be supported by evidence of positive and unequivocal action. In determining domicile, institutional officials should give consideration to such factors as the ownership or lease of a permanently occupied home in West Virginia, full-time employment within the state, paying West Virginia property tax, filing West Virginia income tax returns, registering of motor vehicles in West Virginia, possessing a valid West Virginia driver’s license, and marriage to a person already domiciled in West Virginia. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established.

3.3 Factors militating against the establishment of West Virginia domicile might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns or the parents’ health insurance policy if the parents reside out of state, receiving financial assistance from state student aid programs in other states, and leaving the state when school is not in session.

Section 4. Dependency Status

4.1 A dependent student is one who is listed as a dependent on the federal or state income tax return of his or her parent(s) or legal guardian or who receives major financial support from that person. Such a student maintains the same domicile as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the domicile of the parent with whom he or she lives or to whom he or she has been assigned by court order. However, a dependent student who enrolls and is properly classified as an in-state student maintains that classification as long as the enrollment is continuous and that student does not attain independence and establish domicile in another state.

4.2 A non-resident student who becomes independent while a student at an institution of higher education in West Virginia does not, by reason of such independence alone, attain domicile in this state for admission or fee payment purposes.

Section 5. Change of Residence

5.1 A person who has been classified as an out-of-state student and who seeks resident status in West Virginia must assume the burden of providing conclusive evidence that he or she has established domicile in West Virginia with the intention of making the permanent home in this state. The intent to remain indefinitely in West Virginia is evidenced not only by a person’s statements, but also by that person’s actions. In making a determination regarding a request for change in residency status, the designated institutional officer shall consider those actions referenced in Section 2. The change in classification, if deemed to be warranted, shall be effective for the academic term or semester next following the date of the application for reclassification.

Section 6. Military

6.1 An individual who is on full-time active military service in another state or foreign country or is an employee of the federal government shall be classified as an in-state student for the purpose of payment of tuition and fees, provided that the person established a domicile in West Virginia prior to entrance into federal service, entered the federal service from West Virginia, and has at no time while in federal service claimed or established a domicile in another state. Sworn statements attesting to these conditions may be required. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.

6.2 Persons assigned to full-time active military service in West Virginia and residing in the state shall be classified as in-state students for tuition and fee purposes. The spouse and dependent children of such individuals shall also be classified as in-state students for tuition and fee purposes.
Section 7. Aliens

7.1 An alien who is in the United States on a resident visa or who has filed a petition for naturalization in the naturalization court, and who has established a bona fide domicile in West Virginia as defined in Section 3, may be eligible for in-state residency classification, provided that person is in the state for purposes other than to attempt to qualify for residency status as a student. Political refugees admitted into the United States for an indefinite period of time and without restriction on the maintenance of a foreign domicile may be eligible for an in-state classification as defined in Section 3. Any person holding a student or other temporary visa cannot be classified as an in-state student.

Section 8. Former Domicile

8.1 A person who was formerly domiciled in the state of West Virginia and who would have been eligible for an in-state residency classification at the time of his or her departure from the state may be immediately eligible for classification as a West Virginia resident provided such person returns to West Virginia within a one-year period of time and satisfies the conditions of Section 3 regarding proof of domicile and intent to remain permanently in West Virginia.

Section 9. Residency Decisions/Appeals

9.1 Following is the process for initially determining residency for tuition purposes and how students appeal if they disagree with those decisions. Initial residency decisions are made at the admission level. Any questionable decisions are referred to the designated institutional official who determines whether the student meets the residency requirements or additional information is needed to make the decision. If additional information is needed, the student is requested to submit further documentation. If a student feels he or she has been improperly classified as a non-resident for tuition purposes, he or she should request an application for classification as a resident student at West Virginia University. To request this application write: Residency Officer, Office of Admissions, P.O. Box 6009, Morgantown, WV 26506-6009, or call (304) 293-2121.

Once this application and supporting documents are received, a decision is made by the designated institutional official. If the student meets the requirements as outlined by the Board of Governors Policy Bulletin #34, the student is granted residency for the upcoming semester. If the student does not meet the necessary requirements, the student is denied in-state residency. If denied, the student has the option of appealing the decision to the WVU Council on Residency. The council consists of faculty and student representatives, whose number shall be at least three. The student representative(s) shall be appointed by the president of West Virginia University Student Administration while the faculty representative(s) shall be selected by the University Faculty Senate. The student contesting a residency decision shall be given the opportunity to appear before the institutional committee on residency appeals.

If the council overturns the initial denial, the student becomes a resident for the semester in question. Should the council uphold the original denial, the student has the option of appealing to the president of WVU. The president, again, may either uphold the original denial or overturn the decision of the council.

Residency appeals shall end at the institutional level.

Official Program Designations

Degree program: an area of study approved as such by the institution and the Board of Governors (BOG) and listed on the official inventory of degree programs (e.g., English, social work, physical education, foreign languages). The degree is represented by the official degree designation (e.g., B.A.—bachelor of arts, B.S.—bachelor of science, BMDS—bachelor of multidisciplinary studies, M.A.—master of arts, B.S.J.—bachelor of science in journalism, B.S.P.Ed.—bachelor of science in physical education, etc.)

Major: a field of study within an approved degree program, having its own prescribed curriculum. A degree program may have more than one major.

Area of Emphasis: a specific subject area within an approved degree program and major. Normally, a minimum of 12 credit hours and no more than 18 credit hours are expected for an area of emphasis.
Minor: strategic work in an area of study that encourages students to pursue a secondary field. Students may not earn a minor in the same field as their major. Requirements for a minor are set by the academic unit offering the minor and must include at least 15 hours of coursework, with a minimum of nine hours at the upper division level (course numbers 300 or above).

**Certificate Programs**

The certificate programs offer a coherent, specialized curriculum designed for students in search of a specific body of knowledge for personal/career development of professional continuing education. Normally a minimum of 12 and no more than 21 credit hours constitute a certificate program at the baccalaureate level.

**Degree Programs Offered by WVU**

<table>
<thead>
<tr>
<th>Program</th>
<th>Bachelor’s</th>
<th>Master’s</th>
<th>Doctoral/ Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College of Business and Economics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>B.S.B. Ad.</td>
<td>M.B.A. .......... Ph.D</td>
<td></td>
</tr>
<tr>
<td>Business Administration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Management</td>
<td>B.S.B. Ad.</td>
<td>M.S.</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>B.S.</td>
<td>M.A. ............ Ph.D</td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>B.S.B. Ad.</td>
<td>M.S.</td>
<td></td>
</tr>
<tr>
<td>Industrial Relations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management Information Systems</td>
<td>B.S.B. Ad.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>B.S.B. Ad.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Accountancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>College of Creative Arts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art</td>
<td></td>
<td></td>
<td>M.A.</td>
</tr>
<tr>
<td>Art History</td>
<td></td>
<td></td>
<td>B.A.</td>
</tr>
<tr>
<td>Art and Design</td>
<td>B.F.A.</td>
<td>M.F.A.</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>B.A., B.M.</td>
<td>M.M. ..D.M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Multidisciplinary Studies</td>
<td>B.M.D.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theatre</td>
<td>B.A., B.F.A.</td>
<td>M.F.A.</td>
<td></td>
</tr>
<tr>
<td><strong>College of Engineering and Mineral Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aerospace Engineering</td>
<td>B.S.A.E.</td>
<td>M.S.A.E.</td>
<td></td>
</tr>
<tr>
<td>Biometric Systems</td>
<td>B.S.B.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>B.S.Ch.E.</td>
<td>M.S.Ch.E.</td>
<td></td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>B.S.C.E.</td>
<td>M.S.C.E.</td>
<td></td>
</tr>
<tr>
<td>Computer Engineering</td>
<td>B.S.Cp.E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Science</td>
<td>B.S.</td>
<td>M.S.C.S. ....... Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>B.S.E.E.</td>
<td>M.S.E.</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td></td>
<td>M.S. ........ Ph.D.</td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>B.S.I.E.</td>
<td>M.S.I.E.</td>
<td></td>
</tr>
<tr>
<td>Industrial Hygiene</td>
<td></td>
<td></td>
<td>M.S.</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>B.S.M.E.</td>
<td>M.S.M.E.</td>
<td></td>
</tr>
<tr>
<td>Mining Engineering</td>
<td>B.S.Min.E.</td>
<td>M.S.Min.E.</td>
<td></td>
</tr>
<tr>
<td>Petroleum &amp; Natural Gas Engineering</td>
<td>B.S.PNGE</td>
<td>M.S.PNGE</td>
<td></td>
</tr>
<tr>
<td>Safety Management</td>
<td></td>
<td></td>
<td>M.S.</td>
</tr>
<tr>
<td>Software Engineering</td>
<td></td>
<td></td>
<td>M.S.S.E.</td>
</tr>
<tr>
<td><strong>College of Human Resources and Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audiology</td>
<td></td>
<td></td>
<td>AU.D.</td>
</tr>
<tr>
<td>Child Development and Family Studies</td>
<td>B.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counseling</td>
<td></td>
<td></td>
<td>M.A.</td>
</tr>
<tr>
<td>Counseling Psychology</td>
<td></td>
<td></td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td>Ed.D., Ph.D.</td>
</tr>
</tbody>
</table>
Educational Leadership............................................................. M.A.
Educational Psychology ......................................................... M.A.
Elementary Education .......................................................... B.A., M.A.
Instructional Design and Technology ..................................... M.A., Ed.D.
Multidisciplinary Studies ...................................................... B.M.D.S.
Reading ................................................................................. M.A.
Rehabilitation Counseling.................................................... M.S.
Secondary Education .............................................................. M.A.
Special Education ..................................................................... M.A.
Speech Pathology and Audiology ....................................... B.S.
Speech Pathology ..................................................................... M.S.

**College of Law**
Law ............................................................................................. J.D.

**College of Physical Activity and Sports Science**
Kinesiology ................................................................................ Ph.D.
Physical Education .............................................................. B.S.P.Ed., M.S., Ed.D.
Sport Studies ............................................................................. B.S.P.Ed.

**Davis College of Agriculture, Forestry, and Consumer Sciences**
Agricultural and Resource Economics .................................. M.S.
Agricultural and Extension Education .................................. B.S.Agr., M.S.
Agricultural Sciences .............................................................. Ph.D.
Agriculture, Forestry, and Consumer Sciences ...................... M.Agr.
Animal and Nutritional Sciences .......................................... B.S., B.S.Agr., M.S.
Design and Merchandising .................................................... B.S., M.S.D.M.
Forest Resources Management ............................................ B.S.F.
Forest Resource Science ........................................................ Ph.D.
Forestry ..................................................................................... M.S.F.
Genetics and Developmental Biology ..................................... M.S., Ph.D.
Landscape Architecture ....................................................... B.S.L.A., M.L.A.
Multidisciplinary Studies ..................................................... B.S.L.A.
Plant and Soil Sciences ....................................................... B.S., B.S.Agr., M.S.
Recreation, Parks, and Tourism Resources ......................... B.S.R., M.S.
Reproductive Physiology ...................................................... M.S., Ph.D.
Resource Management and Sustainable Development .......... Ph.D.
Wildlife and Fisheries Resources .......................................... B.S., M.S.
Wood Science and Technology ............................................. B.S.

**Eberly College of Arts and Sciences**
Biology ..................................................................................... B.A., B.S., M.S., Ph.D.
Chemistry .................................................................................. B.A., B.S., M.S., Ph.D.
Communication Studies ....................................................... B.A., M.A., Ph.D
Computer Science ................................................................. B.S.
Creative Writing ........................................................................ B.A.
Economics ................................................................................ B.A.
English ..................................................................................... B.A., M.A., Ph.D.
Foreign Languages ................................................................. B.A., M.A.
Forensic and Investigative Science ...................................... B.S., M.S.
Geography ................................................................................ B.A., M.A., Ph.D.
Geology ..................................................................................... B.A., B.S., M.S., Ph.D.
History ....................................................................................... B.A., M.A., Ph.D.
Interdepartmental Studies .................................................... B.A., B.S.
Legal Studies ............................................................................. M.L.S.
Liberal Studies .......................................................................... M.A.L.S.
Mathematics ............................................................................ B.A., B.S., M.S., Ph.D.
Multidisciplinary Studies ..................................................... B.M.D.S., B.A.
Philosophy ................................................................................ B.A.
Physics ........................................................................................ B.A., B.S., M.S., Ph.D.
Political Science..................................................B.A. .......... M.A. .......... Ph.D.
Professional Writing and Editing.............................M.A.
Psychology.......................................................B.A., B.S. .......... M.A., M.S. .......... Ph.D.
Public Administration ........................................M.P.A.
Regents Bachelor of Arts......................................B.A.
Social Work....................................................B.S.W. .......... M.S.W.
Sociology..........................................................M.A.
Sociology and Anthropology ................................B.A.
Statistics..........................................................M.S.

**Perley Isaac Reed School of Journalism**
Integrated Marketing Communications.............................M.S.
Journalism ......................................................B.S.J. .......... M.S.J.

**School of Dentistry**
Dental Hygiene ..................................................B.S. .......... M.S.
Dental Specialties ..............................................M.S.
Dentistry ..................................................................D.D.S.

**School of Medicine**
Biochemistry and Molecular Biology............................Ph.D.
Biomedical Science................................................M.S.
Cancer Cell Biology ..............................................Ph.D.
Cellular and Integrative Physiology............................Ph.D.
Clinical and Transitional Science................................M.S.
Community Health Promotion ...................................M.S.
Exercise Physiology .............................................B.S. .......... M.S. .......... Ph.D.
Immunology and Microbial Pathogenesis .....................Ph.D.
Master’s in Health Science .....................................M.H.S.
Medical Laboratory Science.....................................B.S.
Medicine ..................................................................M.D.
Neuroscience ........................................................Ph.D.
Occupational Therapy ..........................................M.O.T.
Physical Therapy ..................................................D.P.T.
Public Health ........................................................M.P.H.
Public Health Sciences ..........................................Ph.D.

**School of Nursing**
Nursing ...........................................................B.S.N. .......... M.S.N...D.N.P., Ph.D.

**School of Pharmacy**
Pharmaceutical and Pharmacological Sciences .............Ph.D.
Pharmacy ..................................................................Pharm.D.

**Academic Minors At WVU**

**Procedures for Declaring and Completing a Minor**

Students declare minors once they enter their major fields of study. The following steps should be followed to assure that completion of a minor is appropriately recognized and posted to the student’s transcript:

1. A student interested in completing a minor (or minors) works with his or her major advisor to incorporate minor requirements into schedule planning. Students are welcome to consult with advisors in the minor department. Students who wish to complete a minor in music, women’s studies, leadership studies, or ROTC must work directly with advisors for those programs.
2. When completing the Application for Graduation, the student indicates the minor(s) for which certification is requested.
3. The student’s major advisor/major college advisement office certifies that all minor requirements have been completed and reports both major and minor certifications to the Office of the University Registrar on the Tentative Graduation form. Women’s studies and music minors are certified by those programs.

**Note:** Minors are only awarded at the time of the conferral of a baccalaureate degree.
Course Requirements
Requirements for academic minors are set by the department offering the minor. Substitutions may not be made without written approval of the minor department. Courses in the minor may not be taken pass/fail. A student may not complete a minor in his or her major field. (For rules concerning minors that are part of the multidisciplinary studies degree, see http://mds.wvu.edu/.)

Available Minors
For the list of minors see http://provost.wvu.edu.

Baccalaureate Degrees
Goals of Undergraduate Education
West Virginia University is committed to providing a high-quality education to students without regard to race or color, sex, sexual orientation, veteran status, religion, age, disability, national origin, creed, ancestry, or political affiliation.

WVU’s undergraduate education is designed to help students acquire a basic foundation in a variety of academic areas, in addition to their major field. Nine General Education Curriculum (GEC) objectives are met through the completion of courses designated as GEC courses. For a description of the General Education Curriculum, visit the Office of Registrar’s website: http://registrar.wvu.edu/. B.A. candidates in certain degree programs are also required to reach a specified level of proficiency in a language other than English.

Other goals:
• Integrate the perspectives of the humanities, social sciences, and natural sciences, and an appreciation of the arts with coursework in the major to facilitate an understanding of the world at large. This foundation for lifelong learning should provide the knowledge and skills necessary to deal with social, cultural, and technological change.
• Develop critical thinking and problem-solving skills sufficient for life in contemporary society. These skills include the ability to read critically, listen critically, ask appropriate questions, gather relevant information, and apply critical analysis to reach logical conclusions. Central to these skills are mathematical literacy and proficiency in oral and written communications.
• Attain proficiency in their major fields. This proficiency should enable them to be competitive in the job market or in admission to graduate or professional schools.
• Acquire knowledge, understanding, and an appreciation of diversity in languages, cultures, ideas, and peoples, along with a desire to work so that all individuals are treated in a manner consistent with social justice.
• Maintain a lifelong commitment to ethical behavior, responsible citizenship, and public service.

Commitment to Assessment
The West Virginia University Assessment Council (WVUAC) works with the main WVU campus and divisional campuses to provide resources devoted to sharing best assessment practices, and enhancing student learning through assessment activities. The WVUAC holds monthly meetings to review and provide counsel to program-level assessment activities submitted as part of BOG Program Reviews, and its goals includes strengthening the effectiveness of assessment programs at all levels aimed at enhancing students learning; assisting and helping to create an institutional culture of assessment; aligning the institutional assessment plan with the WVU mission, and serving as an institutional clearinghouse for assessment best practices from around the country.

Student Responsibility
Students are responsible for their own academic well-being, including knowing their scholastic standing as it relates to the published regulations and standards of WVU. This responsibility includes familiarity with the regulations and requirements of their academic
college or school or the Undergraduate Advising Services Center and the regulations and requirements of the department or division in which they are pursuing a degree. Students are encouraged to meet with their university advisor or academic advisor when questions arise or when the student is confronted with multiple challenges.

Academic Advising

Freshmen and transfer students enter West Virginia University as general studies, pre-majors or direct admits to their majors, depending on individual academic program admission requirements. The requirements to enter a major may include a minimum number of credit hours, credit hours and/or minimum grades in specific prerequisite coursework, a minimum or competitive grade point average, and/or an entrance exam. For specific program entry requirements, refer to individual degree and major programs in this catalog. Every student at West Virginia University has access to academic advising. Direct admit students who have matriculated into their majors and some first and second-year pre-majors are advised by staff and faculty in their respective academic units. The Undergraduate Advising Services Center (UASC) advises the majority of first-year pre-majors, many second year pre-majors, as well as ACCESS, part-time, and non-degree students. Students who are undecided on their majors also are advised in the UASC under general studies until they select a major.

WVU students are required to meet with their academic advisors prior to registering for classes each semester. Advisors assist students in understanding major and university requirements; course registration planning and processes; program and course prerequisites; the General Education Curriculum (GEC); and academic standing (e.g. probation and suspension); In addition, advisors and academic mentors may assist students with planning for post-baccalaureate education and careers. Students are expected to become familiar with the Undergraduate Catalog, as it relates to their academic goals and standing; be able to articulate their major and University requirements and prepare for their own course planning and registration processes; use the various majors’ websites; and make full use of academic advising. For more information on academic advising, visit the UASC website at http://www.wvu.edu/~advising. Students are encouraged to visit their own departmental majors’ websites for more major-specific information.

Regulations Affecting Degrees

All degrees are conferred by the WVU Board of Governors as recommended by the faculties of the various colleges and schools. A degree is granted at the end of the semester or summer term in which a student completes all the requirements for that degree, provided the student has submitted an application for graduation at his or her major department’s academic dean’s office and the dean has certified completion of all degree requirements. A student becomes eligible to graduate when he or she completes the requirements of the University and college or school that were in effect at the time the student first entered that college or school. A student has seven years from the first semester in the major to complete the requirements. After seven years, the student will have to meet the requirements of a later catalog that is no more than seven years old when the student completes his or her studies. With the consent of the student’s advisor and dean, a student may choose to meet the conditions published in a later catalog.

Students must observe any program changes that are enacted by the West Virginia University Faculty Senate, West Virginia University Board of Governors, the West Virginia Higher Education Policy Commission, or by local, state, or federal law. WVU policy dictates that, in view of their professional responsibilities to the general public, the faculty of a professional school may recommend to the president of the University, in writing, that a student be removed from its rolls. The recommendation of the faculty must indicate that the student is not fit to meet the qualifications and responsibilities of the profession.

WVU will not issue a diploma or a transcript to any student until payment of all tuition, fees, and other indebtedness to any unit of the University is made.
Credits Required

All students entering WVU as an undergraduate student with fewer than 29 hours must take and earn a passing grade in University 101 in their first semester at WVU. Those who do not pass the course must re-enroll for subsequent semesters until they earn a passing grade. In certain majors, alternate courses are acceptable. These courses will be identified for students by their advisors.

Every undergraduate degree program at WVU requires that students satisfactorily complete the General Education Curriculum which includes an approved writing course and a capstone experience prior to graduation.

Each degree program is based upon a combination of required courses and electives. Certain University requirements are listed below. In addition, the various colleges and schools determine their own credit requirements and course grades and grade point averages for graduation. Credit hours required for graduation are listed below by program. The required minimum grade point average for all programs is 2.0 or higher.

Graduation

In order to graduate, a student must file an application for graduation in the academic dean’s office of his or her major department during the first month of the semester or summer term in which he or she expects to graduate. If a student is uncertain about graduation requirements, the department chairperson may be contacted for clarification. The student should also meet with their academic advisor for guidance.

WVU Undergraduate Degree Credit Hour Requirements

<table>
<thead>
<tr>
<th>Major</th>
<th>Minimum Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>128</td>
</tr>
<tr>
<td>Advertising</td>
<td>128</td>
</tr>
<tr>
<td>Aerospace Engineering</td>
<td>125</td>
</tr>
<tr>
<td>Agribusiness Management and Rural Development</td>
<td>128</td>
</tr>
<tr>
<td>Agricultural and Extension Education</td>
<td>136</td>
</tr>
<tr>
<td>Agroecology</td>
<td>128</td>
</tr>
<tr>
<td>Agronomy</td>
<td>128</td>
</tr>
<tr>
<td>Animal and Nutritional Sciences</td>
<td>128</td>
</tr>
<tr>
<td>Applied and Environmental Microbiology</td>
<td>128</td>
</tr>
<tr>
<td>Art—B.A. Art History</td>
<td>128</td>
</tr>
<tr>
<td>Art and Design—B.F.A.</td>
<td>129</td>
</tr>
<tr>
<td>Art and Design—B.F.A. with teaching certificate</td>
<td>152</td>
</tr>
<tr>
<td>Athletic Coaching Education</td>
<td>128</td>
</tr>
<tr>
<td>Athletic Training</td>
<td>128</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>128</td>
</tr>
<tr>
<td>Biochemistry/Biology</td>
<td>128</td>
</tr>
<tr>
<td>Biochemistry/Chemistry</td>
<td>128</td>
</tr>
<tr>
<td>Biology</td>
<td>128</td>
</tr>
<tr>
<td>Biometric Systems</td>
<td>133</td>
</tr>
<tr>
<td>Broadcast News</td>
<td>128</td>
</tr>
<tr>
<td>Business Management</td>
<td>128</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>133</td>
</tr>
<tr>
<td>Chemistry</td>
<td>128</td>
</tr>
<tr>
<td>Child Development and Family Studies</td>
<td>128</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>132</td>
</tr>
<tr>
<td>Communication Studies</td>
<td>128</td>
</tr>
<tr>
<td>Computer Engineering</td>
<td>130</td>
</tr>
<tr>
<td>Computer Science (Eberly)</td>
<td>128</td>
</tr>
<tr>
<td>Computer Science (Engineering)</td>
<td>128</td>
</tr>
<tr>
<td>Criminology and Investigations</td>
<td>128</td>
</tr>
<tr>
<td>Dental Hygiene</td>
<td>136</td>
</tr>
<tr>
<td>Design Studies</td>
<td>128</td>
</tr>
<tr>
<td>Economics (Business)</td>
<td>128</td>
</tr>
</tbody>
</table>
Economics (Eberly) ......................................................................................................................... 128
Electrical Engineering ......................................................................................................................... 132
English .................................................................................................................................................. 128
Environmental and Natural Resource Economics ............................................................................... 128
Environmental Geoscience .................................................................................................................. 128
Environmental Protection .................................................................................................................... 128
Exercise Physiology ............................................................................................................................. 128
Fashion Design and Merchandising .................................................................................................... 128
Finance .................................................................................................................................................. 128
Foreign Languages ............................................................................................................................... 128
Forensic and Investigative Science ....................................................................................................... 128
Forest Resources Management ............................................................................................................ 128
Geography ............................................................................................................................................ 128
Geology .................................................................................................................................................. 128
History ................................................................................................................................................... 128
Horticulture .......................................................................................................................................... 128
Human Nutrition and Foods ................................................................................................................ 128
Individualized Major ............................................................................................................................. 128
Industrial Engineering .......................................................................................................................... 129
Industrial Mathematics and Statistics .................................................................................................. 128
Interdepartmental Studies ..................................................................................................................... 128
Interior Design ...................................................................................................................................... 132
International Studies ............................................................................................................................. 128
Journalism ............................................................................................................................................. 128
Landscape Architecture ........................................................................................................................ 136
Management ......................................................................................................................................... 128
Management Information Systems ....................................................................................................... 128
Marketing .............................................................................................................................................. 128
Mathematics .......................................................................................................................................... 128
Mechanical Engineering ....................................................................................................................... 124
Medical Laboratory Science ................................................................................................................ 125
Mining Engineering ............................................................................................................................... 134
Multidisciplinary Studies ....................................................................................................................... 128
Music—B.A. ........................................................................................................................................... 128
Music—B.M. with teaching certification ............................................................................................... 135
Music – B.M. Performance: Band or Orchestra Instrument or Guitar .................................................. 129
Music – B.M. Performance: Piano (Traditional Emphasis) ................................................................. 133
Music – B.M. Performance: Piano (Coaching/Accompanying) ......................................................... 141
Music – B.M. Performance: Piano (Pedagogy Emphasis) ................................................................. 136
Music – B.M. Performance: Piano (Jazz Emphasis) ............................................................................ 133
Music – B.M. Performance: Voice ....................................................................................................... 135
Music – B.M. Performance: Woodwinds ............................................................................................. 129
Music – B.M. Jazz Studies .................................................................................................................... 129
Music – B.M. Composition .................................................................................................................... 137
News-Editorial ....................................................................................................................................... 128
Nursing ................................................................................................................................................... 128
Petroleum and Natural Gas Engineering ............................................................................................. 131
Philosophy .............................................................................................................................................. 128
Physical Education/Teacher Education ................................................................................................. 144
Physics ................................................................................................................................................... 128
Political Science .................................................................................................................................... 128
Psychology ............................................................................................................................................ 128
Public Relations .................................................................................................................................... 128
Recreation, Parks, and Tourism Resources ............................................................................................ 128
Regents Bachelor of Arts ...................................................................................................................... 128
Religious Studies .................................................................................................................................. 128
Social Work ............................................................................................................................................ 128
Second Degrees
Students who have earned one bachelor’s degree from WVU or another institution may earn another bachelor’s degree by completing, at a minimum, an additional 30 hours beyond the first degree. All program and university requirements must be satisfied for the second degree, as well as, residency requirements.

Dual Degrees/Double Majors
Simultaneous completion of dual baccalaureate degrees require a student to complete an additional 30 hours beyond their primary degree (for a minimum of 158 hrs.). Completion of double or multiple majors within a single degree require a student to meet requirements of all programs. Graduation with double or multiple majors can only be achieved simultaneously.

General Education Curriculum (GEC)
For General Education Curriculum (GEC) definitions and list of approved GEC/Writing/Capstone courses please see http://registrar.wvu.edu/.

Special Programs

Undergraduate Certificate in Gerontology
Burgess Center, Division of Social Work
Eberly College of Arts and Sciences
The undergraduate certificate in gerontology may be pursued concurrently with any undergraduate major. The certificate affords students an opportunity to explore the basic biological, psychological, and sociological processes of aging, their effect on the needs of older people, and the impact of social policies related to human aging. Additionally, through a required field experience, students develop basic skills for effective practice with older adults. An understanding of the unique problems and needs of older adults in Appalachia and other rural areas is emphasized.

Three three-credit required courses and nine credit hours of electives must be completed to earn the 18 credit hour certificate. The application form used to apply for admission and specific requirements may be found at http://socialwork.wvu.edu/certificates or obtained from the Division of Social Work, 105 Knapp Hall, P.O. Box 6830, West Virginia University, Morgantown, WV 26506-6830, (304) 293-3501.
Multidisciplinary Studies Degree Program


**Degree Offered**
- Bachelor of Arts (B.A.) and Bachelor of Multidisciplinary Studies (B.MdS.)
  - Major: Multidisciplinary Studies

Davis College of Agriculture, Natural Resources, & Design

**Degree Offered**
- Bachelor of Multidisciplinary Studies (B.MdS.)
  - Major: Multidisciplinary Studies

College of Creative Arts

**Degree Offered**
- Bachelor of Multidisciplinary Studies (B.MdS.)
  - Major: Multidisciplinary Studies

College of Human Resources & Education

**Degree Offered**
- Bachelor of Multidisciplinary Studies (B.MdS.)
  - Major: Multidisciplinary Studies

Oak Ridge Associated Universities

Since 1957, students and faculty of West Virginia University have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 99 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the ORISE Catalog of Education and Training Programs, which is available at http://www.orau.gov/orise/educ.htm, or by calling either of the contacts below.

ORAU’s Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU’s members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research and support programs, as well as services to chief research officers.

For more information about ORAU and its programs, contact: Richard A. Bajura, Director, National Research Center for Coal and Energy ORAU Councilor for West Virginia University; Monnie E. Champion ORAU Corporate Secretary (865) 576-3306; or visit the ORAU home page (http://www.orau.org).
ROTC

WVU offers qualified applicants two- to four-year courses of instruction in military science (Army ROTC), and aerospace studies (Air Force ROTC). Normally, successful completion of one of these courses and University degree requirements leads to a commission as a second lieutenant in the U.S. Army or the U.S. Air Force.

Equivalent credit for part or all of the four basic semesters of ROTC may be granted in accordance with existing military service regulations. This credit will be awarded on the basis of prior active military service, high school ROTC, military school (Army ROTC at high school level), attendance at service academies, junior college senior division Army ROTC, or Civil Air Patrol awards.

Leadership Studies Minor

USAF 371, 372, 481, and 482 are available electives that will count toward a leadership studies minor.

University 101 Equivalent

AFROTC Cadets who successfully complete USAF 131 and USAF 100 during their fall semester will receive credit toward the University 101 graduation requirement.

U.S. Air Force ROTC

WVU Division of Aerospace Studies

Nature of Program

The U.S. Air Force officer education program at WVU has been in existence since 1948 and is designed to provide training that will develop leadership, managerial, and interpersonal skills vital to the professional U.S. Air Force officer. Its purpose is to qualify you for commissioning in the U.S. Air Force. WVU has the only Air Force ROTC (AFROTC) detachment in West Virginia.

Scholarship Program

Outstanding students from any academic discipline may compete for scholarships under this program. A large number of scholarships are available for students majoring in engineering, scientific, mathematical, or nursing fields. If you win a scholarship, AFROTC will pay up to 100 percent toward tuition, fees, and required textbooks, as well as provide a tax-free monthly allowance between $350 and $500 based on academic year. Scholarships are available for two, three, and four years, depending on USAF funding availability.

Uniform Wear and Deposits

Air Force ROTC students will be provided and are required to wear a uniform to ROTC classes and leadership laboratories. Air Force ROTC cadets may purchase their uniforms upon successful completion of the ROTC program.

Benefits

Enrolling in AFROTC provides the opportunity to:

• Compete for entry into the Professional Officer Course (POC) and earn an air force commission.
• Earn academic elective credit that can be applied toward the requirements for any undergraduate major at WVU, as well as the leadership studies minor program.
• Compete for AFROTC scholarships that pay up to full tuition, fees, and required textbooks, and provide a tax-free monthly stipend between $350 and $500 based on academic year.
• Receive free career counseling from full-time AFROTC representatives.
• Go on field trips to air force installations in the United States.
• Try AFROTC during freshman and sophomore years without obligation (unless you accept an AFROTC scholarship).
• Develop leadership and managerial skills.
• Travel, on a space available basis, aboard government aircraft (POC and scholarship cadets only).
Distinguished AFROTC Graduate

The professor of aerospace studies may designate as a distinguished graduate a POC member who:

- Demonstrates superior academic and field training performance.
- Possesses outstanding qualities of leadership and high moral character.
- Demonstrates clearly exceptional leadership in recognized activities.

U.S. Air Force Academy

The president of WVU may annually nominate five outstanding AFROTC students to the U.S. Air Force Academy. A nomination does not guarantee acceptance into the Air Force Academy. Applicants are recommended by the professor of aerospace studies to the WVU president during January of each year.

Curriculum

The curriculum in aerospace studies is divided into three distinct areas: leadership laboratory, general military course (GMC), and professional officer course (POC).

Leadership Laboratory

Leadership laboratory takes an average of two hours per week, every semester, throughout the student’s enrollment in AFROTC. Instruction is conducted in an organized cadet corps with a progression of experiences designed to develop each student’s leadership potential. Leadership laboratory involves a study of air force customs and courtesies, drill and ceremonies, physical fitness, career opportunities, and the life and work of an air force junior officer. Students develop leadership potential in a practical, supervised training laboratory, which typically includes field trips to air force installations.

General Military Course (GMC)

The U.S. Air Force course of study offered during the freshman and sophomore years is the General Military Course (GMC). This is composed of one class hour and two leadership laboratory hours per week. Two credit hours are awarded for each semester course successfully completed. General military courses are open to all WVU students who:

- Are United States citizens (to receive a scholarship).
- Are in good physical condition.
- Have good moral character.

Professional Officer Course (POC)

The professional officer course (POC) corresponds to the junior and senior years of your academic program. The POC is designed to provide highly qualified junior officers for the U.S. Air Force. Admission is based on such factors as leadership, scholarship, physical qualifications, and academic major. Successful completion of the POC qualifies you for appointment as a second lieutenant in the air force upon college graduation. Instruction averages three hours per week throughout the four semesters, plus leadership laboratory. Three hours of credit are awarded for each of the four semesters of work in the POC program. To qualify for the POC, you must meet all the qualifications for the GMC and:

- Have two academic years remaining.
- Be a United States citizen.
- Be 18 years old, or 17 with a parent or legal guardian’s consent.
- Be physically qualified.
- Be selected by a board of U.S. Air Force officers.
- Complete a four-week field training course.
- Complete all graduation and commissioning requirements as follows: scholarship recipients before age 31 as of December 30 of the year you plan to be commissioned (typically the year you graduate), pilot or navigator candidates before age 29, non-flying, non-scholarship students before age 35.
U.S. Army ROTC  
WVU Division of Military Science

Nature of the Program
The curriculum includes skills expected of a U.S. Army officer including how to motivate coworkers, cope with unexpected challenges, organize large, complex tasks, and an introduction to the army’s values-based leadership techniques. Additionally, students learn skills in demand today in the civilian and business worlds such as teamwork, tact, and effective communications. There are two- and four-year ROTC programs. The traditional four-year program is composed of the basic course and the advanced course.

The Basic Course
The first two years compose the basic course. This includes MILS 101, 102, 201, and 202, and includes classroom studies in such subjects as military history, leadership development, and national defense. Students can enroll in the program for the first two years without incurring any future military obligation. However, students that desire to make a commitment to obtain a U.S. Army commission at graduation can commit as early as their sophomore year and would receive a tax-free monthly stipend of $350 per month. After successful completion of the basic course, students can apply for admission into the advanced course.

The Advanced Course
After successful completion of the basic course, students wishing to actively seek a commission as an officer in the U.S. Army must enter into the advanced course. It is required of all students who have received an ROTC scholarship. Classes required are MILS 301, 302, 401, and 402, a weekly leadership lab, and an approved military history course. During this part of the program, students will put their management and leadership skills to the test while continuing to hone the traits required for commissioning into the U.S. Army. As a cadet in the advanced course, you will spend five weeks (32 days) of the summer between your junior and senior years attending the Leadership Development and Assessment Course at Fort Lewis, Washington. At this course, students receive intensive training in tactics, physical fitness, land navigation, obstacle course, and rappelling. They also have the opportunity to lead other cadets through challenging missions.

While enrolled in the program, ROTC textbooks, uniforms, and essential materials are furnished at no cost. Additionally, advanced course students receive a tax-free monthly stipend allowance of $450 per month as a junior and $500 per month as a senior during the school year.

Leadership Laboratory
Leadership laboratory is conducted two hours per week every Thursday afternoon throughout the student’s enrollment in Army ROTC. Instruction is conducted in an organized cadet corps with a progression of experiences designed to develop each student’s leadership potential. Leadership laboratory involves practical application of field craft, drill and ceremonies, physical fitness, rappelling, rifle marksmanship, and career opportunities.

Military Science Minor
Students enrolled in the Army ROTC program may receive a military science minor by completing the advanced course (MS 301, 302, 401, and 402) and the required military history course. A minimum cumulative GPA of 2.0 is required in these courses.

The Two-Year Program
(Sophomores, Junior College Transfers, and Partnership Schools)
If students miss the first two years of Army ROTC, the two-year program offers the opportunity to achieve the same goals and benefits as the four-year program but at an accelerated pace. This is designed for sophomores who were unable to take the basic course, students transferring after attending a junior college or another institution, or for
students attending one of our partnership schools. In this program, students first attend the Army ROTC basic Leader’s Training Course (LTC) at Fort Knox, Kentucky, in the summer between their sophomore and junior years. This is a fully paid (over $700 plus room, board, and transportation), four-week training camp designed to be an accelerated version of the two years of leadership development training cadets receive during their first two years of Army ROTC. The course is broken into four phases where cadets begin physical training, drill and ceremonies, team development, combat water survival, and land navigation. Upon graduation from LTC students may compete for two-year scholarships. Students must have a minimum of 59 hours of college credit with a 2.0 GPA (2.5 to compete for a scholarship). Those cadets who successfully complete LTC and contract may be eligible to receive a $5,000.00 incentive bonus.

Additionally, if a student is currently in the national guard (army or air force), U.S. Army Reserve, a veteran from any service, has two years of Senior ROTC (SROTC) experience from another service, or has high school junior ROTC (JROTC) experience of three years or more, he or she may qualify for entry into the advanced course under the two-year program. Students must have a minimum of 59 hours of college credit with a 2.0 (or better) GPA.

**Simultaneous Membership Program (SMP)**

Students currently in the Army National Guard or U.S. Army Reserve can participate in the advanced course as an SMP cadet. Benefits of the SMP include immediate promotion to sergeant (E5) for pay purposes in their current unit, receipt of any Montgomery G.I. Bill kicker, $350 to $500 monthly tax-free stipend, and any tuition assistance offered by the service. Currently the West Virginia National Guard pays 100 percent of in-state or out-of-state tuition for either undergraduate or graduate studies. The U.S. Army Reserves offers loan repayment and 75 percent tuition assistance.

Information on these programs may be obtained through the Professor of Military Science (PMS) at (304) 293-2911 x 33135. For a detailed overview of Army ROTC, students can call 1-800-USA-ROTC or view online at http://www.goarmy.com/rotc.

**Judge Advocate General (JAG) Programs**

The JAG Corps is the oldest “law firm” in the U.S., dating back to 1775. There are approximately 1,500 active duty (full-time) attorneys and 2,600 reserve and National Guard (part-time) attorneys. Students in the advanced course should take the LSAT prior to the fall of their senior year. They must then request an educational delay and branch JAG. If accepted to the law school of the student’s choice, the educational delay may be granted. While in law school, students may apply for one of 100 summer internships offered by the JAG Corps.

**Graduate Medical Programs**

The army offers a variety of graduate programs to ROTC graduates. These include specialties in nursing, dentistry, medicine, psychology, optometry, and veterinary medicine. Interested students must apply for educational delay following graduation and commissioning.

**ROTC Scholarship Program**

In addition to world-class leadership training, Army ROTC also offers generous scholarships to qualified students. These scholarships are based solely on the student’s merits, not financial needs. These merit-based scholarships are available for two, two-and-a-half, three, three-and-a-half, and four years and are available for both graduate and undergraduate programs. These scholarships pay full tuition and fees each year. They also provide $600 per semester for books and include a $300 to $500 per month tax-free stipend, for up to ten months a year (during the academic school year). Four-year scholarships are normally reserved for applicants who are high school seniors. The application process starts by applying online at http://www.goarmy.com/rotc or by calling 1-800-USA-ROTC to receive an application by mail. The remaining scholarships are considered campus-based scholarships given at the discretion of the professor of military science.
Students must meet the following requirements for a four-year Army ROTC scholarship:
- Be a citizen of the United States.
- Be between the ages of 17 and 26.
- Have a high school cumulative grade point average of at least 2.5.
- Score a minimum of 920 on the SAT (math/verbal) or 19 on the ACT (excluding the required writing test scores).
- Meet the physical standards.
- Be of good moral character.
- Exhibit a strong desire to become an army officer.
- Possess leadership potential to become an effective leader. These include appearance, personality, academic excellence, extracurricular activities, and physical fitness.
- Be medically qualified by passing a Department of Defense Medical Evaluation Board health physical and eye exam.
- Must be eligible for a secret security clearance.

Students must meet the following requirements for a three-and-a half, three, two-and-a half and two-year scholarships:
- Be a citizen of the United States.
- Be between the ages of 17 and 27.
- Have a college grade point average of at least 2.5.
- Have a high school diploma or equivalent.
- Meet the physical standards.
- Be of good moral character.
- Exhibit a strong desire to become an army officer. Possess leadership potential to become an effective leader. These include appearance, personality, academic excellence, extracurricular activities, and physical fitness.
- Be medically qualified by passing a Department of Defense Medical Evaluation Board health physical and eye exam.
- Must be eligible for a secret security clearance.

Army ROTC Nursing Program

Being an army nurse is one of the most rewarding careers imaginable. Army nurses are officers—and as such are highly respected professionals. They have the opportunity to assume leadership positions in a hospital setting far more quickly than those working in the private sector. They also have the personal satisfaction of caring for the men and women who defend our freedom.

The Army ROTC program offers some unique hands-on opportunities for nursing students that are not available anywhere else. With the Nurse Summer Training Program (NSTP), Army ROTC nurse cadets have the opportunity for a paid, three-week assignment to army hospitals throughout the United States and Germany. While participating in the program, cadets are introduced to the Army Medical Department (AMEDD) and to the roles and responsibilities of an army nurse corps officer. Cadets gain hands-on experience, under the guidance of an experienced army nurse, allowing them to hone their clinical skills and become comfortable with developing their professional skills as a member of the U.S. Army Healthcare Team. For more information go online to http://www.goarmy.com/rotc/nurse_program.jsp.

Army ROTC Nursing Scholarships

Army ROTC offers qualified undergraduate nursing students two-, three-, and four-year scholarships. These scholarships are merit-based and are awarded to those who possess a strong record of academic achievement and who demonstrate that they have the potential to become leaders. These scholarships defray the full cost of tuition and provide a tax-free allowance for books and necessary materials. Additionally, those awarded an Army ROTC nursing scholarship are eligible to receive a tax-free stipend up to $500 per month, to help defray living expenses, for up to ten months of the academic year. The scholarships would pay full in-state or out-of-state tuition and fees. There will also be incentive items given during their junior and senior years. The nursing scholarship will also cover the cost of the NCLEX review course as well as the cost of the NCLEX test.
Additional Opportunities

Students enrolled in the Army ROTC program can participate in numerous fully funded military training opportunities during their summer breaks. These opportunities include, but are not limited to, Airborne School, Air Assault School, Mountain Warfare School, Pentagon Internship Program, and the Nurse Summer Training Program. There are also opportunities to study abroad through numerous fellowship programs.

Studying the Environment at West Virginia University

Environmental issues occupy a high priority with the people of the world. Clean air, clean water, solid waste management, endangered species, land use policy, and toxic substance control are just some of the environmental issues that are of concern to people across the globe.

That’s why West Virginia University offers programs in a wide variety of disciplines that focus on the environment: to learn how to make best use of our natural resources while protecting our fragile ecosystem for future generations.

Agricultural and Environmental Education

This program in the Davis College of Agriculture, Natural Resources, and Design emphasizes communication and leadership skills. Training in natural resource management is increasingly important as land in agricultural use now provides the majority of open spaces in industrialized countries. Areas of emphasis include leadership, communication, agricultural and environmental technology, extension education, and teacher certification. The program prepares students for careers in private and public employment.

Chemical Engineering

Students in this program of the College of Engineering and Mineral Resources learn to identify, analyze, and reduce health, safety, and environmental risks in chemical processes. They design projects that involve inherently safe design, pollution prevention, and life-cycle analysis techniques. Elective courses in health, safety, and environment are offered, and students have worked on senior thesis projects in collaboration with the National Institute for Occupational Safety and Health (NIOSH), the United States Department of Energy, and other agencies. Graduates have obtained employment in government and industry in environmental engineering.

Civil and Environmental Engineering

This program of the College of Engineering and Mineral Resources offers a series of environmental engineering courses as electives for students who are interested in specializing in environmental engineering. Students who select and finish a sequence of technical electives during the junior and senior years will be granted a degree with emphasis on environmental engineering. Students with the specialty in environmental engineering have comprehensive knowledge of air and water qualities and characteristics of pollutants in physical, chemical, and biological aspects. They are equipped with both fundamental theories and updated technologies.

Environmental Biology

An area of emphasis within the biology degree, this program of the Eberly College of Arts and Sciences firmly grounds students in the fundamentals of biology. Advanced-level courses in ecological and organismal biology give the student a rigorous background in modern biological studies of the environment, from the molecular to the global level. Students with this background are prepared for employment in all levels of government and private industry as well as for advanced study in master’s and doctoral programs.

Environmental Geoscience

The program housed in the Department of Geology and Geography of the Eberly College of Arts and Sciences prepares students for careers involving environmental issues that affect our present and future quality of life. The broad nature of the curriculum
reflects the diversity of environmental problems and the increased demands placed on modern environmental scientists to recognize and understand the sources and impacts of environmental pollution. The curriculum educates geoscientists to identify and remediate environmental problems, to compile and analyze environmental data, to understand the regulatory aspects of environmental protection, and to communicate both with the wide range of professional disciplines for whom the environment is of special concern and with the public in general.

Environmental and Natural Resources Economics
Offered by the Davis College of Agriculture, Forestry, and Consumer Sciences, this is an applied economics program. The focus of the program is on environmental and natural resource economics and policy. The major prepares students for careers at all levels of government and in private industry. A special feature of the program is the opportunity to explore the interdisciplinary nature of environmental programs and linkages between natural resources and economic development issues.

Environmental Protection
This interdisciplinary program of the Davis College of Agriculture, Natural Resources, and Design includes broad interdisciplinary training in the basic and environmental sciences concentrating on two areas of specialization: plant protection or soil and water protection. The program prepares students for careers which safeguard and improve the quality of the environment. Graduates are employed by municipal, state, and federal government agencies, environmental consulting firms specializing in land reclamation and water quality, and companies associated with the gas, oil, and coal industries.

Environmental Studies
A track in the political science program of the Eberly College of Arts and Sciences, environmental studies offers a specialized curriculum blending coursework in political science, the policy sciences, and the natural sciences. Students entering this field may work in either the public or private sector as policy analysts, lobbyists, natural resource managers, or public affairs specialists. Students might also consider this track as a first step towards more advanced training after the bachelor's degree.

Forest Resources Management
This program in the Davis College of Agriculture, Natural Resources, and Design deals with the management of the forest to produce goods and services obtained from the land and trees. The program prepares students for careers with forest industries, the government, and others concerned with the value of forest ecosystems. The program is accredited by the Society of American Foresters.

Recreation, Parks, and Tourism Resources
This program in the Davis College of Agriculture, Natural Resources, and Design prepares students for increasing responsibilities in public agencies (park service, forest service, state park systems, etc.) and in the commercial sector (tourist attractions). The natural resources recreation option focuses on outdoor recreation, and the leisure services delivery option prepares students for general entry into the parks and recreation career field. The program is accredited by the Society of American Foresters.

Wildlife and Fisheries Management
This program in the Davis College of Agriculture, Natural Resources, and Design prepares students for many careers, such as wildlife and fish biology, wildlife and fish management, consulting, and planning of wildlife and fisheries programs. Available options focus on communications, fisheries science, planning, wildlife management, and wildlife sciences.
Honors College
http://honors.wvu.edu

The mission of the Honors College is to provide a high quality living/learning environment for academically talented students at West Virginia University. The college will promote its core values, which are personal and professional integrity, tolerance, academic excellence, service to the community, leadership, and a global perspective.

Honors College Requirements

Presidential Honors Scholar
- A 3.8 GPA and a 28 ACT or 1260 SAT
  or
- A 3.5 GPA and a 31 ACT or 1380 SAT

Dean's Honors Scholar
- A 3.8 GPA and a ACT 25 or 1140 SAT
  or
- A 3.6 GPA and a ACT 26 or 1180 SAT or 27 ACT or 1220 SAT
  or
- A 3.5 GPA and a ACT 28 or 1260 SAT

Benefits

Presidential Honors Scholar
- Priority registration
- Guaranteed room in Honors Hall first year (with priority for Stalnaker Hall during their second year)
- Honors advisor in their major as a freshman
- Guaranteed Honors credit for research, internship, and study abroad experiences
- Support from the Honors Office

Dean's Honors Scholar
- Priority registration
- Honors advisor in their major as a freshman
- Support from the Honors Office
- Honors housing
- Students may elect to become Presidential Scholars if they earn a 3.5 GPA during their first year

Requirements

Presidential Honors Scholar
- 3.5 grade point average
- 25 hours of “Honors” credit hours
  13 Honors credit hours—specifically designated Honors courses including Honors 199 (one credit hour Honors gateway orientation course)
- Six Honors hours (which may be thesis hours)
- Six credits at the 300- and 400-level in the student’s major that have been approved as Honors-level courses by the department chair and the dean of the Honors College
- Thesis or an approved semester of study abroad

Dean's Honors Scholar
- 3.4 grade point average
- 16 hours of “Honors” credit hours
- Seven Honors credit hours—specifically designated Honors courses including Honors 199 (1 credit hour Honors gateway orientation course)
- Nine credits at the 300- and 400-level in the student’s major that have been approved as Honors-level courses by the department chair and the dean of the
Honors College

- Thesis optional (however, encouraged—could be used as credits in the 300- or 400-level section above)

Current WVU students may participate if they have a 3.7 GPA after completing fourteen to 34 hours of coursework, with no withdrawals or incompletes.

If you would like more information, please contact the Honors Office. Students may also visit the website listed above.

**WVU Extension Service**

http://www.wvu.edu/~exten/

Real-world learning and outreach experiences abound for undergraduate and graduate students who intern with the WVU Extension Service (WVU-ES). Part of an educational network of 105 land-grant universities, WVU-ES takes the helping hand of West Virginia University directly to thousands of West Virginians in communities scattered across the state. Through its Extension Service, the University provides a “mini-campus” in each of the state’s 55 counties. The work at these locations addresses a wide variety of community issues via a nontraditional mix of learners, faculty, staff, and volunteers.

Drawing on the strengths of WVU’s many academic disciplines, Extension educators target social, economic, environmental, and technical problems of communities. Some Extension educators work on WVU’s traditional campuses located in Morgantown, but many of the faculty work in county settings, generally located in or near each county’s government seat. Working daily with local residents, Extension faculty find their lives often intertwine with the issues that confront their local communities. They are committed to helping people find answers that work. As they solve problems along with local citizens, individually and in groups, Extension faculty and staff translate WVU's research into action.

When graduate and undergraduate students take part in this action, they find the WVU Extension Service to be a fertile, flexible provider of a variety of internship, work-study, and volunteer experiences. Extension educators may involve students in some or in all phases of their educational projects—research, design, delivery, and evaluation. Depending on the project, students may have hands-on experience with computer networks, distance education, publication design and production, curriculum design and development, evaluation and research, and classroom teaching.

Extension’s many programs are driven by just four major initiatives: 4-H youth development, families and health, agriculture and natural resources, and community, economic, and workforce development. Extension’s program delivery, however, has roots in many career fields, including agriculture, business administration, child development, computer science, communications, environmental science, engineering, counseling and guidance, curriculum design, health education, home economics, journalism, and safety. Regardless of their academic disciplines, today’s students may find rich learning experiences—and rewarding careers—among Extension’s diverse educational programs. Examples include:

- WVU Extension’s 4-H program builds leaders who have the confidence that comes from learning by doing. Using clubs, special interest programs, camping, school enrichment, and individual study, 4-H works with more than 7,900 adult volunteers to involve more than 80,000 youths in educational activities—reaching one in four West Virginia youths.
- Diabetes is a major problem in West Virginia. Extension’s Dining with Diabetes is helping families learn how to select, prepare, and enjoy food that supports healthful eating habits. Each year, more than a thousand diabetes cooking school students attend classes in their own communities and learn how to plan and prepare meals that are appealing, tasty, and healthful.
- Thousands of children in rural and low-income communities nourish their bodies and minds through the summertime Energy Express program. A partnership of WVU Extension and state and local organizations, the program helps children build critical reading skills while providing nutritious meals and valuable mentoring.
• The First Impressions program offers West Virginia communities frank, detailed assessments of what works and what doesn’t, as seen through the eyes of strangers. Communities in Brooke, Grant, Hampshire, and Mineral counties are among those using this Extension program to make immediate improvements and guide long-term development.

• Each year, more than 12,000 firefighters and emergency responders throughout West Virginia improve their skills through training offered by WVU’s Fire Service Extension. These programs help fire department personnel meet national certification standards and enhance their ability to protect people and property in their communities.

• Helping West Virginia workers stay well and injury-free is the goal of WVU’s Safety and Health Extension. Industrial safety specialists teach employers and their workers how to protect themselves and the public from potential hazards encountered on the job.

• Opening and improving farmers markets are just two approaches WVU Extension agents are using to help farm families improve their bottom line while they bring fresh, nutritious foods to local families via direct markets, grocery stores, and restaurants. WVU Extension is helping the state’s 22,000 farmers reach a wider consumer base through its Small Farm Center.

• WVU’s International Extension programs open a window to the world. Through international exchange programs, educational camps, and development projects and research studies abroad, West Virginians are learning how to cross culture and language barriers to form productive, rewarding partnerships in the global village.

Extension operates the University’s special-mission campus, which is WVU Jackson’s Mill State 4-H Camp. Located near Weston, WVU Jackson’s Mill annually draws more than 110,000 guests, who enjoy the 525-acre retreat facility’s meeting, camping, and heritage facilities.

WVU Extension programs are financed via a variety of funding combinations: federal appropriations and grants; state appropriations and grants; county commission, county school board, and other local governmental appropriations; and private grants.

Graduate and undergraduate internships, work-study appointments, and volunteer service positions may be available on the Morgantown campus and in any of the 55 counties. Program priorities and funding determine the duration of appointments during regular semester and summer sessions.

For more information, contact the WVU Extension Service at (304) 293-5691; or write to 808 Knapp Hall, P.O. Box 6031, Morgantown, WV 26506-6031.

Study Abroad
In today’s increasingly globalized society, direct international experience is a key component of a complete college education. The WVU Office of International Programs manages more than 400 exciting and life-enriching programs in over 60 countries all around the world. Study Abroad can be a life changing cultural experience and supports unique inquiry-based and experiential learning. All WVU students (undergraduate, graduate, and professional) are required to register and have program approval with The Office of International Programs prior to departure when traveling abroad on university-related activities. The Office of International Programs has advisors who will guide the student through the study abroad process, assist in choosing a program based on interest and needs, ensure appropriate credit transfer and offer travel advice, and cultural information about living and learning overseas.

WVU Exchange Programs
WVU exchange programs are managed directly by the Office of International Programs in conjunction with over 30 select partner institutions around the world. These programs offer WVU students the opportunity to study abroad for a semester or year at a sister institution. Students pay regular WVU tuition and fees and the host school provides full reciprocal services at a campus abroad. Room and board are paid either to WVU or the exchange institution, depending on the exchange agreement. WVU currently has exchange
programs in Australia, Austria, Botswana, Brazil, Canada, China, Denmark, England, Estonia, France, Germany, Hong Kong, Hungary, India, Ireland, Italy, Japan, Mexico, Morocco, Northern Ireland, South Africa, South Korea, Spain, Sweden, Taiwan, Trinidad and Tobago, Turkey, and Wales.

**Faculty-Led Programs**

Faculty-led programs are study abroad experiences developed and organized by WVU faculty members in conjunction with the Office of International Programs. Students study in rigorous but exciting programs where coursework is directly supervised by WVU faculty members. These programs, available throughout the year, are focused on either general education or on specific disciplines such as law, political science, foreign languages, biology, medicine, social work, and much more. Past locations have included Brazil, China, England, Fiji, France, Germany, Ghana, Italy, Mexico, Spain, and Vietnam. Contact the Office of International Programs or visit the website for a current listing of upcoming programs: [http://internationalprograms.wvu.edu](http://internationalprograms.wvu.edu).

**International Student Exchange Program**

The International Student Exchange Program (ISEP) is a worldwide network for international education. ISEP exchanges allow students from the United States and 27 other countries access to programs at member universities for a semester or a year. Students pay WVU tuition, fees, room, board, and an ISEP fee to WVU.

**Amizade Global-Service Learning**

Amizade programs are programs that integrate study abroad and community service. Past program locations have included Bolivia, Brazil, Germany, Ghana, Mexico, Navajo Nation, Northern Ireland, Poland, and Tanzania.

**Affiliate Programs**

Affiliate programs are study abroad opportunities available to WVU students through our affiliations with various study abroad organizations. Affiliate programs are available during the fall, spring, and summer terms as well as for a complete academic year. Students pay program fees directly to the affiliate organization.

**Additional Information**

Students must submit application materials to the Office of International Programs and complete the mandatory pre-departure orientation process for credit transfer approval. Students may enroll in courses to fulfill major, minor, or general education curriculum (GEC) requirements or for elective credit. Students must be in good academic and disciplinary standing before acceptance to WVU programs or to affiliate programs abroad. Participation in these programs also requires a minimum 2.5 grade point average. Exceptions may be made under special circumstances through appeal to the Office of International Programs, subject to approval of faculty leaders or program coordinators. Financial aid is available for many programs. WVU Promise Scholarship funds may be also used for certain programs. For more information, visit [http://www.finaid.wvu.edu](http://www.finaid.wvu.edu).

For more information, please see the International Programs website at [http://internationalprograms.wvu.edu](http://internationalprograms.wvu.edu) or visit room 326, third floor Stansbury Hall.

**Residency**

**Residence Requirements**

If a student transfers to WVU from another institution of higher learning, he or she should transfer no later than the start of the third year. Under no circumstances will a student who enters WVU after October 1 in any year be allowed to receive a degree at the next commencement. In some special cases, a student can leave WVU at the end of the third year and still receive his/her degree from WVU. He or she must enter another accredited institution with the purpose of taking a combined program that will lead to two
degrees or prepare for graduate study. Before the student leaves, he or she must apply to
the Academic Standards Committee of his or her college to request permission to do the
work of the fourth year, or a part thereof, at the other institution and still receive the degree
from WVU. Upon approval, the student will receive the WVU degree upon presentation of
the proper records from the other school.

A transfer student who has completed undergraduate work at another school in the
West Virginia system of higher education must complete either his or her last 30 hours
of work at WVU or at least 36 hours of work at WVU, of which 16 of the last 32 hours
must be on campus. A transfer student whose undergraduate work has been completed
outside the West Virginia system of higher education must complete a total of 90 hours
or at least the last 30 hours of work in residence at WVU. The student may be required to
earn up to 15 hours in the major field, regardless of the number of hours or the nature of
the courses transferred.

Work Done Out of Residence

WVU’s policy is to discourage taking regular residence courses in absentia. If a student
begins a course at WVU but fails to complete it due to illness or some other acceptable
reason, he or she may receive permission to complete the work in absentia. Permission
must be granted by the Academic Standards Committee of the college or school concerned,
and the work must be completed under the guidance of a WVU professor. Credit in such
cases is allowed only upon a report of a grade of C or better on the final examination.
This regulation does not apply to WVU off-campus courses or to courses offered through
Extended Learning or Study Abroad.

A student who fails a course (receives a final grade of F) taken at WVU must repeat
the course at WVU or at a regional campus to receive credit for that course. The dean of
the college or school in which the student is enrolled may authorize an exception to this
regulation. If so, then the dean should provide a letter to be placed in the student’s folder,
authorizing the exception and explaining its basis.

Students should be aware of the requirements for residence and specific degree
requirements described in the catalog when transferring credit from other institutions.

Course Credits, Terms, Classification

Credit by Examination

A student who is currently enrolled may receive credit for a course or courses upon
demonstration of competency in the course content. The department offering the course
determines evaluation standards for the student’s competency. If skill and cognitive abili-
ties are components of the course, then both are evaluated. Credit is given only when a
satisfactory degree of competency is shown.

A college, school, or department may ask a student to prepare a self-evaluation
statement. The purpose of the statement is to determine competency and the methods
by which the student achieved it. Any student interested in credit by examination should
contact the dean in the college or school offering the course.

500-Level Courses

WVU student: A junior or senior may enroll in any class carrying a 500-level course
number provided that they have at least a 3.0 cumulative grade point average and must
complete an Application for an Advanced Undergraduate Student to Enroll in a Course
Numbered 500-599 for Undergraduate Credit and have signatures from the instructor, their
advisor, and their academic dean. This form may be obtained from their advisor and must
be completed prior to enrollment. Seniors wishing to count these courses for graduate
credit must complete and have approved a senior petition.

Non-WVU student: A junior or senior student who wishes to take an off-campus
course numbered 500–599 must submit an undergraduate application for admission and
have his or her official transcripts sent to the Office of Admissions from all of the colleges
and universities previously attended; the transcript cannot be one sent to the student or
by facsimile (fax) transcript. The student must be classified as either a junior or senior
and have a cumulative grade point average of at least 3.0 on a 4.0 scale. The Application for an Advanced Undergraduate Student to Enroll in a Course Numbered 500-599 for Undergraduate Credit must be completed and have signatures from the instructor, their advisor and their academic dean. This form may be obtained from their advisor and must be completed prior to enrollment. Seniors wishing to count these courses for graduate credit must complete and have approved a senior petition.

**Graduate Credit via Senior Petition**

A student may begin graduate study early through the University’s senior petition policy. A senior petition form may be obtained from the advisor/department and must be signed by the advisor and the dean of the college granting the student’s degree and the dean of the college of the intended graduate degree (if different). An individual from another West Virginia state higher education system school desiring to take a course at WVU must have the form signed by his or her advisor and the registrar. These signatures are necessary to certify that the information contained on the form is correct and that the student has a cumulative 3.0 grade point average. The University has certain policies for a student to enroll in a graduate course for graduate credit. The policies are:

- Senior petition applies only to courses numbered 400–599. Student must be within 12 hours of receiving bachelor’s degree, and grade point average must be at least 3.0 on a 4.0 scale.
- Student can receive only 12 graduate hours through the senior petition.
- Student must have the proper signatures on the senior petition by the time of enrollment in the petitioned courses.

Return the approved senior petition to the Office of the University Registrar. It is kept on file so that the student receives graduate credit for these courses on the permanent record. The dean of the college or school in which the student is taking graduate courses must approve any exceptions to the policy.

*Note:* If you receive graduate credit for a course, the credit for that course does not count for your undergraduate degree.

**Visitors**

Full-time University students may attend classes as visitors. To visit a class, the student must have permission in writing from his or her advisor and the instructor of the course. A member of the administration, teaching staff, or other regular University employees may attend classes as visitors. These individuals must have written permission from their department and the instructor of the class. A visitor does not receive credit for a class and may not apply for credit by exam in a class in which he or she was a visitor.

**Auditors**

An auditor may register for courses and must pay full fees but does not receive credit for the course. A student who audits a course must let one semester pass before enrolling in the course for credit. A student may change his or her status from audit to grade or grade to audit only during the registration period. Attendance requirements for auditors are determined by the instructor of the course. The instructor may direct the Office of the University Registrar to remove an auditor from a class list or grade report if attendance requirements are not met.

**Summer Sessions**

WVU has one summer term, which begins in the middle of May and ends the second week of August. Requirements for admission and work performance for the summer term are the same as for the regular semesters. Courses are offered in a variety of time frames, e.g., one-week, three-week, six-week, and 12-week.

A student may earn credit toward a baccalaureate, master’s, doctoral, or professional degree in the summer term. Summer offerings vary from year to year.
Classification of Students

WVU undergraduates are classified as freshmen, sophomores, juniors, or seniors. These classifications are based upon the number of hours completed. The classifications are as follows:

- **Freshman classification**: 1–28 hours, inclusive
- **Sophomore classification**: 29–58 hours, inclusive
- **Junior classification**: 59–88 hours, inclusive
- **Senior classification**: 89 or more semester hours

Grade Point Average

All academic units of the University have minimum standards of scholastic quality that must be met or exceeded. Grade point average (GPA) is computed on grades earned in courses taken at WVU and institutions in the West Virginia system of higher education only. To be eligible to receive a baccalaureate, a student must have a GPA of at least 2.0 at the time of graduation. Some degree programs require a higher grade point average overall or in the major courses. GPA is based on all work for which a student received a letter grade other than W, and P. See D/F Repeat Policy.

Students are responsible for knowing their grade point standing and can obtain the necessary information from their advisor or the dean of their college or school. GPA is determined according to the method described in the section on grade points.

Graduation with Honors

WVU recognizes distinguished academic achievement by awarding degrees cum laude, magna cum laude, and summa cum laude. This distinction can be awarded on initial or second baccalaureates and specified entry-level professional degrees. All candidates for a baccalaureate with a GPA of 3.8 or higher graduate summa cum laude. Those with a grade point average of less than 3.8, but equal to or above 3.6, graduate magna cum laude. Those with a GPA of less than 3.6, but equal to or above 3.4, graduate cum laude.

Grade point average for honors consideration for a baccalaureate is based on baccalaureate-level college work attempted through the next-to-the-last semester or the last semester, whichever GPA is higher. This calculation includes transferable baccalaureate-level college work attempted at all regionally-accredited higher education institutions attended. Credit hours earned with a grade of P or S are not considered in the determination. Grades of F, however, are computed as hours attempted.

The GPA for honors consideration for entry-level professional degrees is based on baccalaureate-level and professional-level work attempted through the next-to-the-last semester or through the last semester, whichever GPA is higher. This calculation includes transferable baccalaureate-level and professional-level college work attempted at all regionally accredited higher education institutions attended. Credit hours earned with a grade of P or S are not considered in the determination. Additionally, GPA on WVU work must meet the requirements stated for the level of honors to be designated. If a student’s GPA on WVU work indicates a lower level of honors, then the WVU GPA shall govern the specific designation.

Students entering and completing a second baccalaureate program following completion of the initial degree at the University are eligible to receive the honors designation. Grade point averages for graduation with honors on second baccalaureates shall be computed on the last 80 semester hours of baccalaureate-level work, excluding credit earned with a P or S. At least 30 semester hours must have been completed in the second degree program through the penultimate semester.
Academic Progress

Courses
As a general rule, most courses taught at WVU extend for one semester, although some are taught for eight weeks and others extend for two semesters. Credit is not awarded for a course if a student does not attend the whole course. The only exception to this rule occurs if the Committee on Academic Standards decides to grant such an exception. Grades reported at the end of the first semester in a two-semester course are merely an indication of the quality of the student’s work to that point. Credit is not given for that part of the course completed. Courses taught in the summer term carry the same credit value as fall and spring semester courses.

Evaluation of Student Progress
Progress is evaluated by a variety of methods. The measurement and evaluation of learning are consistent with the objectives of the course and provide the opportunity for the student and instructor to evaluate progress. The University discourages evaluation by final examination only. The student is responsible for all materials presented or assigned in scheduled instructional sections. Students who do not complete all assigned work may earn an incomplete (I) or a failing grade (F). A grade of incomplete (I) requires a written contract between the student and instructor and must include a timeline of no more than one semester.

Finals
The last week of each semester of the academic year is designated as finals week. Final examinations for the summer term are given on the last day of classes. The website http://registrar.wvu.edu/ gives the dates and times for final examinations. (See specific term Course Registration Information link for further information.) Students who take a section of a multi-section course may be required to take the departmental final examination, given during the regular final examination period.

Last Week of Classes
Practical laboratory tests, make-up examinations, and regularly scheduled short quizzes are the only tests permitted for day classes during the week of classes preceding finals week unless the faculty member petitions the associate provost for Undergraduate Academic Affairs and the petition is approved by the beginning of the second week of the semester in which the final exam is to be given. Evening classes have their final exams on the last meeting of the class preceding finals week.

Grading System
A excellent (given only to students of superior ability and attainment)
B good (given only to students who are well above average, but not in the highest group)
C fair (average for undergraduate students)
D poor but passing (cannot be counted for graduate credit)
F failure
I incomplete
W withdrawal from a course before the date specified in the University calendar
P pass (see Pass/Fail Grading below)
X auditor, no grade and no credit
CR credit but no grade
PR progress; final grade to be issued at end of the second semester (HSC)
S satisfactory
U unsatisfactory (equivalent to F)
H honors course (medical school courses only)
IF incomplete grade not removed by next regular term (computed as an F)
UF unforgivable F (not eligible for D/F repeat policy)

Note: Grades that are not reported by faculty at the end of a term will be designated with an NR on the official transcript. Grades that are not reported will become an F at the conclusion of the next semester if a final grade is not submitted.
Pass/Fail Grading

Pass/fail grading encourages students to take elective courses not related to their degree concentrations. Pass/fail grading also facilitates grading in competency-based courses that may be an integral part of an academic program.

Student Option: Any full-time student who has completed 15 hours or more and who has maintained a 2.0 grade point average may take a maximum of four hours each semester or summer term on a pass/fail basis. Any course taken on a pass/fail basis must be a free elective. Students are limited to a total of 18 hours of pass/fail credit in the collegiate career. Unless otherwise indicated, courses in the major, courses in other subjects that are required by the major, and courses taken to satisfy University, college, school, or departmental requirements are excluded from pass/fail. For example, courses elected to satisfy the General Education Curriculum (GEC) or foreign language requirements may not be taken for pass/fail grading.

Note: Only courses numbered 499 or lower may be graded pass/fail. Courses numbered 500 or higher may be graded satisfactory/unsatisfactory (which is included in the normal grading modes).

A course taken on a pass/fail basis is graded as a graded course. The instructor turns in the appropriate letter grade to the Office of the University Registrar. This letter grade is then converted to a P on the basis of A, B, C, or D for a pass and F for a fail. The grade of P does not affect your grade point average. However, any F grade affects a student’s grade point average whether it is a regular grade or a pass/fail grade.

A student chooses the option of pass/fail grading for a course during the registration period. Once the registration period has ended, he or she may not change the grade status in the course.

College or School Option: A department or unit may designate any performance- or competency-based course as exclusively pass/fail. To institute this, the college or school must have the approval of the Faculty Senate. Courses offered only as pass/fail are not included in the maximum of 18 hours that may be freely elected as pass/fail under the student option.

Grade Points

Each letter grade has a numeric value. Grade points are based on this number value and the credit-hour value of the course.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numeric Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>I</td>
<td>0</td>
</tr>
<tr>
<td>U</td>
<td>0</td>
</tr>
</tbody>
</table>

The grade point average is computed on all work for which a student registers, with the following exceptions:

- Courses with a grade of W, P, S, and X carry no grade value. The grade of incomplete (I) initially carries no grade value.
- The grade of I is given when the instructor of the course believes that the work is unavoidably incomplete or that an additional examination is justified. There must be a written contract between the student and instructor, including a timeline for completion of the work. To remove the grade of I, a student does not register for the course again; instead, he or she arranges to submit incomplete or supplemental work to the original instructor of the course.
- When a student receives the grade of I and the incomplete grade is later removed, the grade point average is calculated on the basis of the new grade. If the I grade is not removed within the next semester, the grade is treated as an F (failure). The Academic Standards Committee of the appropriate college or school may allow a student to postpone removal of the I grade if the student can justify a delay.
- If a student is working toward teacher certification, he or she is responsible for every registration in a course in which the grade of A, B, C, D, F, P, X, or I is received.
GPA Calculations

Students need to know how to calculate their overall and semester grade point averages. The following example shows how to do it. Assume you are registered for 16 hours and receive the following grades in these courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Grade</th>
<th>Value</th>
<th>Credits x Value</th>
<th>Grade Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101</td>
<td>3</td>
<td>B</td>
<td>3</td>
<td>3 x 3</td>
<td>9</td>
</tr>
<tr>
<td>Geology 101</td>
<td>3</td>
<td>C</td>
<td>2</td>
<td>3 x 2</td>
<td>6</td>
</tr>
<tr>
<td>Spanish 101</td>
<td>3</td>
<td>D</td>
<td>1</td>
<td>3 x 1</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 126</td>
<td>3</td>
<td>A</td>
<td>4</td>
<td>3 x 4</td>
<td>12</td>
</tr>
<tr>
<td>Political Sci. 101</td>
<td>3</td>
<td>B</td>
<td>3</td>
<td>3 x 3</td>
<td>9</td>
</tr>
<tr>
<td>Psychology 201</td>
<td>1</td>
<td>P</td>
<td>0</td>
<td>1 x 0</td>
<td>0</td>
</tr>
</tbody>
</table>

1. Multiply the credit by the grade value to get the grade points earned for each course.
2. Add the total grade points, in this case, 39.
3. Divide the total grade points earned by the total credit hours with a grade value. Remember that P grades have no grade value, so in this case, there are 15 credit hours for the GPA calculation: 39 divided by 15 = grade point average of 2.6.

D/F Repeat Policy

WVU has a D/F repeat policy for undergraduate students who have not received their initial baccalaureate degree. If a student earns a D or F in a course at WVU or at any school in the WV State System and the course is taken no later than the semester or summer term in which the student completes the sixtieth hour (including any class in which the student earns a grade and transfer classes), the student may “D/F repeat” that course. The course can be repeated only at WVU Morgantown or at one of WVU’s divisional campuses. Students have only one opportunity to improve their original grades under the D/F repeat policy. The new grade becomes the grade that counts toward the student's cumulative GPA and credit hours for graduation, even if the repeated course grade is lower than the original grade in the course. The D/F repeat policy will be enacted any time an eligible course is repeated.

When a course is D/F repeated, the following procedure occurs:
1. The original grade is disregarded for the purpose of determining the overall GPA, it is marked as excluded (E) in the semester that the student originally took the course.
2. The original grade is not deleted from the student’s permanent record.
3. The second grade is entered on the student’s transcript and marked as included (I) in the semester that the course was repeated.
4. Grades of Unforgivable F (UF) are not eligible for D/F repeat. Such a failure is indicated on the student’s permanent record by an UF and is calculated in the GPA.

Courses repeated, but not eligible for the provisions of the D/F repeat policy follow this procedure:
1. The original grade is included in determining the overall GPA. It is excluded from earned or degree hours and is marked with an (A).
2. The original grade is not deleted from the student’s permanent record.
3. The second grade is entered on the student’s transcript and marked as included (I) in the semester that the course was repeated.
4. Courses repeated more than once are handled the same way with the final attempt carrying earned or degree hours. All attempts are used for determining the GPA.
Grade Reports
During the seventh week of classes in the fall and spring semesters, instructors submit a grade for all undergraduate students earning grades of D or F in undergraduate courses. These grades are used for counseling, are not recorded on the student’s official transcript, and disappear from the computer system after the semester is completed. These grades are sent first to the Office of the University Registrar and then to the student via MIX.

Final grades are due to the Office of the University Registrar within 48 hours after the end of the University’s final examination and are viewable to students within one week of submission to the Office of the University Registrar. The final grades of all seniors provisionally approved for graduation at the close of each semester or summer term are reported to the deans of the students’ colleges or schools. Special report forms for this purpose are supplied by the student’s dean.

At the end of each semester, grades are available through MIX.

Standards of Satisfactory Academic Progress for Financial Aid
To receive funds administered by the WVU Financial Aid Office, students must be making measurable academic progress toward completion of an eligible degree or certificate program. Federal regulations require evaluation of both quantitative and qualitative academic progress. The policy will be used to evaluate student progress at the conclusion of each fall and spring semester. See http://www.finaid.wvu.edu for the complete policy.

Family Educational Rights and Privacy Act
The Family Educational Rights and Privacy Act of 1974 is a federal law which states: (a) that a written institutional policy must be established; and (b) that a statement of adopted procedures covering the privacy rights of students be made available. The law provides that the institution will maintain the confidentiality of student education records.

WVU accords all the rights under the law to students who are declared independent. No one outside WVU shall have access to nor will WVU disclose any information from students’ educational records, without the written consent of students except to personnel within WVU and the West Virginia Higher Education Policy Commission; to persons or organizations providing students’ financial aid; to accrediting agencies carrying out their accreditation function; to persons in compliance with judicial order; to persons in an emergency in order to protect the health or safety of students and or other persons; the victim of an alleged perpetrator of a crime of violence or non-forcible sex-offense (final results of the disciplinary proceeding only); the parent of a student under the age of 21, regarding the violation of any federal, state, or local law or institution policy governing the use or possession of alcohol or controlled substance; or to a student who is the alleged perpetrator of a crime of violence or non-forcible sex offense. All of these exceptions are permitted under the act.

The act also permits disclosure of information from a student’s educational records, without the written consent of students, to parents of a dependent student of such parents, as defined in Section 152 of the Internal Revenue Code of 1954, as amended.

The West Virginia University Policy on the Family Educational Rights and Privacy Act explains in detail the procedures to be used for compliance with the provisions of the act. The policy can be found at: http://ferpa.wvu.edu/. The offices of the deans and directors can inform students as to the locations of all records maintained on students by West Virginia University.

Official Transcripts
Students can order official transcripts through their MIX account at any time or go to http://registrar.wvu.edu/transcripts. All orders require a valid e-mail address and a credit/debit card which will be charged by e-Pay West Virginia once the transcript request has been entered and a confirmation number is provided.
Before ordering a transcript, students should log on to their MIX account to ensure that all grades and degree(s) have been posted. Transcript requests are processed immediately. They are not held for posting of final grades and/or degrees.

All financial obligations to West Virginia University must be cleared before transcripts can be released. Transcripts may not be picked up by another party unless the student has given written authorization with the request. The designated person will be expected to show a picture I.D. before obtaining the transcript.

A West Virginia University transcript is a complete record of a student’s enrollment at WVU. This includes all undergraduate, graduate, and professional courses. Partial transcripts are not available.

**Final Grade Appeal Procedures (Not Involving Charges of Academic Dishonesty), including Dismissal from an Academic Program**

Students have the right to appeal final course grades which they believe reflect a capricious, arbitrary, or prejudiced academic evaluation, or reflect discrimination based on race, sex, age, handicap, veteran status, religion or creed, sexual orientation, color, or national origin. The grade appealed shall remain in effect until the appeal procedure is completed or the problem resolved. This procedure provides a mechanism whereby a student may appeal a failing grade or a grade low enough to cause the student to be dismissed from some program or to require the repetition of a course. Grade appeals that do not meet this classification are not precluded.

**Step 1** - The student shall discuss the complaint with the instructor involved prior to the mid-semester of the succeeding regular semester, whether the student is enrolled or not. If the two parties are unable to resolve the matter satisfactorily, if the instructor is not available, or if the nature of the complaint makes discussion with the instructor inappropriate, the student shall notify the chairperson of the instructor’s department or division (or, if none, the dean). The chairperson or dean shall assume the role of an informal facilitator and assist in their resolution attempts. If the problem is not resolved within five academic days from when the complaint is first lodged, the student may proceed directly to Step 2.

**Step 2** - The student must prepare and sign a document that states the facts constituting the basis for the appeal within five academic days from when the original complaint was lodged. Copies of this document shall be given to the instructor and to the instructor’s chairperson (or, if none, to the dean). If, within five academic days of receipt of the student’s signed document, the chairperson does not resolve the problem to the satisfaction of the student, the student will forward the complaint to the instructor’s dean (see Step 3).

**Step 3** - Within five academic days of receipt of the complaint, the instructor’s dean shall make a determination regarding the grade, making any recommendation for a grade change to the instructor involved. If the instructor involved does not act on the dean’s recommendation, or if the student disagrees with the decision of the dean, the dean will refer the case to a representative committee, appointed by the dean, for final resolution. This committee shall consist of three or more faculty members, including at least one person outside the instructor’s department.

1. Upon receiving an appeal, the committee will notify in writing the faculty member involved of the grade challenge, which shall include a statement of the facts and evidence to be presented by the student.
2. The committee shall provide to the faculty member involved and the student making the appeal written notification of their right to appear at a hearing to be held before the department, college, or school representative committee, together with the notice of the date, time, and place of the hearing.
3. The administrative procedure is not adversarial in nature; the formal rules of evidence do not apply.
4. The final decision of this committee shall be forwarded to the instructor and to the dean involved. If the decision requires a change of grade, the instructor shall take action in accordance with the committee’s decision.
5. If the instructor does not act within five academic days, the dean shall make any necessary grade adjustment.
6. In the case of grade appeals, the dean functions as the president’s designee; therefore, implementation of this decision shall end the appeal procedure.
Appeal Procedures for Cases Involving Academic Dishonesty, i.e., Plagiarism, Cheating, and Academic Fraud, Including the Grade of Unforgiveable F (UF)

Academic dishonesty, a serious offense, is defined in West Virginia University Student Conduct Code (Board of Governors Policy 31), which also describes the appeal procedure. Both students and faculty members are responsible for reporting cases of academic dishonesty. Students who suspect academic dishonesty should notify the examination proctor, instructor of the course, or any other appropriate person.

An unforgiveable F (UF) is a University sanction levied as a result of a violation of the Student Conduct Code Article III (B) 1. Thus, the appeal process for a UF as well as for other cases involving academic dishonesty is different than a standard grade appeal (see above), which follows academic channels that end with a decision by the dean of the college involved. This sanction can be given only after a student has gone through the University student conduct process.

Process to Initiate a Charge of Academic Dishonesty

To initiate and process a charge of academic dishonesty, including plagiarism, cheating, and academic fraud, and/or to begin the process of issuing an unforgiveable F, the instructor must do the following:

1. Notify the student in writing of the charge and the penalty and schedule a conference within five academic days of discovering the infraction.
2. Meet with the student to discuss the issue, to review all relevant materials, and to complete the Notification of Academic Misconduct (NAM) form (http://facultysenate.wvu.edu) as soon as possible but no longer than five academic days following the discovery of the violation.

If the student accepts responsibility for both the charge and the sanctions, he or she signs the NAM, and the case is closed. Within five academic days of resolution of the case, faculty should make three copies of the NAM form: one for the student, one for faculty records, and one for the Office of Student Judicial Affairs (84 Boreman North, P.O. Box 6430).

If the student does not accept responsibility as charged, he or she may appeal to the chair of the department. If the student and chair reach a resolution, the chair should make three copies of the NAM form: one for the student, one for departmental records, and one for the Office of Student Judicial Affairs (84 Boreman North, P.O. Box 6430). These copies should be distributed within five academic days of resolution of the case.

If the student and the chair do not reach a resolution, the student may appeal to the Student Conduct Board, which is comprised of members of the University Committee on Students Rights and Responsibilities. This appeal must be initiated within five academic days of the student's meeting with the chair.

If the student appeals to the Student Conduct Board, a panel of three faculty and two students or any odd number with faculty comprising the majority will be convened, the case will be examined, and a decision will be reached.

If the student disagrees with the decision of the Student Conduct Board, he or she may appeal to the provost, whose decision is final.

Withdrawals

There are two types of withdrawals: withdrawal from individual courses for which a student has registered, and a complete withdrawal from the University. Deadlines for withdrawals for each semester are available at http://registrar.wvu.edu/current_students/withdrawal_policies. If students follow all established University procedures and withdraw before the published deadline, they will receive a W on their transcript. The grade point average is not affected in any way by this mark. If formal withdrawal procedures are not executed by the student, a failing grade/s will be recorded. It is the student’s responsibility to see that all forms are properly executed and delivered to the appropriate authorities for recording.
Withdrawal/Drop From Individual Classes

Students may drop individual classes within a term based on established deadlines. These deadlines are posted on the Office of the University Registrar’s website.

Students, with the help of their academic advisors, are responsible for determining:

• If their course load would be reduced below the minimum requirement set by their program;
• If their course load would be reduced below the minimum hours required to qualify for a graduate assistantship, financial aid, or international full-time student status;
• If the course to be dropped is a co-requisite for another course the student is taking or a prerequisite for a course required the following semester, the student may be required to drop the co-requisite course or asked to take a substitute course the following semester.

Withdrawal From All Classes for the Term

Deadlines

Students may withdraw from WVU for the term in which they are enrolled at anytime before the last day of classes of the term on which regular classes are scheduled to meet. Students will receive grades of W in all classes for that term.

Procedures

To withdraw from all classes through the last day to drop a class with a W, a student would log on to their MIX account and drop their classes through STAR.

To withdraw from the term after the last day to drop a class with a W, you may do any of the following:

• Visit the Office of the University Registrar.
• Send an e-mail from your MIX Account only to registrar@mail.wvu.edu. Please include:
  * full name
  * last four digits of your student identification number
  * reason for your withdrawal
  * address
  * telephone number
• Mail a request to Office of University Registrar, West Virginia University, P.O. Box 6009, Morgantown, WV 26506. Please Include:
  * full name
  * student identification number
  * reason for your withdrawal
  * address
  * telephone number
  * signature
• Fax a request to (304) 293-8991. Please include:
  * full name
  * student identification number
  * reason for your withdrawal
  * address
  * telephone number
  * signature

Important Notice

Financial aid recipients who withdraw from all classes before 60 percent of the term is completed may be required to return a portion of any financial aid that was received for the term. Students who do not receive at least one passing grade for classes in a term must provide documentation which verifies continued participation in educational activities. If documentation cannot be provided, those students are considered to have informally withdrawn from WVU prior to 60 percent of the term and may be required to return a portion of any financial aid which was received. This review and return of financial aid is done in accordance with federal regulations.
Re-Enrollment After Withdrawal

After a student withdraws from WVU in two consecutive semesters (excluding summer sessions), a student may not register for further work without approval of the dean of the college or school in which the student wants to register, subject to conditions set by that dean. In the case of a general studies major, the student must seek approval from the director of the Undergraduate Advising Services Center.

Financial Aid Refund and Repayment Policy

Federal regulations require that West Virginia University recalculate eligibility for financial assistance for students who completely withdraw, drop out, or are dismissed before completing the enrollment period. Students who receive all unsatisfactory grades (defined as at least one F and no passing grades) at the end of the grading period will be considered as unofficially withdrawn at the semester mid-point unless documentation is available that demonstrates continued class participation. Application of this policy may result in the necessity for a student to return financial aid funds to various Title IV federal aid programs including Federal Pell Grant, Federal SEOG, Federal Perkins Loan, and William D. Ford Federal Direct Student and PLUS loans.

A student earns Title IV federal aid based upon the length of time the student remains enrolled during the enrollment period. Students who withdraw on or before completing more than 60 percent of the semester may be required to return a portion of federal financial assistance. The determination of 60 percent of the term is computed by dividing the total number of calendar days in the term into the number of calendar days completed as of the date of student withdrawal. Scheduled breaks of five consecutive days or more are excluded. The percentage of Title IV assistance which the student has earned is equal to this percentage of the term completed. If the withdrawal occurs after more than 60 percent of the term is completed, the percentage earned is considered to be 100 percent.

If more Title IV aid was disbursed than was earned by the student, WVU is required to return the lesser of (1) the unearned aid percentage of institutional charges, or (2) the unearned aid percentage applied to the total Title IV aid received. The student must return unearned aid for which she or he is responsible after subtracting the amount the school will return. Funds are returned in the following priority:

1. Unsubsidized Federal Direct Loan 8. Federal SMART Grant
3. Federal Perkins Loan 10. Other Title IV assistance
4. Federal Graduate PLUS Loan 11. Other federal, state, private, or institutional aid
5. Federal PLUS Loan 12. The student
6. Federal Pell Grant
7. Federal Academic Competitiveness Grant (ACG)

If less Title IV aid was disbursed than was earned by the student, the student is entitled to a post-withdrawal disbursement within 30 days of withdrawal.

The return of financial aid may result in unpaid charges to WVU for tuition/fees and room/board. WVU will bill the student for any balance due. Students who owe a repayment to any federal financial aid program are no longer eligible for financial aid at any post-secondary institution. Eligibility may be regained after repayment is satisfied.

Academic Leave of Absence

WVU offers undergraduate students in good standing, as defined by WVU’s uniform suspension policy and not subject to disciplinary action, the opportunity to request an academic leave of absence. The academic leave of absence is designed for the student who wishes to be away from his or her academic endeavors at WVU for one or more semesters, but intends to return at a later date. Leave of absence status must be requested before the beginning of the semester for which the leave is desired. The academic records of students on an academic leave of absence remain in an active status. While on an academic leave of absence, the student retains the right to use certain campus facilities such as the Study Skills Center and Career Services. When a student decides to return to WVU after his or her academic leave of absence, application fees are waived. An overall
grade point average of 2.0 on all work attempted while on leave combined with the WVU grade point average is acceptable. While on an academic leave of absence, the student will receive communications from WVU.

Other leaves of absence, such as medical, bereavement, or military leave, may be granted during the semester. Please refer to the Office of the University Registrar’s website for more information.

Academic Standards

The University retains the right to suspend, readmit, expel, or place students on probation according to its best judgment regarding student conduct. Each college or school and the Undergraduate Advising Services Center shall also have authority to suspend, expel, reinstate, or place students on probation according to its best judgment with regard to students’ academic statuses and conduct. The probation, suspension, reinstatement, and expulsion policies shall become effective when approved by the dean of the respective college or school or the Undergraduate Advising Services Center. In exercising its authority, the college or school or Undergraduate Advising Services Center shall not suspend a student during a semester except for willful neglect. No suspension shall become effective until approved by the dean of the college or school or the Undergraduate Advising Services Center.

Probation, Suspension, Readmission, Reinstatement, Dismissal Policy

Probation

A uniform academic standard requires all students must maintain a grade point average of 2.0 or higher to remain in good academic standing at the University. A college or school or the Undergraduate Advising Services Center may require a grade point average above 2.0 and, or other academic requirements for purposes of determining probation or meeting degree requirements. Academic units reserve the right to sanction students on academic probation. Students on probation have the right to receive their probationary status in writing however, academic probation is not recorded on a student’s permanent record.

Uniform Academic Suspension Regulations

A student whose cumulative grade point average (GPA) falls below 2.0, or any GPA required and published by that college or school, may be subject to academic suspension by the dean from that college or school but not necessarily from the University. Academic suspension from the University is based on the following GPA requirements and is imposed by the dean of the student’s college or school or the Undergraduate Advising Services Center.

<table>
<thead>
<tr>
<th>Total Hours Attempted*</th>
<th>Minimum cumulative GPA*</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–19</td>
<td>0.95</td>
</tr>
<tr>
<td>20–24</td>
<td>1.13</td>
</tr>
<tr>
<td>25–29</td>
<td>1.33</td>
</tr>
<tr>
<td>30–34</td>
<td>1.47</td>
</tr>
<tr>
<td>35–39</td>
<td>1.57</td>
</tr>
<tr>
<td>40–44</td>
<td>1.64</td>
</tr>
<tr>
<td>45–49</td>
<td>1.70</td>
</tr>
<tr>
<td>50–54</td>
<td>1.75</td>
</tr>
<tr>
<td>55–59</td>
<td>1.79</td>
</tr>
<tr>
<td>60–64</td>
<td>1.82</td>
</tr>
<tr>
<td>65–69</td>
<td>1.85</td>
</tr>
<tr>
<td>70–74</td>
<td>1.87</td>
</tr>
<tr>
<td>75–79</td>
<td>1.90</td>
</tr>
<tr>
<td>80–84</td>
<td>1.91</td>
</tr>
<tr>
<td>85 or more</td>
<td>1.93</td>
</tr>
</tbody>
</table>

*Includes all hours attempted at institutions in the WV system of higher education. Grades of P are excluded and the D/F repeat policy is applied.
Normally, students are suspended at the end of a semester or summer school term. Deans have the authority to waive suspension in favor of probation if, in their judgment, the circumstances of individual cases so warrant.

Suspension from the University means that a student will not be permitted to register for any classes, including those in the summer term, offered by the University for academic credit until the student has been officially reinstated. The normal period of suspension is one academic year. A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. After one semester of satisfactory performance at WVU (C average or better on a minimum of 12 credit hours earned during a regular semester or during the summer term), the appropriate transfer credit will be entered into the student's record upon certification by the advisor and dean that the above conditions have been met. Students are not eligible for readmission if they earn less than a 2.0 at other institutions while on suspension from WVU. A student who has preregistered and is subsequently suspended shall have his or her registration automatically cancelled.

Reinstatement after Suspension

During the semester immediately following the effective date of suspension, suspended students may petition in writing for reinstatement. Colleges, schools, and the Undergraduate Advising Services Center establish the terms of reinstatement for successful student petitions. After one calendar year from the effective date of suspension, any student who has been suspended one time may, upon written application, be reinstated to the University. In order to be re-enrolled, a student must be readmitted to the University through the Office of Admissions and also reinstated to a college or school or to the Undergraduate Advising Services Center. Most students returning from suspension are accepted into the Undergraduate Advising Services Center for advising purposes; however, some colleges will accept students returning from suspension. Students interested in returning to WVU from suspension are advised to check with their prior college or school or the Undergraduate Advising Services Center for specific instructions. The college that reinstates the student removes the student’s suspension restriction with the Office of Admissions and accepts the student under the terms of probation agreed to by the student and that college, school, or the University Advising Services Center. Each college or school and the Undergraduate Advising Services Center shall have the right to establish requirements or performance expectations for all students including those returning from suspension.

After the second or any subsequent suspension, a student may be reinstated to the University provided that a college or school agrees to reinstate the student. After a student has been reinstated, he or she must apply for readmission through the Office of Admissions.

Uniform Academic Dismissal Regulations

Academic dismissal from the University means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University. Academic dismissal can result from repeated failure to make academic progress and/or to meet probationary terms set forth in writing by the student’s college or school.

After five calendar years from the effective date of academic dismissal, any student who has been dismissed shall, upon written application, be considered for reinstatement to the University, with the terms of reinstatement to be established by the college or school entered. Failure to meet these terms will result in permanent academic expulsion.

Appeal of Dismissal

Note: The procedures and appeals described do not apply to dismissal as a sanction for academic dishonesty.

The time limitations stated herein are suggested in order to render a decision as expeditiously as possible. In the case of University holidays or absence of person(s) involved, reasonable delays may be expected.
A decision to dismiss a student for failure to meet academic standards (as distinguished from academic dishonesty) can be made only after the student has been counseled by the appropriate departmental committee or representative, with counseling to take place as soon as possible after discovery of the problem. After the student is given a reasonable opportunity to correct deficiencies, there shall then be a formal review of the student’s status by the appropriate departmental or program committee to determine whether the student shall be retained or dismissed. The student may provide the committee written documentation of his/her efforts to correct deficiencies.

A committee recommendation for dismissal, including any documentation provided by the student to the committee, shall be forwarded to the student’s dean and to the student. Within 15 calendar days of receipt of the committee’s recommendation, the dean shall inform the student and the students department/program of his/her decision. A decision to dismiss shall specify whether the dismissal is from the program or college/school. The dean may also dismiss a student from the institution if the student does not meet institutional standards.

**Step 1** - The student shall prepare and sign a document which states the facts constituting the basis for the appeal. A copy of this document must reach the dean within 30 calendar days of receipt of written notice of dismissal. The student shall be given an opportunity to discuss the appeal with the dean at any time in Step 1. If the matter is not resolved satisfactorily within 15 calendar days of the dean’s receipt of the student’s appeal, the student may proceed to **Step 2**.

**Step 2** - The student will forward a copy of the appeal to the appropriate vice president within 15 calendar days of failure to resolve the matter at the dean’s level. Prior to the decision of the vice president, the student will be given an opportunity to discuss the appeal with the vice president. The decision of the vice president, as the president’s designee, shall be rendered within 15 days of receipt of the student’s appeal and is final.

Dismissal, based on failure to meet academic requirements or performance standards irrespective of grades or grade point average, from undergraduate programs, graduate programs, professional programs, and/or from the institution, may also be appealed. Students have the right to appeal academic dismissal based on requirements or standards other than grades or grade-point average which they believe reflect capricious, arbitrary, or prejudiced academic evaluation, or reflect discrimination based on race or color, sex, sexual orientation, veteran's status, religion, age, disability, national origin, creed, ancestry, or political affiliation.

**Courses**

**Plan for Numbering Courses**

For convenience, each course of study is designated by the name of the department in which it is given and by the number of that course. The plan for numbering courses is as follows:

**Courses 1–99** Developmental and community college certificate courses (does not require WVU Faculty Senate approval) and undergraduate professional development courses (courses that are designed for professional development and require students to possess a high school diploma but the course would not count toward graduation).

**Courses 100** Freshman/Lower Division: Intended primarily for freshmen although they may be taken by upper-division students if needed to complete degree requirements.

**Courses 200** Sophomore/Lower Division: Intended primarily for sophomores. These courses may have 100-or 200-level prerequisites.

**Courses 300** Juniors/Upper Division: Intended primarily for juniors. These courses may have extensive prerequisites or be limited to specific majors.
Courses 400 Seniors/Upper Division: Intended primarily for seniors and selected graduate students. These courses are typically limited to advance undergraduates within a particular major or degree program and selected graduate students. No more than 40 percent of the credits counted for meeting requirements for a graduate degree can be at the 400 level.

Courses 500 Undergraduate Seniors and Master's Level: Courses intended for advanced undergraduate and graduate students. Undergraduates in any class carrying a 500-level course number must have a 3.0 cumulative grade point average and written approval on an Application for an Advanced Undergraduate Student to Enroll in a Course Numbered 500–599 for Undergraduate Credit from the course instructor, student's advisor(s), and academic dean. Seniors may count these courses for graduate credit only after completion and approval of a senior petition.

Courses 600 Master's Level: Courses intended for master's degree students (no undergraduate enrollment permitted).

Courses 700 Master's and Doctoral Degree Level: Courses intended for doctoral students, and advanced master's students (no undergraduate enrollment permitted).

Courses 900 Professional Development: Courses intended for professional development and require students to possess a bachelor's degree, but the courses do not count toward graduation and are not applicable towards a graduate degree. (Grading is S/U only.)

Abbreviations Used in Course Listings

I           a course given in the first (fall) semester
II          a course given in the second (spring) semester
I, II       a course given each semester
I and II    a course given throughout the year
Yr          a course continued through two semesters
S           a course given in the summer
Hr          credit hours per course
lec         lecture period
rec         recitation period
lab         laboratory period
Conc        concurrent registration required
PR          prerequisite
Coreq       corequisite
consent     consent of instructor required
CR          credit but no grade

An asterisk (*) following credit hours listed as variable indicates that the course normally carries three credit hours. Exceptions are made only in emergencies and must be approved by the departmental chair and by the professor teaching the course.
Undergraduate Common Course Numbers

199. Orientation to [subject/field]. 1-2 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities, and opportunities.

293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

298. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

491. Professional Field Experience. 1-18 Hr. PR: Consent (may be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

495. Independent Study. 1-6 Hr. Faculty-supervised study of topics not available through regular course offerings.

496. Senior Thesis. 1-3 Hr. PR: Consent.

497. Research. 1-6 Hr. Independent research projects.

498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

499. Global Service Learning. 3 Hr. PR: Consent. Theory and practice of global service-learning. The main objective will be to pair the experiential aspects of meaningful and sustained service in the host community with work from the student’s anchor course by offering a methodological framework for cultural immersion and community service as well as adding to the content of the anchor course.
College of Business and Economics

Jose V. Sartarelli, Ph.D., Milan Puskar Dean
Nancy McIntyre, Ph.D., Associate Dean for Academic Affairs
Tom S. Witt, Ph.D., Associate Dean for Research and Outreach
C. G. Mancini, M.P.A., Associate Dean for Administrative Services
A. Graham Peace, Ph.D., Assistant Dean
Joseph P. Seiaman, M.A., Assistant Dean

http://www.be.wvu.edu

Degrees Offered

Bachelor of Science in Business Administration
  Accounting
  Finance
  Management
  Management Information Systems
  Marketing
Bachelor of Science in Economics

Historical Background

The College of Business and Economics was founded in November of 1951 and graduated its first class in the spring of 1953. Since that time, the college has become one of the largest colleges at West Virginia University. In 1954, the college became fully accredited by The Association to Advance Collegiate Schools of Business (AACSB) International, the highest level of business accreditation.

The College of Business and Economics building is located on the site of old Mountaineer Stadium on the downtown campus adjacent to historic Woodburn Hall. The four-story facility houses modern classrooms, including two high technology distance-learning classrooms, two auditoriums, state-of-the-art computer laboratories, and space for the college’s research and service centers.

Mission

Through practical and theoretical research and the dissemination and implementation of knowledge, the College of Business and Economics equips its constituencies with the business tools necessary to lead in the global economy. The college practices honesty, openness, fairness, and integrity in a student-centered environment. While global in our scope, the college has a special responsibility to lead and support the citizens of West Virginia.

Vision

The College of Business and Economics seeks to build on its strength as a leading regional school of business and to become nationally recognized in overall quality/reputation and in research.

Goals

- Foster and advance the reputation of the college and its programs;
- Recruit, retain, and graduate high-quality students;
- Recruit and retain high-quality faculty and staff;
- Enhance the educational environment for student learning;
- Promote discovery and exchange of knowledge and ideas; and
- Improve West Virginia’s health, economy, and quality of life.
Values

- **Excellence**: By seeking to innovate and continuously improve so that we achieve outstanding performance in teaching, research, and service.
- **Knowledge**: By striving for the highest level of intellectual development and scholarship, we seek to create an environment supportive of research and teaching, thereby enhancing learning.
- **Integrity**: By being honest, fair, and acting with the highest level of ethics in all that we do, we seek to maintain the highest standards and serve as role models for integrity.
- **Respect**: By valuing individual differences and international/cultural diversity and by encouraging respectful discourse and the exchange of ideas, we seek to achieve the highest level of relationships grounded in individual respect.
- **Stewardship**: By being responsible for those resources entrusted to us and willingly being held accountable for those resources, we will be good stewards.
- **Service to Others**: By providing service through our scholarship, outreach, consulting, and volunteer work, we seek to serve our profession, the University, the citizens of West Virginia, and society.
- **Faculty Governance/Academic Freedom**: By fostering an open, transparent decision-making climate and a participatory decision-making environment, we will fully participate in the governance of the University and accept the responsibility for guiding the scholarly pursuits of the College of Business and Economics.
- **Entrepreneurship**: By encouraging enthusiasm and innovation, we seek to be creative and entrepreneurial in our teaching, research, and service.

Statement of Quality

The faculty, staff, administrators, and student employees of the College of Business and Economics are committed to being responsive, sensitive, and understanding to the needs of the students and to the needs of each other. Our conduct shall be positive, professional, and supportive to all.

Accreditation

Business programs in the College of Business and Economics are accredited by The Association to Advance Collegiate Schools of Business (AACSB) International at the undergraduate and graduate levels. AACSB International accreditation assures students and prospective employers that our programs adhere to the highest standards of excellence in worldwide recognized business programs. The college has maintained full accreditation in the AACSB International since 1954.

Honor Societies

- Beta Gamma Sigma Honorary for bachelor of science in business administration candidates of all majors.
- Beta Alpha Psi for accounting majors.

Center for Career Development

The center for Career Development helps students in their career development and job search efforts, while preparing them for the world of work through planning, reflection, skill development, and portfolio documentation.

The center offers services that include:

- Facilitating employment interviews with corporate representatives from a wide range of firms.
- Developing valuable internship opportunities.
- Organizing and conducting workshops on developing necessary job-search skills.
- Sponsoring corporate networking events.
- Offering counsel and advice to help students clarify and achieve their career goals.
- Publishing a weekly online newsletter with information about full-time and internship opportunities and current trends in the job market.
- Providing a professional-development course for students that focuses on the tools of the job search.
The center also organizes career fairs and networking events that enable students to interface with potential employers and explore career options.

**Technology**

The array of technology available to students in the College of Business and Economics is impressive. Through coursework, students develop skills with technology and its application to business. Business students have access to standard and specialized business software, e-mail, and Internet services through two computer labs in the Business and Economics building.

Students use the latest word processing, spreadsheet, database, and presentation software. Each student is encouraged to purchase a personal computer; special purchase plans are available through the WVU Technology Service Center. A wireless network provides Internet access from anywhere in the Business and Economics building to students with properly equipped laptop computers. In addition, all general-purpose classrooms have multimedia presentation capabilities, and the building houses two fully equipped distance-learning sites.

**Careers**

Students pursuing the degree of bachelor of science in business administration or bachelor of science in economics declare an academic major during the first semester of their sophomore year. Career opportunities for each major are indicated in the description of the major in later sections. All majors emphasize scholarly and professional education rather than training for a first position.

**Student Organizations**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Club, Alpha Kappa Psi</td>
<td>MBA Association</td>
</tr>
<tr>
<td>Beta Alpha Psi</td>
<td>MPA Association</td>
</tr>
<tr>
<td>Delta Sigma Pi</td>
<td>MIS Association</td>
</tr>
<tr>
<td>Economics Club</td>
<td>SHRM Club</td>
</tr>
<tr>
<td>Entrepreneurship Club</td>
<td>Marketing Club</td>
</tr>
<tr>
<td>SIFE Club</td>
<td>Thompson’s Economics Club</td>
</tr>
<tr>
<td>Finance and Banking Club</td>
<td>21st Century Business</td>
</tr>
<tr>
<td>Industrial Relations Student Association</td>
<td>Scholars</td>
</tr>
</tbody>
</table>

**Research Centers and Outreach Programs**

**Bureau of Business and Economic Research**

Founded in 1949, the Bureau conducts basic research relating to the West Virginia economy. Active programs include: West Virginia Economic Outlook with short- and long-term forecasts of the state and its regional economies; West Virginia Public Policy Program with studies on state and local public finance and the implication of national policies on the state level; Demographic Program with population projections and socio-economic studies; Industry Studies Program focuses on major industries including biosciences energy, chemicals, tourism, and the arts; target industry and labor market studies; strategic planning; statewide and regional economic outlook conferences and briefings; and special studies for the executive and legislative branches of West Virginia government. Publications include the West Virginia Business and Economic Review, County Data Profiles, Harrison County Economics Monitor, and the Morgantown MSA Economic Monitor. Undergraduate research assistants assist with many bureau studies. Visit our website at: http://www.bber.wvu.edu for details.

**Entrepreneurship Center**

Established in 2002, the WVU Entrepreneurship Center serves the entire University community. The WVU Entrepreneurship Center's mission is to promote entrepreneurship education that leads to economic development. In 2005 the center launched a minor in entrepreneurship open to all non-College of Business and Economics majors. This 18-credit
minor allows the student to develop key skills essential for success in entrepreneurship. The Entrepreneurship Center hosts the Statewide Collegiate Business Plan Competition in which teams of students from colleges and universities across West Virginia, with the help of trained professionals, develop business plans for their business ideas to be judged by a panel of experts. The winning team receives a grand prize consisting of seed money and business services to help start a new business in the state. Through partnerships, the center also actively participates in a student intern program that provides students with real world experience. The center sponsors the Entrepreneurship Club and is actively involved in outreach promoting entrepreneurship across the state.

**Center for Executive Education**

The goal of the Center for Executive Education is to strengthen businesses, industry clusters, and individual leadership capacity by maximizing human capital. This is accomplished through the development and delivery of innovative executive education and experiential learning programs and comprehensive business services. The center helps decision-makers from all industries become more dynamic leaders, more effective managers, and more valuable team members.

The center uses college and University faculty, augmented by outside subject matter experts, to deliver high-quality programs and business services for businesses and industry clusters using state-of-the-art technology. Examples of business services include executive coaching, facilitation of strategic planning sessions, and mediation services.

**Center for Chinese Business**

The Center for Chinese Business was established at the West Virginia University College of Business and Economics in 1994 to provide international management education, business facilitation, and research services focused on countries throughout the world. Fostering close relationships among academia, business, and government in the United States and China, the center focuses on furthering mutually beneficial enterprise.

During its first 15 years the center has formed many mutually advantageous partnerships with government, educational organizations, and businesses in which all parties have achieved value for their participation. These partnerships include government entities such as the Tianjin Economic and Technological Development Area, Shanghai Organization Department, the Tianjin Finance Bureau, West Virginia Development Office, and the West Virginia District Export Council. The center has formed relationships with educational organizations such as the Shanghai University of Finance and Economics, the Shanghai Education Center for Administrators, the United States Department of Education, and Sinyi Cultural Foundation.

Additionally, the Center has worked closely with many U.S. and Chinese companies such as Cisco Systems China, Baoshan Steel Group, Allegheny Wood Products, TRW Inc., Minsheng Bank, Development Dimensions International, Shanghai Airlines, and Kroll International.

**Institute for Fraud Prevention**

The Institute for Fraud Prevention (IFP) is a coalition of industry leaders, law enforcement agencies, and academic institutions all working in concert to support multidisciplinary research and education on the prevention of fraud and corruption. Initially founded through the joint efforts of the Association of Certified Fraud Examiners (ACFE) and the American Institute of Certified Public Accountants (AICPA), the IFP’s goal is to improve the ability of business and government to combat fraud and corruption.

Dr. Timothy Pearson is the chairperson of the Department of Accounting and Management Information Systems at the West Virginia University College of Business and Economics and is the executive director of the IFP. Dr. Richard Riley is the IFP director of research. Under the Department of Accounting and Management Information Systems’ stewardship, the IFP entered an affiliation with West Virginia University, which currently houses IFP headquarters. WVU is widely recognized as an international leader in fraud and forensic accounting education.
Admission to the College

Beginning in fall 2011, the College of Business and Economics will offer admission to eligible freshmen. Students interested in pursuing the degree of bachelor of science in business administration or the degree of bachelor of science in economics are encouraged to apply to the University online at http://apply.wvu.edu/.

The college offers three classifications of freshmen admission:

- Direct Admit Business: requires a minimum 3.5 high school GPA and a minimum (composite) score of 27 on the ACT or a minimum (combined math and verbal) score of 1210 on the SAT
- General Admit Business: 3.0-3.5 high school GPA and a (composite) score of 21 on the ACT or a (combined math and verbal) score of 980 on the SAT
- Pre-Business and Economics Admits: 2.5-3.0 high school GPA and a (composite) score of 19 on the ACT or a (combined math and verbal) score of 910 on the SAT for WV residents, or a (composite) score of 20 on the ACT or a (combined math and verbal) score of 950 on the SAT for non-residents

Students from within WVU or from other institutions with fewer than 12 semester hours will follow the same admission criteria as incoming freshmen, including test score requirements.

Admission for Transfer Students

Students seeking transfer admission from within the University or from another college or university (including Potomac State College) with 12 or more semester hours of advanced standing must possess a minimum grade point average of 3.0 to be eligible for admission to the college. No standardized test score is required for students seeking transfer admission. For this purpose, the grade point average will be calculated using all (transferrable) baccalaureate coursework attempted at regionally accredited institutions.

Admission to the Academic Major

To remain in good academic standing with the College of Business and Economics a student must possess a minimum overall GPA of 2.5 and demonstrate progress towards completion of ten prerequisite courses required for admission to an academic major. The prerequisite courses include: Accounting 201 and 202; Computer Science 101; Economics 201 and 202; Economics 225 or Statistics 211; English 101 and 102, or English 103; Math 126 or 153; and Math 150, 154, 155 or an advanced level of college calculus. A minimum grade of C is normally required in each of the prerequisite courses; however, some academic majors require heightened grade requirements in the prerequisite courses. Please see detailed information on prerequisite courses in the academic major sections that follow.

Students normally apply for admission to an academic major at the beginning of the first semester of the sophomore year. Although a minimum overall GPA of 2.5 is required for admission consideration, some academic majors require a more competitive overall GPA. At the beginning of the first semester sophomore year or at the beginning of the semester in which the student intends to complete the prerequisite courses, an application for admission must be submitted by the student. Applications are to be submitted electronically by accessing the college’s website at www.be.wvu.edu. Students will be required to select alternative choices of academic majors on the application. Because demand for some academic majors is considerably higher than others and because of resource limitations, a student may be offered admission to an alternative chosen major.

This publication was produced well in advance of the start of the academic year; therefore, students are advised to review current academic program requirements on the college’s website.

Prerequisites for Non-Business and Economics Students

To enroll in any upper-division, undergraduate business course, excluding Business Administration (BUSA) and Entrepreneurship (ENTR) courses, non-business and economics undergraduate students must possess the overall GPA and have completed the prerequisite courses required for admission to the respective academic major. Accommodations will be granted after all declared majors have registered for the respective semester.
Recommended Business Courses for Non-Business and Economics Students

Students not intending to pursue a degree in the College of Business and Economics may earn a minor in business administration by completing the following courses and meeting the requirements as stated below.

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201</td>
<td>3</td>
</tr>
<tr>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 310 (Business Law)</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 320 (Management)</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 330 (Marketing)</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 340 (Finance)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

- BUSA 320 and 340 are offered in fall and summer only. BUSA 310 and 330 are offered in spring and summer only.
- No substitutions are permitted for the above courses.
- To qualify for the minor in business administration a student must have earned an overall GPA of 2.0 in all courses required.
- The minor is not available to any student seeking a B.S. degree in the College of Business and Economics.

Classes Taken at Other Institutions

Business and economics majors may petition the college to complete upper-division business administration coursework out of residence, provided the courses are completed at other AACSB-accredited institutions. Courses must be approved by the dean or designee of the College of Business and Economics before registering at another institution. Ordinarily, required business courses must be taken at WVU.

Maximum and Minimum Load

A minimum of 12 hours in a semester is required for full-time status in the College of Business and Economics. The maximum load is 19 hours. Exceptions to the minimum or maximum load require approval of the student’s academic advisor before registration. Students seeking to withdraw from individual courses must seek approval from their academic advisor whenever the remaining load falls below the required minimum, even though all other conditions supporting the request for the individual course withdrawal may be in order.

Undergraduate Advising

Eligible students are admitted into the College of Business and Economics through the Office of Undergraduate Programs and Advising, Room 358, Business and Economics Building. The telephone number is (304) 293-4959. Professional academic advisors assist students with academic planning and career counseling. Course registration, graduation certification, and senior certification are also administered by this office. Any student in the college in need of academic advising may make an appointment with an advisor upon request.

Requirements for Bachelor’s Degrees

To qualify for either the bachelor of science in business administration or the bachelor of science in economics, each student must have the following:

- A minimum of 128 semester hours of coursework, including completion of the General Education Curriculum, the University Writing Requirement, and all required coursework in the degree’s core and academic curricula.
- A minimum overall GPA of 2.5 on all work attempted at WVU and state institutions under the jurisdiction of the West Virginia Higher Education Policy Commission.
• A minimum GPA of 2.5 in coursework attempted in the academic major, calculated using the last grade earned in the course. Only courses that begin with the major prefix (e.g. ACCT) are computed in the major GPA.
• At least 30 semester hours in business and economics coursework in residence after admission to the college.

All students must satisfy the University’s General Education Curriculum (GEC) requirements. Each student must complete coursework that satisfies the learning objectives for the GEC. They are:

Objective 1: Communication (ENGL 101 and 102; or English 103)
Objective 2: Math and Science (MATH 126 or a higher level of math, Computer Science 101, Natural Science, Natural Science with Lab)
Objective 3: The Past and Its Traditions
Objective 4: Contemporary Society (ECON 201 or 202)
Objective 5: Artistic Expression
Objective 6: The Individual in Society, University 101
Objective 7: American Cultural Diversity
Objective 8: Western Culture (ECON 201 or 202)
Objective 9: Non-Western Culture

Note: PSYC 101 and SOCO 101 are required of all candidates seeking the degree of bachelor of science in business administration. PSYC 101 satisfies Objective 6 of the GEC and SOCO 101 satisfies Objective 7 of the GEC.

The American economy is globally diverse; therefore, it is highly recommended that business and economics majors complete a minimum of six consecutive semester hours of a foreign language. These hours may be counted as part of GEC requirements. Many future jobs and careers may require some foreign language proficiency.

Bachelor of Science in Business Administration

Admission to the bachelor of science in business administration degree program normally occurs at the beginning of the second semester sophomore year. The requirements for completion of the degree of B.S. in business administration are:

• 42–44 semester hours fulfilling the University’s General Education Curriculum (GEC).
• 3–4 semester hours of the college math requirement (calculus)
• 39 semester hours in the college’s core courses in business and economics.
• 27–30 hours in an area of concentration (accounting, finance, management, management information systems, or marketing).
• 11–17 semester hours of unrestricted (free) electives.

Degree requirements are presented in chart form in subsequent sections.

Regulations Affecting Degree Completion

Regarding pass-fail courses and grading, University regulations limit full-time students with a 2.0 GPA or higher to a maximum of four semester hours each term. Courses taken for pass-fail grading must be unrestricted (free) electives and cannot exceed a total of 16 hours of credit. The college permits pass-fail grading in business and economics courses only in unrestricted (free) electives.

Students are permitted to apply a maximum of six semester hours of Professional Field Experience (491) toward a business administration or economics degree. A maximum of three semester hours may be applied toward a major core, major elective, business, or business and economics elective requirement. The remaining three semester hours may be used to satisfy unrestricted (free) electives.

A maximum of three semester hours of teaching practicum (490) in a discipline may be counted toward unrestricted (free) electives in a bachelor's degree program.
<table>
<thead>
<tr>
<th>Degree Requirements</th>
<th>Hrs.</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting, Finance, Management, Management Information Systems, and Marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Education Curriculum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective 1: Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 101</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Objective 2: Math and Science</td>
<td></td>
<td>3–4</td>
</tr>
<tr>
<td>*MATH 126 or 153</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS 101</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Natural Science</td>
<td></td>
<td>3–4</td>
</tr>
<tr>
<td>Natural Science (w/ Lab)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Objective 3: The Past and Its Traditions</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Objective 4: Contemporary Society (ECON 201 or 202)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Objective 5: Artistic Expression</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Objective 6: The Individual in Society (PSYC 101)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>University 101</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Objective 7: American Cultural Diversity (SOCO 101)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Objective 8: Western Culture (ECON 201 or 202)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Objective 9: Non-Western Culture</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Calculus Requirement: MATH 150, 154, 155, or 156</td>
<td></td>
<td>3–4</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>45–48</td>
</tr>
<tr>
<td>Unrestricted electives</td>
<td></td>
<td>11–17</td>
</tr>
<tr>
<td>Core courses in business and economics</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>Core courses in area of concentration</td>
<td></td>
<td>27–30</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>128</td>
</tr>
</tbody>
</table>

PSYC 101 and SOCO 101 are required for the business administration degree and meet specific GEC objectives.

A student who completes MATH 150, 154, 155 or an advanced college calculus course with a minimum grade of C meets the mathematics requirement for admission to the bachelor of science in business administration or bachelor of science in economics program.

### Business Core Curriculum

All bachelor of science in business administration majors must complete the 39 semester-hour business core curriculum. Fifteen semester hours of the core curriculum are taken in the freshman and sophomore years (ACCT 201 and 202; BCOR 199 and 299; ECON 201, 202, and 225) and 24 hours are taken during the junior and senior years (BCOR 320, 330, 340, 350, 360, 370, 380, and 460). The BCOR courses provide an integrated and cross-functional introduction to the business disciplines and emphasize business communications, information technology, teamwork, leadership, and ethics.

<table>
<thead>
<tr>
<th>Required College Core Courses</th>
<th>Hrs.</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCOR 199 Orientation to Business</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCT 201 and 202 Principles of Accounting</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>BCOR 299 Business Communications</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ECON 201 and 202 Principles of Economics</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ECON 225 Elementary Business and Economics Statistics</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
Junior year

BCOR 320 Legal Environment of Business ........................................... 3
BCOR 330 Information Systems and Technology .................................. 3
BCOR 340 Business Finance ............................................................... 3
BCOR 350 Principles of Marketing ....................................................... 3
BCOR 360 Operations Management .................................................... 3
BCOR 370 Managing Individuals and Teams ........................................ 3
BCOR 380 Business Ethics ................................................................. 3

Senior year

BCOR 460 Contemporary Business Strategy ........................................ 3

Subtotal .................................................................................................. 39

Courses in major field and electives (junior and senior years) .................. 27–30

*Courses fulfill GEC Objective requirements.

Bachelor of Science in Economics

Knowledge of economics is essential for the understanding of a wide range of domestic and international issues. In economics courses, the use of resources and the processes involved in production, distribution, and consumption of goods and services in the American and other economic systems are systematically studied. Undergraduate study in economics includes analysis of the development, organization, and functions of the economy. It involves analysis of the behavior of components of the economy such as households, businesses, and governments, as well as the pricing, development, and use of resources, and regional and community development.

The Department of Economics offers courses designed to prepare the student for work in government and industry, for additional study in economics at the graduate level, and for professional studies in areas such as law, business administration, and public administration.

MATH 154 or 155, and 156 are recommended in lieu of MATH 150 for students interested in graduate work in economics. Students are encouraged to take additional mathematics courses beyond MATH 156.

Degree Requirements

Non-Business and Non-Economics Courses

<table>
<thead>
<tr>
<th>Objective 1: Communication</th>
<th>ENGL 101</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ENGL 102</td>
<td>3</td>
</tr>
<tr>
<td>Objective 2: Math and Science</td>
<td>MATH 126 or 153</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td>Computer Science 101</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Natural Science</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td>Natural Science (w/Lab)</td>
<td>4</td>
</tr>
<tr>
<td>Objective 3: The Past and Its Traditions</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Objective 4: Contemporary Society</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 201 or 202</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Objective 5: Artistic Expression</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Objective 6: The Individual in Society</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>UNIV 101</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Objective 7: American Cultural Diversity</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Objective 8: Western Culture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 201 or 202</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Objective 9: Non-Western Culture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Calculus Requirement: MATH150, 154, 155 or 156</td>
<td>3–4</td>
<td></td>
</tr>
<tr>
<td>Unrestricted electives</td>
<td>20–23</td>
<td></td>
</tr>
</tbody>
</table>

Subtotal .................................................................................................. 68
Required College Core Courses
ACCT 201 and 202 Principles of Accounting.................................................. 6
BCOR 199 Orientation to Business................................................................. 3
BCOR 299 Business Communications ......................................................... 3
ECON 201 and 202 Principles of Economics.................................................. 6
ECON 225 Elementary Business and Economics Statistics.......................... 3
ECON 301 Intermediate Microeconomic Theory .......................................... 3
ECON 302 Intermediate Macroeconomic Theory ......................................... 3
ECON 481 American Economic History....................................................... 3

Elective Courses Required in the College
Economics.................................................................................................. 15
Business .................................................................................................... 9
Economics or Business.............................................................................. 12

Grand Total................................................................................................. 128

*ECON 201 and 202 are required core courses in the B.S. in economics program and may satisfy objectives 4 and 8 of the General Education Curriculum (GEC).

Multiple and Concurrent Bachelor's Degrees
If a student seeks to earn two bachelor's degrees simultaneously, and one of the two is the bachelor of science in business administration or the bachelor of science in economics, the student must meet all requirements leading to the undergraduate degree offered by the College of Business and Economics.

The student must complete all University GEC requirements, all College of Business and Economics core requirements, and must satisfy the course requirements of one of the college's curricula. (See Requirements for Degrees.) Students seeking to earn a bachelor of science in business administration or bachelor of science in economics and another bachelor's degree simultaneously must earn a minimum of 158 hours, including 30 hours as a resident of the College of Business and Economics. In addition, students seeking the bachelor of science in business administration or the bachelor of science in economics and another degree simultaneously must meet all admission requirements in order to be enrolled in the College of Business and Economics.

International Opportunities
The College of Business and Economics offers students opportunities to provide an international dimension to their B.S. degree studies by participating in programs that include travel to China, the Czech Republic, Poland, or Italy.

The China program, coordinated by the college’s Center for Chinese Business, offers a six-credit-hour program in international business with classes taught by WVU faculty on location in China. Attending the classes also will be Chinese executives who provide a rich perspective on their own country. The program includes corporate visits to American and Chinese companies as well as sightseeing trips to Tiananmen Square, the Great Wall, and the Forbidden City. Besides tuition, students pay a fee to cover their airfare, accommodations, some meals, and other expenses.

The Czech Republic and Poland programs, which alternate each spring semester, are faculty-led and are coordinated by the Division of Economics and Finance. Travel to either the Czech Republic or Poland during the spring semester recess is part of a course on the transitional economies of Europe. Students spend ten days in cities in the Czech Republic or Poland and hear lectures from university faculty about the country’s economic and social history and the current economic situation. There are several field trips planned. Sightseeing activities are included. Besides tuition, students pay a fee to cover their airfare, accommodations, most meals, and other expenses.

The Italy program is somewhat different. WVU participates in a consortium along with 34 schools for the purpose of providing international study opportunities for their students. The consortium’s classes are held on a campus in Paderno del Grappa, Italy.
Paderno is in northern Italy about 30 miles northwest of Venice. Students have the opportunity to attend either for a full semester or for a summer session. All classes are taught in English by faculty from the consortium universities with the students also being from the consortium member schools. Students who attend have the opportunity to take upper-division business, language, culture, and other specialized classes. Students pay tuition and fees as well as room and board to the consortium. The contact person for the Italy program is the college’s coordinator of international studies.

**Accounting**
Timothy Pearson, Ph.D., C.P.A., Department Chairperson
300 Business and Economics Building

**Degree Offered**
*Bachelor of Science in Business Administration*

**Objectives**
The accounting program has a rich heritage of producing successful business leaders. Our graduates excel on the CPA examination, and the majority of students seeking employment upon graduation are successful. With a strong alumni network and a solid reputation among major accounting firms, the accounting program at WVU has an excellent record of placing students in the accounting profession.

We are a unit of the College of Business and Economics at West Virginia University, and we offer two degree programs: (1) A bachelor of science in business administration (B.S.B.A.) with a major in accounting; and (2) A master of professional accountancy (M.P.A.). Our faculty is comprised of 12 tenure-track faculty, three teaching instructors, and one visiting professor. Each faculty member is actively engaged in meeting the four elements of our mission: (1) Educate students at the undergraduate and graduate levels (2) Conduct and disseminate research that impacts the accounting profession or society as a whole, (3) Deliver service to the academy, the profession, the citizens of West Virginia, and (4) Engage in a program of ongoing assessment and continuous improvement.

The overarching goal of the accounting program is to meet the evolving needs of its constituencies through teaching, research, and service. The undergraduate accounting degree program builds upon a general education curriculum to provide students with a base of academic knowledge in business and accounting. It is designed to integrate basic knowledge with a professional orientation and form a foundation for future learning as well as career and academic success. The accounting program and course offerings are subject to periodic review for timeliness, professional requirements, and relevance in a global marketplace.

The advanced courses in the program provide both specialized knowledge in accounting and financial reporting and an integrated overview of the economic activities of a business entity. These courses give students the basic educational foundation required for a variety of entry-level positions in accounting, business, government, and not-for-profit organizations. Accounting graduates may pursue careers that lead to positions such as controllers, financial officers, certified public accountants, managerial accountants, budget analysts, internal auditors, tax accountants, public administration officers, financial fraud investigators, and other executives.

The accounting major is also designed to give students the basic educational foundation necessary to prepare for the professional examinations that may be required of them in their careers. These examinations include those needed to become a Certified Public Accountant (CPA), Certified Management Accountant (CMA), Certified Fraud Examiner (CFE) and Certified Internal Auditor (CIA). Requirements to sit for the Uniform CPA Examination vary by jurisdiction. Students are encouraged to become familiar with the requirements of the jurisdictions where they plan to be certified. Many states, including West Virginia, require 128 hours of college credit to sit for the exam and 150 semester hours of college credit to be certified. The College of Business and Economics offers a master of professional accountancy (M.P.A.) degree that helps students meet the professional certification requirement while allowing students to earn a graduate degree. The college also offers an
innovative graduate certificate in forensic accounting and fraud investigation designed to prepare entry-level accountants and others for forensic accounting and fraud investigative careers.

The accounting programs at WVU have been separately accredited by AACSB International, the Association to Advance Collegiate Schools of Business, since 1997. As of July 2010, only 173 programs had achieved this distinction.

**Accounting Program Requirements**

**Admission**

Students must formally apply for admission to the accounting program at the beginning of the first semester sophomore year or at the beginning of the semester in which they will meet the program course prerequisites. College of Business and Economics applicants must possess an overall GPA of at least 2.5 to be considered for admission. Transfer applicants must possess an overall GPA of at least 3.0 to be considered for admission. The course prerequisites for admission to the program include:

- Accounting 201 and 202 with a minimum grade of B
- Computer Science 101 with a minimum grade of C
- Economics 201 and 202 with a minimum grade of C
- Economics 225 or Statistics 211 with a minimum grade of C
- English 102 and 102; or 103 with a minimum grade of C
- *Math 126 and Math 150 with a minimum grade of C

Qualified applicants are admitted into the accounting program in order of descending GPA, calculated using all (transferrable) baccalaureate coursework attempted at regionally accredited institutions. The College will accommodate as many accounting majors as resources are available. In recent periods, the GPA required for admission to the accounting program has been substantially higher than 2.5. Students who are denied admission to the accounting program because of GPA may elect to apply to the program in a future semester or accept admission to an alternative bachelor's program in the college.

*The minimum math requirements for matriculation to the accounting program are MATH 126 College Algebra, and MATH 150 Introduction to Calculus. Applicants who successfully complete MATH154, 155, or a higher level of college calculus with a minimum grade of C are waived from completing the lower level college math.

---

**Degree Requirements**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Curriculum</td>
<td>42–44</td>
<td></td>
</tr>
<tr>
<td>Calculus Requirement: Math 150, 154, 155, or 156</td>
<td>3–4</td>
<td></td>
</tr>
<tr>
<td>Unrestricted electives</td>
<td>14–17</td>
<td></td>
</tr>
<tr>
<td>Subtotal of non-business and economics coursework</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Core courses in business and economics</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

**Accounting Major Requirements**

- ACCT 311 and 312 Intermediate Accounting ........................................ 6
- ACCT 321 Introduction to Accounting Systems ...................................... 3
- ACCT 322 Accounting Systems ................................................................ 3
- ACCT 431 Cost Management .................................................................... 3
- ACCT 441 Income Tax Accounting ......................................................... 3
- ACCT 451 Auditing Theory ....................................................................... 3
- ACCT 461 Accounting for Non Business Entities or ACCT 473 Personal Financial Advising ......................................................... 3
- BLAW 420 Law for the CPA ........................................................................ 3

**Total** ........................................................................................................... 128

A grade of C or better in ACCT 311 is required of all students prior to registering for ACCT 312. To be eligible for graduation, accounting majors must successfully complete all course requirements for the program and possess an overall GPA of 2.5 and a major GPA of 2.5.
### Recommended Sequence of Courses in the Accounting Program

<table>
<thead>
<tr>
<th>First Semester Hrs.</th>
<th>Second Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCOR 199</td>
<td>ACCT 201</td>
</tr>
<tr>
<td>CS 101</td>
<td>ECON 201</td>
</tr>
<tr>
<td>MATH 126A/B/C or 153</td>
<td>ENGL 101</td>
</tr>
<tr>
<td>SOCA 101</td>
<td>MATH 150/154/155/156</td>
</tr>
<tr>
<td>UNIV 101</td>
<td>Natural Science w/ Lab</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>Total 16 or 17</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total 16 or 17</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Semester Hrs.</th>
<th>Fourth Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 202</td>
<td>ACCT 311</td>
</tr>
<tr>
<td>ECON 202</td>
<td>ACCT 321</td>
</tr>
<tr>
<td>ECON 225</td>
<td>BCOR 299</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>BCOR 330</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>BCOR 370</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>Unrestricted Electives</td>
</tr>
<tr>
<td>Total 16</td>
<td>Total 16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fifth Semester Hrs.</th>
<th>Sixth Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 312</td>
<td>ACCT 431</td>
</tr>
<tr>
<td>ACCT 322</td>
<td>BCOR 360</td>
</tr>
<tr>
<td>BCOR 340</td>
<td>BCOR 380</td>
</tr>
<tr>
<td>BCOR 350</td>
<td>GEC Objective 2B, 3, 5, 9</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>Unrestricted Electives</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>Unrestricted Electives</td>
</tr>
<tr>
<td>Total 16</td>
<td>Total 16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seventh Semester Hrs.</th>
<th>Eighth Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 441</td>
<td>ACCT 461 or 473</td>
</tr>
<tr>
<td>ACCT 451</td>
<td>BCOR 460</td>
</tr>
<tr>
<td>BCOR 320</td>
<td>BLAW 420</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>Unrestricted Electives</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>Unrestricted Electives 1 to 3</td>
</tr>
<tr>
<td>Total 13</td>
<td>Total 13–15</td>
</tr>
</tbody>
</table>

---

**Economics**

Clifford B. Hawley, Department Chairperson
419 Business and Economics Building

**Degree Offered**

*Bachelor of Science*

**Economics Program Objectives**

In the broadest sense, economics is the science of decision-making. In economics, students learn how to identify the costs, benefits, and consequences of a decision. Government economists assess economic conditions in the U.S. and abroad and estimate the economic impact of specific changes in legislation or public policy. Economists in private industry work largely for marketing research firms, management consulting firms, banks, investment firms, and insurance companies. A degree in economics is also highly desirable for students who plan to attend graduate school or law school. The College of Business and Economics has an excellent record of placing economics students in both. Economics is an excellent major for anybody interested in a career in law, politics, business, foreign service, domestic government service, or banking.
Economics Program Requirements

Admission

Students must formally apply for admission to the economics program at the beginning of the first semester sophomore year or at the beginning of the semester in which they will meet the program course prerequisites. College of Business and Economics applicants must possess an overall GPA of at least 2.5 to be considered for admission. Transfer applicants must possess an overall GPA of at least 3.0 to be considered for admission. The course prerequisites for admission to the program include:

- Accounting 201 and 202 with a minimum grade of C
- Computer Science 101 with a minimum grade of C
- Economics 201 and 202 with a minimum grade of B in one and a C in the other
- Economics 225 or Statistics 211 with a minimum grade of C
- English 102 and 102; or 103 with a minimum grade of C
- Math 126 or Math 153 with a minimum grade of C
- *Math 150 with a minimum grade of B

Qualified applicants are admitted into the economics program in order of descending GPA, calculated using all (transferrable) baccalaureate coursework attempted at regionally accredited institutions. The college will accommodate as many economics majors as resources are available. In recent periods, the GPA required for admission to the economics program has been substantially higher than 2.5. Students who are denied admission to the economics program because of GPA may elect to apply to the program in a future semester or accept admission to an alternative bachelor's program within the college.

*A minimum grade of C is required in Economics 301 and 302 for graduation eligibility.

Degree Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Hrs.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Curriculum</td>
<td>42–44</td>
<td></td>
</tr>
<tr>
<td>Calculus Requirement: Math 150, 154, 155, or 156</td>
<td>3–4</td>
<td></td>
</tr>
<tr>
<td>Unrestricted elective</td>
<td>20-23</td>
<td></td>
</tr>
<tr>
<td>Subtotal of non-business and economics coursework</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Required Business and Economics Core Courses</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Required Economics Electives</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Required Business Electives</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Required Business and Economics Electives</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>128</td>
<td></td>
</tr>
</tbody>
</table>

Recommended Sequence of Courses in the Economics Program

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
<td>Second Semester</td>
</tr>
<tr>
<td>BCOR 199</td>
<td>3</td>
<td>ACCT 201</td>
</tr>
<tr>
<td>CS 101</td>
<td>4</td>
<td>ECON 201</td>
</tr>
<tr>
<td>MATH 126A/B/C or 153</td>
<td>3 or 4</td>
<td>ENGL 101</td>
</tr>
<tr>
<td>SOCA 101</td>
<td>3</td>
<td>MATH 150/154/155/156</td>
</tr>
<tr>
<td>UNIV 101</td>
<td>1</td>
<td>Natural Science w/ Lab</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17 or 18</td>
<td>Total</td>
</tr>
<tr>
<td>Third Semester</td>
<td></td>
<td>Fourth Semester</td>
</tr>
<tr>
<td>ACCT 202</td>
<td>3</td>
<td>BCOR 299</td>
</tr>
<tr>
<td>ECON 202</td>
<td>3</td>
<td>ECON 301</td>
</tr>
<tr>
<td>ECON 225</td>
<td>3</td>
<td>B&amp;E Elective 1</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>3</td>
<td>Business Elective 1</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>3</td>
<td>GEC Objective 2B, 3, 5, 9</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Unrestricted Electives</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>Total</td>
</tr>
<tr>
<td>Semester</td>
<td>Hrs.</td>
<td>Course Details</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>----------------</td>
</tr>
<tr>
<td>Fifth Semester</td>
<td></td>
<td>Sixth Semester</td>
</tr>
<tr>
<td>ECON 302</td>
<td>3</td>
<td>B&amp;E Elective 3</td>
</tr>
<tr>
<td>ECON Elective 1</td>
<td>3</td>
<td>ECON Elective 2</td>
</tr>
<tr>
<td>B&amp;E Elective 2</td>
<td>3</td>
<td>ECON Elective 3</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
<td>Business Elective 2</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>3</td>
<td>GEC Objective 2B, 3, 5, 9</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Unrestricted Electives</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Seventh Semester</th>
<th>Hrs.</th>
<th>Eighth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B&amp;E Elective 4</td>
<td>3</td>
<td>ECON Elective 4</td>
<td>3</td>
</tr>
<tr>
<td>ECON Elective 4</td>
<td>3</td>
<td>ECON Elective 5</td>
<td>3</td>
</tr>
<tr>
<td>Business Elective 3</td>
<td>3</td>
<td>B&amp;E Elective 5</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>3</td>
<td>Unrestricted Electives</td>
<td>1 to 3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Total</td>
<td>13–15</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>Total</td>
<td>13–15</td>
</tr>
</tbody>
</table>

*Most economics electives should not be taken until the student has completed ECON 301.*  
**Students interested in graduate work in economics should take ECON 421 and ECON 425.**  
**Note:** Economics majors take 21 hours of business and economics electives of which no more than 12 hours may be additional economics courses.

---

**Finance**

William B. Riley, Ph.D., Department Chairperson  
221 Business and Economics Building

**Degree Offered**

*Bachelor of Science in Business Administration*

**Finance Program Objectives**

Finance is the study of the creation and management of wealth. A finance major learns how to evaluate and control risk. The finance program prepares students for a variety of positions in financial and non-financial enterprises. Career opportunities exist in commercial banking and financial institutions and in the regulatory agencies that oversee them. Additional opportunities exist in corporate finance including positions in financial analysis, cash management, and credit management. Investment-oriented students can explore opportunities in brokerage, bank trust, and institution portfolio management. People with degrees in finance have careers as commercial bankers, investment bankers, loan officers, financial analysts, insurance underwriters, stockbrokers, institutional portfolio managers, credit managers, insurance and risk managers, and financial planners.

**Finance Program Requirements**

**Admission**

Students must formally apply for admission to the finance program at the beginning of the first semester sophomore year or at the beginning of the semester in which they will meet the program course prerequisites. College of Business and Economics applicants must possess an overall GPA of at least 2.5 to be considered for admission. Transfer applicants must possess an overall GPA of at least 3.0 to be considered for admission. The course prerequisites for admission to the program include:

- ACCT 201 and 202 with a minimum grade of C
- CS 101 with a minimum grade of C
- ECON 201 and 202 with a minimum grade of B
- ECON 225 or Statistics 211 with a minimum grade of C
- ENGL 102 and 102; or 103 with a minimum grade of C
- MATH 126 or Math 153 with a minimum grade of C
- *MATH 150 with a minimum grade of B*
Qualified applicants are admitted into the finance program in order of descending GPA, calculated using all (transferrable) baccalaureate coursework attempted at regionally accredited institutions. The college will accommodate as many finance majors as resources are available. In recent periods, the GPA required for admission to the finance program has been substantially higher than 2.5. Students who are denied admission to the finance program because of GPA may elect to apply to the program in a future semester or accept admission to an alternative bachelor's program in the college.

*The minimum math requirements for matriculation to the finance program are MATH 126 College Algebra, and MATH 150 Introduction to Calculus. Applicants who successfully complete MATH 154, 155, or a higher level of college calculus with a minimum grade of C are waived from completing the lower level college math.

**Degree Requirements**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Curriculum</td>
<td></td>
<td>42–44</td>
</tr>
<tr>
<td>Calculus Requirement: MATH 150, 154, 155, or 156</td>
<td></td>
<td>3–4</td>
</tr>
<tr>
<td>Unrestricted electives</td>
<td></td>
<td>14–17</td>
</tr>
<tr>
<td>Subtotal of non-business and economics coursework</td>
<td></td>
<td>62</td>
</tr>
<tr>
<td>Core courses in business and economics</td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>FIN 305 Intermediate Finance</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FIN 310 Investments</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FIN 320 Financial Statement Analysis</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FIN 330 Financial Institutions</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FIN 350 General Insurance</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Finance Electives</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td>128</td>
</tr>
</tbody>
</table>

**Recommended Sequence of Courses in the Finance Program**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>BCOR 199</td>
<td>3</td>
<td>ACCT 201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CS 101</td>
<td>4</td>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH 126A/B/C or 153</td>
<td>3 or 4</td>
<td>ENGL 101</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>SOCA 101</td>
<td>3</td>
<td>MATH 150/154/155/156</td>
<td>3 or 4</td>
</tr>
<tr>
<td></td>
<td>UNIV 101</td>
<td>1</td>
<td>Natural Science w/ Lab</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Third</td>
<td>ACCT 202</td>
<td>3</td>
<td>BCOR 299</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ECON 202</td>
<td>3</td>
<td>BCOR 330</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ECON 225</td>
<td>3</td>
<td>BCOR 340</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENGL 102</td>
<td>3</td>
<td>BCOR 370</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYC 101</td>
<td>3</td>
<td>FIN 320</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Unrestricted Electives</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Fourth</td>
<td>BCOR 350</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BCOR 360</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIN 305</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIN 310 or 330 or 350</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIN 310 or 330 or 350</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unrestricted Electives</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Sixth</td>
<td>BCOR 380</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIN 310 or 330 or 350</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FIN 310 or 330 or 350</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unrestricted Electives</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

College of Business and Economics
Seventh Semester Hrs. Eighth Semester Hrs.
BCOR 320 ........................................ 3
FIN Elective 2 .................................... 3
FIN Elective 3 .................................... 3
GEC Objective 2B, 3, 5, 9 ...................... 3
Unrestricted Electives .......................... 3
Unrestricted Electives .......................... 1
Total .............................................. 13–15

Management
Joyce Thompson Heames, Ph.D. SPHR, Department Chairperson
103 Business and Economics Building

Degree Offered
Bachelor of Science in Business Administration

Management Program Objectives
The management program provides the skill and knowledge for students who will assume leadership roles in business. This program prepares them for various managerial positions. Students choose from one of four areas of emphasis in management: hospitality management, human resource management, international business, and small business/entrepreneurship. Students who prefer not to pursue an area of emphasis may complete a general track within management. The general track offers students the opportunity to complete electives in more than one of the areas of emphasis. However, a student may not complete more than two electives in one of the areas of emphasis. Students pursuing the hospitality, management track develop expertise in the fields of restaurant, tourism, and hotel management. Plus they receive an overview of the hospitality and tourism industries, allowing them to choose various career paths. Students pursuing the human resource management area of emphasis develop expertise for careers such as compensation analyst, recruiter, training specialist, or human resource manager. Students pursuing the international business area of emphasis are encouraged to study a foreign language and are required to participate in a study abroad program. They develop expertise in international business strategy and they acquire an appreciation of foreign culture and business practices. Students pursuing the small business/entrepreneurship area of emphasis pursue positions such as small business manager, entrepreneur, or franchise owner.

Management Program Requirements
Admission
Students must formally apply for admission to the management program at the beginning of the first semester sophomore year or at the beginning of the semester in which they will meet the program course prerequisites. College of Business and Economics applicants must possess an overall GPA of at least 2.5 to be considered for admission. Transfer applicants must possess an overall GPA of at least 3.0 to be considered for admission. The course prerequisites for admission to the program include:

- ACCT 201 and 202 with a minimum grade of C
- CS 101 with a minimum grade of C
- ECON 201 and 202 with a minimum grade of C
- ECON 225 or Statistics 211 with a minimum grade of C
- ENGL 102 and 102; or 103 with a minimum grade of C
- MATH 126 or Math 153 with a minimum grade of C
- *MATH 150 with a minimum grade of C
Qualified applicants are admitted into the management program in order of descending GPA, calculated using all (transferrable) baccalaureate coursework attempted at regionally accredited institutions. The college will accommodate as many management majors as resources are available. In recent periods, the GPA required for admission to the management program has been substantially higher than 2.5. Students who are denied admission to the management program because of GPA may elect to apply to the program in a future semester or accept admission to an alternative bachelor’s program in the college.

*The minimum math requirements for matriculation to the management program are MATH 126 College Algebra and MATH 150 Introduction to Calculus. Applicants who successfully complete MATH 154, 155, or a higher level of college calculus with a minimum grade of C are waived from completing the lower level college math.

### Management

**Degree Requirements**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Curriculum</td>
<td>42-44</td>
<td></td>
</tr>
<tr>
<td>Calculus Requirement: MATH 150, 154, 155, or 156</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>Unrestricted electives</td>
<td>11-14</td>
<td></td>
</tr>
<tr>
<td>Subtotal of non-business and economics coursework</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Core courses in business and economics</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Required Courses in Option:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCT 331 Managerial Accounting</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MANG 330 Human Resource Fundamentals</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MANG 360 International Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MANG 420 Business Information Systems</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MANG 422 The Individual and the Organization</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MANG 434 Business Research Methods</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Area of Emphasis Electives</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>128</td>
<td></td>
</tr>
</tbody>
</table>

### Recommended Sequence of Courses in the Management Program

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCOR 199</td>
<td>3</td>
<td>ACCT 201</td>
<td>3</td>
</tr>
<tr>
<td>CS 101</td>
<td>4</td>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td>MATH 126A/B/C or 153</td>
<td>3 or 4</td>
<td>ENGL 101</td>
<td>3</td>
</tr>
<tr>
<td>SOCA 101</td>
<td>3</td>
<td>MATH 150/154/155/156</td>
<td>3 or 4</td>
</tr>
<tr>
<td>UNIV 101</td>
<td>1</td>
<td>Natural Science w/ Lab</td>
<td>4</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
<td><strong>Total</strong></td>
<td>16 or 17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17 or 18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hrs.</th>
<th>Fourth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 202</td>
<td>3</td>
<td>BCOR 299</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>3</td>
<td>BCOR 330</td>
<td>3</td>
</tr>
<tr>
<td>ECON 225</td>
<td>3</td>
<td>BCOR 340</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>3</td>
<td>BCOR 350</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>3</td>
<td>BCOR 370</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Unrestricted Electives</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Hrs.</th>
<th>Sixth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AoE Elective 1</td>
<td>3</td>
<td>AoE Elective 2</td>
<td>3</td>
</tr>
<tr>
<td>BCOR 320</td>
<td>3</td>
<td>BCOR 360</td>
<td>3</td>
</tr>
<tr>
<td>MANG 330</td>
<td>3</td>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
<td>MANG 360</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>3</td>
<td>MANG 422</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Unrestricted Electives</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>
A student must declare an Area of Emphasis (AoE) upon matriculation to the management program. The Department of Management offers four areas of emphasis: Hospitality management (MANG); resources management (HRMG); international business (INBS); small business and entrepreneurship (SBEN); and, general business. Students should consult with their academic advisor to determine which area of emphasis compliments their career interests.

Management Information Systems (MIS)
Tim Pearson, Ph.D., Department Chairperson
103 Business and Economics Building

Degree Offered
Bachelor of Science in Business Administration

Program Objectives
Students in the MIS program gain the skills necessary to analyze an organization’s information needs and develop technological solutions to solve business problems. In today’s fast-paced, global environment, technology is a necessary and integral part of business. MIS professionals have the knowledge to understand both the business goals and needs of the organization, and the application of technology to meet those needs. Career opportunities include: systems analysis and design, database management, networking and telecommunications, webpage development, and technology management. This is an excellent major for students who enjoy technology and want to apply their knowledge in a business environment.

Program Requirements
Admission
Students must formally apply for admission to the MIS program at the beginning of the first semester sophomore year or at the beginning of the semester in which they will meet the program course prerequisites. College of Business and Economics applicants must possess an overall GPA of at least 2.5 to be considered for admission. Transfer applicants must possess an overall GPA of at least 3.0 to be considered for admission. The course prerequisites for admission to the program include:

- ACCT 201 and 202 with a minimum grade of C
- S 101 with a minimum grade of C
- ECON 201 and 202 with a minimum grade of C
- ECON 225 or Statistics 211 with a minimum grade of C
- ENGL 102 and 102; or 103 with a minimum grade of C
- MATH 126 or Math 153 with a minimum grade of C
- *MATH 150 with a minimum grade of B

Qualified applicants are admitted into the MIS program in order of descending GPA, calculated using all (transferrable) baccalaureate coursework attempted at regionally accredited institutions. The college will accommodate as many MIS majors as resources are available. In recent periods, the GPA required for admission to the MIS program has been substantially higher than 2.5. Students who are denied admission to the MIS program because of GPA may elect to apply to the program in a future semester or accept admission to an alternative bachelor’s program in the college.
The minimum math requirements for matriculation to the MIS program are MATH 126 College Algebra, and MATH 150 Introduction to Calculus. Applicants who successfully complete MATH 154, 155, or a higher level of college calculus with a minimum grade of C are waived from completing lower level college math.

Management Information Systems

Degree Requirements

<table>
<thead>
<tr>
<th>General Education Curriculum</th>
<th>Hrs.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Math Requirement: Math 150, 154, 155, or 156</td>
<td>3–4</td>
<td></td>
</tr>
<tr>
<td>Unrestricted electives</td>
<td>11–14</td>
<td></td>
</tr>
<tr>
<td>Subtotal of non-business and economics coursework</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Core courses in business and economics</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

Required Courses in Option:

- ACCT 331 Managerial Accounting
- MIST 351 Database Management Systems
- MIST 352 Business Applications Programming
- MIST 353 Advanced Information Technology
- MIST 355 Data Communications
- MANG 420 Business Information Systems
- MIST 450 Systems Analysis
- MIST 452 Systems Design and Development
- MIS Elective

Grand Total: 128

Recommended Sequence of Courses in the Management Information Systems Program

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCOR 199</td>
<td>3</td>
<td>ACCT 201</td>
<td>3</td>
</tr>
<tr>
<td>CS 101</td>
<td>4</td>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td>MATH 126A/B/C or 153</td>
<td>3 or 4</td>
<td>MATH 150/154/155/156</td>
<td>3 or 4</td>
</tr>
<tr>
<td>SOCA 101</td>
<td>3</td>
<td>Natural Science w/ Lab</td>
<td>4</td>
</tr>
<tr>
<td>UNIV 101</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16 or 18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hrs.</th>
<th>Fourth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 202</td>
<td>3</td>
<td>BCOR 299</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>3</td>
<td>BCOR 330</td>
<td>3</td>
</tr>
<tr>
<td>ECON 225</td>
<td>3</td>
<td>BCOR 350</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>3</td>
<td>BCOR 370</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>3</td>
<td>MIST 352</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Unrestricted Electives</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Hrs.</th>
<th>Sixth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCOR 340</td>
<td>3</td>
<td>ACCT 331</td>
<td>3</td>
</tr>
<tr>
<td>MIST 351</td>
<td>3</td>
<td>BCOR 380</td>
<td>3</td>
</tr>
<tr>
<td>MANG 420</td>
<td>3</td>
<td>MIST 355</td>
<td>3</td>
</tr>
<tr>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
<td>GEC Objective 2B, 3, 5, 9</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>3</td>
<td>Unrestricted Electives</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>1</td>
<td>Unrestricted Electives</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

College of Business and Economics
Marketing
Karen R. France, Ph.D., Department Chairperson
200 Business and Economics Building

Degree Offered
Bachelor of Science in Business Administration

Program Objectives
Marketing professionals are involved in planning, promoting, pricing, and distributing products and services. The marketing program is designed to give students a strong understanding of the marketing mix elements used by firms to satisfy customer wants and needs. In addition to the foundations of marketing strategy, the required courses integrate global, societal, and sustainability aspects of the marketplace to give students an appreciation of how marketing strategies are used in the globalized economy as well as in the public and not-for-profit sector. Career opportunities include: marketing research, marketing management, product management, distribution and logistics, services marketing, global marketing, sales management, advertising research, promotion, international business, and supply chain management and purchasing.

Program Requirements
Admission
Students must formally apply for admission to the marketing program at the beginning of the first semester sophomore year or at the beginning of the semester in which they will meet the program course prerequisites. College of Business and Economics applicants must possess an overall GPA of at least 2.5 to be considered for admission. Transfer applicants must possess an overall GPA of at least 3.0 to be considered for admission. The course prerequisites for admission to the program include:

- ACCT 201 and 202 with a minimum grade of C
- CS 101 with a minimum grade of C
- ECON 201 and 202 with a minimum grade of C
- ECON 225 or Statistics 211 with a minimum grade of C
- ENGL 102 and 102; or 103 with a minimum grade of C
- MATH 126 or Math 153 with a minimum grade of C
- *MATH 150 with a minimum grade of C

Qualified applicants are admitted into the marketing program in order of descending GPA, calculated using all (transferrable) baccalaureate coursework attempted at regionally accredited institutions. The college will accommodate as many marketing majors as resources are available. In recent periods, the GPA required for admission to the marketing program has been substantially higher than 2.5. Students who are denied admission to the marketing program because of GPA may elect to apply to the program in a future semester or accept admission to an alternative bachelor’s program in the college.

*The minimum math requirements for matriculation to the MIS program are MATH 126 College Algebra, and MATH 150 Introduction to Calculus. Applicants who successfully complete MATH 154, 155, or a higher level of college calculus with a minimum grade of C are waived from completing lower level college math.
Degree Requirements

General Education Curriculum .............................................................. 42–44
Calculus Requirement: Math 150, 154, 155, or 156 .......................... 3–4
Unrestricted electives ................................................................. 14–17
Subtotal of non-business and economics coursework ....................... 62
Core courses in business and economics ........................................ 39
Marketing Major Requirements
MKTG 315 Consumer Behavior ......................................................... 3
MKTG 325 Marketing Research ......................................................... 3
MKTG 330 Distribution Channels ..................................................... 3
MKTG 350 Product and Price ........................................................... 3
MKTG 380 Integrated Promotion Strategies ...................................... 3
MKTG 480 Service Marketing ......................................................... 3
MKTG 485 Global Marketing ........................................................... 3
Marketing Elective ........................................................................... 3
Business and Economics Elective ..................................................... 3 27

Grand Total ......................................................................................... 128

Recommended Sequence of Courses in the Marketing Program

First Semester Hrs. Second Semester Hrs.
BCOR 199 ......................................................... 3 ACCT 201 ......................................................... 3
CS 101 .......................................................... 4 ECON 201 ......................................................... 3
MATH 126A/B/C or 153 ........................................ 3 or 4 ENGL 101 ......................................................... 3
SOCA 101 ....................................................... 3 MATH 150/154/155/156 ........................................ 3 or 4
UNIV 101 ......................................................... 1 Natural Science w/ Lab ........................................ 4
GEC Objective 2B, 3, 5, 9 .......................................... 3 Total ......................................................... 16 or 17
Total ......................................................................................... 17 or 18

Third Semester

ACCT 202 ......................................................... 3
ECON 202 ......................................................... 3
ECON 225 ......................................................... 3
ENGL 102 ......................................................... 3
PSYC 101 ......................................................... 3
Unrestricted Electives ......................................................... 1
Total ......................................................................................... 16

Fourth Semester

BCOR 299 ......................................................... 3
BCOR 320 ......................................................... 3
BCOR 350 ......................................................... 3
BCOR 370 ......................................................... 3
GEC Objective 2B, 3, 5, 9 .......................................... 3
Unrestricted Electives ......................................................... 1
Total ......................................................................................... 16

Fifth Semester

BCOR 330 ......................................................... 3
BCOR 340 ......................................................... 3
MKTG 315 ......................................................... 3
MKTG 330 ......................................................... 3
Unrestricted Electives ......................................................... 3
Unrestricted Electives ......................................................... 1
Total ......................................................................................... 16

Sixth Semester

BCOR 360 ......................................................... 3
GEC Objective 2B, 3, 5, 9 .......................................... 3
MKTG 325 ......................................................... 3
MKTG 350 ......................................................... 3
Unrestricted Electives ......................................................... 3
Unrestricted Electives ......................................................... 1
Total ......................................................................................... 16

Seventh Semester

BCOR 380 ......................................................... 3
GEC Objective 2B, 3, 5, 9 .......................................... 3
MKTG 380 ......................................................... 3
MKTG Elective ......................................................... 3
Unrestricted Electives ......................................................... 3
Unrestricted Electives ......................................................... 1
Total ......................................................................................... 16

Eighth Semester

BCOR 460 ......................................................... 3
B&E Elective ......................................................... 3
MKTG 480 ......................................................... 3
MKTG 485 ......................................................... 3
Unrestricted Electives ......................................................... 1 to 3
Total ......................................................................................... 13–15

MKTG 491 Professional Field Experience may not satisfy marketing elective credit.
College of Creative Arts
Paul K Kreider, Ph.D., Dean and Director
http://www.ccarts.wvu.edu

Degrees Offered
Bachelor of Arts
Majors: Theatre, Art History, Music
Bachelor of Fine Arts
Majors: Theatre, Art & Design (with or without certification)
Bachelor of Music
Multi-Disciplinary Studies Degree

Introduction
Creative development in art, music, and theatre is the purpose of the College of Creative Arts of West Virginia University. A distinguished faculty of scholars and artists bring to the college’s outstanding facilities a commitment to a creative process of artistic growth that is shared with each student. Here, in a rich environment of plays, art exhibits, and concerts, we offer students the knowledge, skills, and inspiration necessary for professional success.

College of Creative Arts fine arts grants are available each year in the Divisions of Art and Design; Music; and Theatre and Dance. Each division also maintains additional scholarship funds.

Auditions for scholarships in music and theatre and portfolio reviews for scholarships in art are scheduled throughout the school year. For information or an appointment, write to the Recruitment Coordinator, College of Creative Arts, West Virginia University, P.O. Box 6111, Morgantown, WV 26506-6111, or telephone (304) 293-4339.

Admission Requirements
The College of Creative Arts uses the admission standards and procedures of the University. In addition, because of the creative nature of our students, we admit some students under the individual consideration clause of the general admission policy. This category allows admission of exceptionally talented students in art, music, and theatre who might not meet the criteria for grade point averages and standardized test scores.

The Division of Theatre and Dance may audition prospective students before an admission decision. All music applicants must audition before consideration for admission to a program in the Division of Music. The Division of Art and Design requires applicants to the B.F.A. studio art program to submit a portfolio for review. Please refer to the specific criteria of the three divisions in their program descriptions.

Students transferring to the College of Creative Arts from other colleges and universities are required to present a minimum grade point average (GPA) of 2.0 in addition to the standard auditions or portfolio reviews. Exceptions may be made in the case of first-semester freshman students.

Graduation Requirements
The Divisions of Art and Design; Music; and Theatre and Dance have specific graduation requirements for their programs. Please refer to the individual program descriptions for this information.

Application for Graduation
Three semesters prior to the anticipated date of graduation, each student should come to the College of Creative Arts Records Office to request an academic records audit to ensure that all program requirements will be fulfilled by the completion of the final semester of study. During the first month of a student’s final semester or summer session (the one in which the student will graduate), each student must apply for graduation and a diploma. If a student does not actually complete all program requirements by the end of the anticipated final semester, it will be necessary to reapply for a later graduation date. No candidate can graduate without this application.
College Scholarship Resources

Drs. Sophia and David Blaydes Creative Arts Endowment
Endowment income is to fund freshman students majoring in art, music, or theatre.

CNG Endowed Scholarship
Endowment income is to fund fine or applied arts majors in art, music, or theatre.

Davis Memorial Scholarships for the CCA
Endowment income is to fund undergraduate or graduate students majoring in art, music, or theatre.

Phil Fein Scholarship
Endowment income is to fund undergraduate students majoring in art, music, or theatre.

Kenneth O. Godwin, Jr. Scholarship
Endowment income is to fund freshman graduates of Grafton High School majoring in art, music, or theatre.

Drs. Paul and Laura Mesaros Scholarship III
Endowment income is to support art or music majors.

Mikki Van Wyk Creative Arts Scholarship
Endowment income is to fund undergraduate students majoring in art, music, or theatre.

Division of Art and Design
Alison Helm, M.F.A. Chair
http://artanddesign.wvu.edu/

Degrees Offered

Bachelor of Arts in Art History
Bachelor of Fine Arts
    Majors in Art and Design (with or without teaching certification):
        Ceramics, Graphic Design, Intermedia/Photography, Painting, Printmaking, Sculpture

Nature of Program

The Division of Art and Design is an accredited institutional member of the National Association of Schools of Art and Design. The curriculum of the division is designed to afford the student an opportunity to explore the visual arts. Undergraduate programs offer scholarly and studio experiences to potential artists and teachers. The in-depth instruction is enhanced by the close working relationship between students and faculty, which allows sharing the insights and investigative processes of professional artists and scholars.

A bachelor of fine arts (B.F.A.) degree is conferred upon those students who satisfy all University and departmental requirements, complete the appropriate curriculum, and comply with the general regulations of the University. The art education curriculum (see art education) is a five-year program; it unites the B.F.A. curriculum with the appropriate coursework for teacher certification in art, PreK–Adult.

A degree candidate in the Division of Art and Design must maintain a minimum GPA of 2.0 (C); admission to the teacher certification program requires a 2.5 GPA. Students must earn a grade of C or higher in art studio and/or art history and/or art education classes in order for the course to fulfill degree requirements. In addition, students may be requested to present a portfolio of selected works for examination and evaluation by a faculty committee. The committee is empowered to make recommendations regarding the student’s status as a major in art and their continuation toward a degree in art.

Transfer applicants in studio art must undergo a portfolio review to gain admittance in the program. Evaluation for advanced standing or transfer credit in studio subjects is not made solely upon the presentation of a transcript but also depends on the evaluation of a portfolio of artwork.
International Study Opportunities
The Division of Art and Design has established excellent international educational and exchange programs. These include summer study, short term, and semester-long programs. The focus of these international exchanges is with sister institutions in China, Italy, and Mexico. Additional opportunities in other countries are also available. Students should consult with their advisor about taking language courses and other liberal studies courses that would support international studies.

Advising
The College of Creative Arts recommends that all art majors confer regularly with their advisor in order to maintain the correct distribution of coursework and to establish the necessary prerequisites for upper-division instruction. Students will find it difficult to carry more than three studio art classes in one semester. Ultimately it is the student’s responsibility to insure that all requirements for graduation are met.

Audit, Credit by Examination, Pass/Fail, and Non-Art Major Courses
No studio or art history courses are available on an audit or credit by examination basis. Students enrolled in the Division of Art and Design may not take art classes on a pass/fail basis. Courses designated for non-art majors may not be substituted for art degree requirements unless approved in advance by the chairperson of the Division of Art and Design.

Student Work
Every effort is made to protect student work and property. Work displayed in the Mesaros Galleries is insured for the exhibition period. The Division of Art and Design does not accept responsibility for damage or losses under any other circumstances. The Division of Art and Design reserves the right to retain examples of student work for reproduction and exhibition purposes and NASAD accreditation reviews.

Art Supplies
Supplies for classroom presentations, demonstrations, and common use—for economy and availability—are purchased from a central source and fund. To expect every student individually to supply all materials needed for high consumption courses of instruction would create a situation of excessive financial hardship for most and a complex logistical problem for all. To offset this burden, the Division of Art and Design orders in advance necessary supplies at a bulk rate, and requires each student to share the cost through an art fee assessed each semester. As the art fee is used to purchase supplies for common consumption, students will also need to purchase materials for individual or specialized projects.

Portfolio Reviews
The Division of Art and Design requires a portfolio review for all applicants to the bachelor of fine arts program. This evaluation is conducted by the art faculty and is designed to ensure that all students entering the studio program have certain basic competencies and skills. Students are encouraged to apply and complete the portfolio review at the earliest possible date. Applicants should visit the division website: http://www.ccarts.wvu.edu or phone the office at (304) 293-2140 to receive detailed instructions and portfolio review application materials.

All first-year students in the B.F.A. program are required to participate in the portfolio review that takes place near the end of the spring term. The portfolio must consist of work completed in foundation courses (Art 111 and 112, Art 121 and 122) and, if possible, selections should be reviewed by a student’s particular instructors. The portfolio should include a CD power point of ten drawings, three works from 2-D foundations, and three works from 3-D foundations. Transfer students will also be reviewed. Faculty and graduate assistants who teach foundations courses meet to review student work and in some cases may recommend that a student repeat a particular course and resubmit the portfolio for approval to advance in the program.
This portfolio review is intended to accomplish the following goals:

• To examine work relative to the department’s expectations regarding levels of proficiency achieved with respect to foundations area courses.
• To improve retention by identifying students whose work does not meet departmental expectations and give them the opportunity, direction, and encouragement to improve their performance.

Students should keep their work in good condition and preserve it for the review. Students wishing to pursue studies in graphic design must submit a portfolio for review during the second semester of their sophomore year. Contact the area coordinator for information regarding the portfolio review for graphic design. The Division of Art and Design also reserves the right to require a portfolio review to determine a student’s retention in a program or studio emphasis at any time.

**Scholarships**

The College of Creative Arts offers scholarships to currently enrolled art and art history majors at all levels and incoming freshmen. Incoming freshman requirements include a CD portfolio, or writing sample for art history, a transcript of grades, and letter of recommendation. The scholarships range from a waiver of tuition for one academic year (fall and spring semesters) to $500.00 awards, and are granted on the basis of academic record and artistic merit as determined by the WVU Division of Art and Design faculty. All recipients must reapply if they wish to be considered for the following year. Applications are available in the Division of Art and Design office. The scholarship review process takes place in the spring semester each year.

**Art Scholarship Resources**

*Division of Art Faculty Award*

*Drs. Paul & Laura Mesaros Presidential Scholarship*

Endowment income to be used for regularly enrolled juniors and seniors majoring in visual arts.

*Drs. Paul & Laura Mesaros Scholarship II*

Endowment income to be used for regularly enrolled juniors and seniors majoring in visual arts.

*Bill & Ella Kronquist Memorial Scholarship*

Endowment income to be used for regularly enrolled juniors and seniors majoring in visual arts.

*Drs. Paul & Laura Mesaros Memorial Scholarship*

Endowment income to be used for regularly enrolled juniors and seniors or graduates majoring in visual arts.

**Bachelor of Arts Degree**

The major in art history provides a scholarly examination of the history of art and architecture in its cultural and theoretical context. Once accepted into the University and into the art history program, the B.A. candidate must complete curriculum requirements in order to graduate. The B.A. curriculum includes required and elective art history courses, studio art courses, cognate courses, and University-established General Education Curriculum requirements. Students are encouraged to study abroad during one summer or semester of the junior year. In the final semester, the student will complete a senior research project on a topic selected by the student with approval of the art history faculty.

**Minor Art History**

Students who pursue degrees in other disciplines with liberal studies and the arts and humanities may find that the study of the history of art enhances comprehension of their primary field of study and permits them to achieve a broader and deeper understanding of cultural history. Information about the minor in the history of art is available from the coordinator of art history or the Division of Art and Design Office.
Bachelor of Fine Arts (B.F.A.) in Art and Design

The bachelor of fine arts (B.F.A.), a professional degree, is awarded to those persons who have satisfactorily completed the required 129–131 semester credit hours of study and made the expected commitment to the vocation of art. This degree program requires an amount of self-education based on a sound foundation of studio experience. Students in the B.F.A. curriculum may participate in a wide range of studio class work, including drawing, design, painting, printmaking, ceramics, graphic design, intermedia, photography, and sculpture, as well as a program of art history. Teacher certification in art, pre-K–adult, may be earned with any area of studio emphasis in the B.F.A. program. Through careful counseling, individual goals are established in keeping with the student’s aims and talents. Six hours of additional art history can also be completed to receive a minor in art history with the B.F.A. with the certification option or the studio degree.

The Division of Art and Design is committed to providing the opportunity and the environment for the best possible education in the visual arts at both the undergraduate and graduate levels. The division’s program of professional education is centered in the studio arts and reinforced with art history and liberal studies. Students are encouraged to take advantage of the broad range of educational possibilities available at the University and to enroll in courses that support their professional goals and enrich their knowledge.

Curriculum Requirements

Once accepted into the University and the art program following a review of the applicant’s portfolio, the B.F.A. candidate must complete all curriculum requirements in order to graduate. The B.F.A. curriculum includes required and elective art courses, art history courses, and University-established academic (GEC) requirements. During the first two years, the art student must complete a specific sequence of courses in art history, art orientation, drawing, and visual foundations for a total of 19 credit hours. Art electives are designed to provide the basic experience to enable a student to select a major by the beginning of the third (junior) year; these electives are available in all major studio areas. The student must complete 12 credit hours of these studio electives and six credit hours of advanced figure/drawing to complete the lower-division requirements of the art program (a total of 37 hours within the Division of Art and Design).

<table>
<thead>
<tr>
<th>B.F.A. Degree Minimum Credit-Hour Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio (12 credits in drawing; 30 credits in major area)</td>
<td>............................................ 72</td>
</tr>
<tr>
<td>Art Orientation</td>
<td>.................................................................... 1</td>
</tr>
<tr>
<td>Art History (200/300 level)</td>
<td>......................................................... 6</td>
</tr>
<tr>
<td>GEC requirement (including ARHS 120 and ARHS 160)</td>
<td>....................................................... 41–43</td>
</tr>
<tr>
<td>UNIV 101</td>
<td>......................................................... 1</td>
</tr>
<tr>
<td>Open Electives</td>
<td>.................................................................... 9</td>
</tr>
<tr>
<td>Total</td>
<td>........................................................................... 130–132</td>
</tr>
</tbody>
</table>

Ceramics, Graphic Design, Painting, Printmaking, Sculpture, Intermedia

Bachelor of Fine Arts (B.F.A.)

In order to complete the B.F.A. degree program in four years, a student must take 15 to 18 credit hours per semester, or 32 to 36 credits per year. Thirty credit hours are required in the studio major area: six hours of 200-level courses and 24 hours of 300-level and 400-level courses. Additional information is available from the coordinator of the various areas or the academic advisors.

To enter the upper-division major area studio courses, the student must complete the four-semester lower-division program, including at least two semesters (six semester credit hours) of introductory work from the area of intended major.

Lower Division - The two-year, lower-division required sequence of courses in drawing, visual foundations, art orientation, art history, and introductory studio prepares the student for advanced study. Idea development, technical ability, and communication skills are taught with equal emphasis by involving the student in a wide range of problems.
The first year of lower-division instruction offers a broad experience in drawing, design, and art history. Emphasis is on basic skills concepts and the development of a common vocabulary with which student objectives can be clearly defined. In the second year, students have the option of selecting introductory courses from three of the six major studio areas that are most suited to their particular interests. Figure drawing and advanced drawing are also required in the second year.

**Hrs.**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 111 Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ART 112 Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ART 199 Art Orientation</td>
<td>1</td>
</tr>
<tr>
<td>ART 121 Visual Foundation</td>
<td>3</td>
</tr>
<tr>
<td>ART 122 Visual Foundation</td>
<td>3</td>
</tr>
<tr>
<td>ARHS 120 Survey of Art History 1</td>
<td>3</td>
</tr>
<tr>
<td>ARHS 160 Survey of Art History 2</td>
<td>3</td>
</tr>
<tr>
<td>ART 211 Figure Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ART 212 Advanced Drawing</td>
<td>3</td>
</tr>
<tr>
<td>Studio Introductory 200-level courses</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>

**Upper Division** The third year of study marks the entry into the upper division. The student begins to concentrate in one area of major studio concern, and to direct and apply the basic skills acquired during the first two years of art instruction. Major areas offered by the Division of Art are ceramics, painting, printmaking, graphic design, sculpture, intermedia, and photography.

During the third and fourth years, the studio major accounts for a minimum of 24 semester credit hours or almost half the credit earned. The remaining credit hours are taken in art history, art electives, and liberal arts.

**Hrs.**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 300/400 Studio Major</td>
<td>24</td>
</tr>
<tr>
<td>ART or ARHS 200/300 Art Electives</td>
<td>18</td>
</tr>
<tr>
<td>ARHS 200/300/400 Art History</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

**B.F.A. General Education Curriculum Requirements**

These requirements are defined by WVU. The undergraduate art student must successfully complete a minimum of 39 semester credit hours of GEC to qualify for graduation. To satisfy this requirement, the following distribution of GEC credits must be achieved.

**Hrs.**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 and 102 (or ENGL 103, 3 hr.)</td>
<td>6</td>
</tr>
<tr>
<td>MATH</td>
<td>3</td>
</tr>
<tr>
<td>GEC requirement</td>
<td>26–27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35–36</td>
</tr>
<tr>
<td>Open electives</td>
<td>9</td>
</tr>
</tbody>
</table>

**Suggested Curriculum**

**First Year**

<table>
<thead>
<tr>
<th><strong>First Semester</strong></th>
<th><strong>Hrs.</strong></th>
<th><strong>Second Semester</strong></th>
<th><strong>Hrs.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 111 Drawing</td>
<td>3</td>
<td>ART 112 Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ARHS 120 Art History GEC #3</td>
<td>3</td>
<td>ARHS 160 Art Survey GEC #5</td>
<td>3</td>
</tr>
<tr>
<td>ART 121 Visual Foundation</td>
<td>3</td>
<td>ART 122 Visual Foundation</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101 GEC #1</td>
<td>3</td>
<td>ART 199 Orientation</td>
<td>1</td>
</tr>
<tr>
<td>GEC Objective</td>
<td>3</td>
<td>GEC Objective</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 101 GEC #6</td>
<td>1</td>
<td>GEC Objective #2 (plus lab)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>
Second Year
First Semester Hrs. Second Semester Hrs.
ART 211 or ART 212 Drawing ........ 3 ART 211 or ART 212 Drawing ........ 3
ART 200-Level Studio Major .......... 3 ART 200-Level Studio Major* .......... 3
ART 200-Level Elective ................ 3 ART 200-Level Elective ................. 3
ENGL 102 GEC #1 ...................... 3 GEC #2 Objective—MATH .............. 3
ARHS 200/300 Art History .......... 3 ARHS 200/300 Art History (W) .... 3
GEC Objective ......................... 3 Open elective ......................... 3
Total ..................................... 18 Total ................................... 18

Third Year
First Semester
ART 300 Studio Major .................... 6 ART 300 Studio Major .................... 6
ART or ARHS Elective 200/300 ...... 3 ART or ARHS Electives 200/300 .. 3
GEC Objective ......................... 3 ART 200/300 Art History (W) .... 3
GEC Objective 2 ....................... 3–4 GEC Objective ......................... 3
Total ..................................... 15–16 Total ...................................... 15

Fourth Year
First Semester Hrs. Second Semester Hrs.
ART 300 Studio Major .................... 6 ART 400 Senior Project .................. 6
ART or ARHS Elective 200/300 ...... 3 ART or ARHS Elective 200/300 .... 6
Open Elective ......................... 3 Open Elective ......................... 3
Total ..................................... 15 Total ...................................... 15

Grand Total .......................... 129–131

Thirty credit hours are required in the studio major area: six hours are 200 level and 24 hours are 300 to 400 levels. Additional information is available from the coordinator of the various areas or academic advisors.

Bachelor of Fine Arts (B.F.A.) with Teacher Certification, PreK–Adult
Ceramics, Graphic Design, Intermedia/Photography, Painting, Printmaking, Sculpture

Students wanting certification to teach PK–adult must complete competency requirements established by the state in addition to Division of Art B.F.A. degree requirements. This unique program allows students to earn teacher certification while emphasizing a content area within the B.F.A. curriculum. Typically, the student’s schedule is reviewed with an area coordinator, and the art education coordinator.

General Education Curriculum Requirements
These requirements are designed by the certifying agency of the state of West Virginia and WVU. Education requirements are maintained by the state. Undergraduate art students who desire certification should consult with the art education coordinator to be certain of compliance with certification criteria.

B.F.A. with Certification Curriculum
This variation of the regular B.F.A. program begins after the completion of the freshman year and requires careful selection of both studio and academic courses. With the additional GEC course requirements, four-and-a-half to five years of schoolwork should be anticipated. Students wishing certification to teach PK–adult in West Virginia must complete competency requirements established by the state in addition to Division of Art and Design B.F.A. degree requirements. B.F.A. degree with certification requirements and suggested course of study are as follows:
### First Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 111 Drawing I</td>
<td>3</td>
<td>ART 112 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ARHS 120 GEC #3</td>
<td>3</td>
<td>ARHS 160 GEC #5</td>
<td>3</td>
</tr>
<tr>
<td>ART 121 Visual Foundation</td>
<td>3</td>
<td>ART 122 Visual Foundation</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101 GEC #1</td>
<td>3</td>
<td>GEC Objective</td>
<td>3</td>
</tr>
<tr>
<td>GEC Objective</td>
<td>3–4</td>
<td>GEC Objective (plus lab)</td>
<td>4</td>
</tr>
<tr>
<td>UNIV 101 GEC #6</td>
<td>1</td>
<td>ART 199 Orientation</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16–17</strong></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 211 or 212 Drawing</td>
<td>3</td>
<td>ART 211 or 212 Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ART 213/214 Painting</td>
<td>3</td>
<td>ART 230/231 Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ART 226/227 Sculpture</td>
<td>3</td>
<td>ART 240/241 Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102 GEC #1</td>
<td>3</td>
<td>ART 264 Intro. to Art Education</td>
<td>3</td>
</tr>
<tr>
<td>GEC Objective</td>
<td>3</td>
<td>GEC Objective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 200 Studio Major</td>
<td>3</td>
<td>ART 300 Studio Major</td>
<td>6</td>
</tr>
<tr>
<td>ART 223/224 Graphic Design or</td>
<td></td>
<td>ART 266</td>
<td>3</td>
</tr>
<tr>
<td>ART 232/233 Photo or Intermedia</td>
<td>3</td>
<td>GEC Objective</td>
<td>3–4</td>
</tr>
<tr>
<td>ART 265 or 200-level Art History</td>
<td>3</td>
<td>MATH</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 301 Learning I</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Art History Minor)</td>
<td>(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12(15)</td>
<td><strong>Total</strong></td>
<td><strong>16–17</strong></td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 300 Studio Major</td>
<td>6</td>
<td>ART 300 Studio Major</td>
<td>6</td>
</tr>
<tr>
<td>ART 265 or 200-level Art Hist. (W)</td>
<td>3</td>
<td>ART 266 or GEC Objective</td>
<td>3</td>
</tr>
<tr>
<td>SPED 304</td>
<td>3</td>
<td>GEC Objective</td>
<td>3</td>
</tr>
<tr>
<td>ART 267</td>
<td>3</td>
<td>RDNG 422</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### Fifth Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARHS 200/300 Art History</td>
<td>3</td>
<td>ART 491D</td>
<td>12</td>
</tr>
<tr>
<td>ART 365 Art Education</td>
<td>3</td>
<td>C&amp;I 491</td>
<td>4</td>
</tr>
<tr>
<td>ART 400 Senior Project</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPED 360</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

**Grand Total:** 152 (159)

Requirements subject to change depending on state requirements.

**Proposed Course of Study: Bachelor of Art in Art History**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hrs.</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td>Studio Art</td>
<td>Cognate</td>
</tr>
<tr>
<td>ARHS 120 GEC Objective #3</td>
<td>3</td>
<td>ARHS 160 GEC Objective #5</td>
</tr>
<tr>
<td>Cognate Foreign Language</td>
<td>3</td>
<td>Cognate Foreign Language II</td>
</tr>
<tr>
<td>ENGL 101 GEC Objective #1</td>
<td>3</td>
<td>GEC Objective</td>
</tr>
<tr>
<td>GEC Objective</td>
<td>3–4</td>
<td>GEC Objective</td>
</tr>
<tr>
<td>UNIV 101 GEC Objective #6</td>
<td>1</td>
<td>GEC Objective (plus lab)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16–17</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
### Second Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History (Classics)</td>
<td>3</td>
<td>ARHS 240</td>
<td>3</td>
</tr>
<tr>
<td>GEC Objective #2 - MATH</td>
<td>3</td>
<td>GEC Objective #2</td>
<td>3</td>
</tr>
<tr>
<td>Cognate</td>
<td>3</td>
<td>Art Hist. (West. Europ. Traditions)</td>
<td>3</td>
</tr>
<tr>
<td>Cognate Foreign Language III</td>
<td>3</td>
<td>GEC Objective</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102 GEC Objective #1</td>
<td>3</td>
<td>Cognate Foreign Language IV</td>
<td>3</td>
</tr>
<tr>
<td>GEC Objective #7</td>
<td>3</td>
<td>Cognate</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History Seminar (or ARHS 240)</td>
<td>3</td>
<td>Art History/Mod. Contmp. Studios</td>
<td>3</td>
</tr>
<tr>
<td>Art History ARHS 345</td>
<td>3</td>
<td>GEC Objective #8</td>
<td>3</td>
</tr>
<tr>
<td>Cognate (Arts Administration)</td>
<td>3</td>
<td>Cognate (Curatorial Practice)</td>
<td>3</td>
</tr>
<tr>
<td>Open Elective</td>
<td>3</td>
<td>Art History</td>
<td>3</td>
</tr>
<tr>
<td>Studio Art</td>
<td>3</td>
<td>Open Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEC Objective #4</td>
<td>3</td>
<td>Art History/Mod. Contmp. Studios</td>
<td>3</td>
</tr>
<tr>
<td>Open Elective</td>
<td>3</td>
<td>Open Elective</td>
<td>3</td>
</tr>
<tr>
<td>Open Elective</td>
<td>3</td>
<td>Open Elective</td>
<td>3</td>
</tr>
<tr>
<td>Art History Seminar</td>
<td>3</td>
<td>Art History Capstone</td>
<td>3</td>
</tr>
<tr>
<td>Cognate</td>
<td>3</td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Grand Total</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

### Summary of Requirements

<table>
<thead>
<tr>
<th></th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio and Art Electives (includes Art Orientation)</td>
<td>73</td>
</tr>
<tr>
<td>Art History</td>
<td>12</td>
</tr>
<tr>
<td>GEC Objectives</td>
<td>45–46</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>139–140</strong></td>
</tr>
</tbody>
</table>

### Division of Art and Design Minors

The art history minor requires a considerable grasp of writing and research. The vocabulary and technical aspects of art historical writing and research are addressed in both the survey and in the upper-level courses.

#### Minor Requirements

<table>
<thead>
<tr>
<th></th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARHS 120 Survey of Western Art I</td>
<td>3</td>
</tr>
<tr>
<td>ARHS 160 Survey of Western Art II</td>
<td>3</td>
</tr>
<tr>
<td>ARHS 240 Methods of Research in Art</td>
<td>3</td>
</tr>
<tr>
<td>Upper Division Art History Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### Studio Art Minor

The Division of Art and Design requires a minimum of 18 hours; nine hours in the upper-level courses with a minimum GPA of 2.0. The requirements have been divided into a two-dimensional track and a three-dimensional. Individual schedules will be established in consultation with an art advisor.
2-D Track

One of the following: ................................................................. 3
  ARHS 101 or ARHS 120 or ARHS 160
One of the following: ................................................................. 3
  ART 109 or ART 110 or ART 111 or ART 112
  ART 121 ............................................................................. 3
One of the following: ................................................................. 3
  ART 213 or ART 214 or ART 230
One of the following: ................................................................. 3
  ART 231 or ART 232 or ART 233 or ART 234 or ART 235 or ART 267 or
  ART 270 or ART 271
One of the following: ................................................................. 3
  ART 313 or ART 314 or ART 330 or ART 331 or ART 332 or ART 333 or
  ART 341 or ART 370 or ART 371
Total ............................................................................................. 18

3-D Track

One of the following: ................................................................. 3
  ARHS 101 or ARHS 120 or ARHS 160
One of the following: ................................................................. 3
  ART 109 or ART 110 or ART 111 or ART 112
  ART 122 ............................................................................. 3
One of the following: ................................................................. 3
  ART 226 or ART 227 or ART 240
  ART 241 ............................................................................. 3
One of the Following: ................................................................. 3
  ART 326 or ART 340
Total ............................................................................................. 18

Arts Administration Minor

Arts administration is one of the fastest growing fields in the arts industry. The minor
combines selected courses in the arts, arts administration, and business, to provide students
with the basic knowledge and skills they will need for entry-level work with performing and
visual arts organizations such as orchestras, theaters, museums, and dance companies.
The minor is recommended for students who wish to gain a better understanding of the
business aspects of the arts. It may be completed as an individual course of study or in
conjunction with one of the other recognized majors in the College of Creative Arts.

A minimum of 21 hours, drawn from both the academic and practical courses, is
required for completion of the minor. These courses include at least 12 hours of upper
division-level courses.

Minor Requirements

Arts Core Courses* ........................................................................ 3(6)
  one (or more) course(s) taken from the following:
  ARHS 101 Landmarks of World Art
  MUSC 170 Appreciation of Music
  THET 101 Introduction to Theatre
  ACCT 201 Principles of Accounting ........................................... 3
  BUSA 340 Survey of Finance** ................................................. 3
  BUSA 330 Survey of Marketing** ............................................ 3
  ARHS 315 Arts Administration ................................................. 3
  ART 491 B Internship ............................................................... 3
Total ............................................................................................. 21

*This requirement is waived for any student completing another minor or major in the College of Creative Arts.
**Because of individual program requirements, business and economics majors must complete BCOR 340
Division of Music
Keith Jackson, D.M.A., Chair
Cynthia Anderson, M.M., Associate Chair
http://music.wvu.edu/

Degrees Offered

Bachelor of Music
Performance Majors: Areas of Emphasis in Band Instrument, Orchestra Instrument, or Guitar; Piano (traditional, coaching-accompanying, piano pedagogy, jazz); Voice; Woodwinds
Jazz Studies
Music Composition
Music Education
Bachelor of Arts in Music
Music Minor

The Division of Music has been an important part of WVU’s cultural and academic life since 1897, when the division’s antecedent, the School of Music, was established. The University has been an institutional member of the National Association of Schools of Music since 1947. The 38-member faculty includes internationally acclaimed artists and scholars who are distinguished teachers as well. The division is part of the College of Creative Arts, the center for the visual and performing arts at WVU and in the state of West Virginia.

Mission
The Division of Music, as part of WVU’s College of Creative Arts, offers professional preparation for careers in composition, performance, and teaching of music as well as the opportunity to study music within a liberal arts curriculum. Its nationally accredited programs, strengthened by creative activity and research, provide an educational environment for the exploration and understanding of music. The music faculty fosters this mission through performances, presentations, recruitment, and service. The division is supported by the resources of a comprehensive land-grant university, supplemented by grants and private donations.

Career Prospects
When you complete an undergraduate degree in music from WVU, you will have a variety of occupations from which to choose. In preparing for those, depending upon your interests and aspirations, you may pursue one of two degree programs: The bachelor of music (B.M.) or the bachelor of arts (B.A.).

The B.M. program offers students several specialized courses of study. Those concentrating in music education are prepared to teach vocal, instrumental, and general music in grades pre-K through adult, as well as to pursue graduate study in the same field. Those majoring in performance are prepared for careers as performers or for graduate study to increase their artistry further. Upon completing a major in composition, graduates may either begin careers as composers or continue their studies at the graduate level. The B.A. program is designed for those seeking a broad liberal arts education while majoring in music. Depending upon the courses chosen, one can prepare for graduate study in music or in another field.

Admission Requirements
Acceptance into an undergraduate music degree program is contingent upon both admission to WVU as an undergraduate student and a successful performance audition. Auditions are held principally in October, February, and March in Morgantown. Dates for auditions and details concerning them are available from the Division of Music and on the website (http://music.wvu.edu/). Special accommodations may be made by contacting the Division of Music at (304) 293-5511. The audition is a preliminary assessment of a student’s potential for success in the program. Students must audition at a performance level 3 or above to be admitted to most courses of study in music. Students must audition at a
performance level 6 or above to be admitted to the B.M. degree program in performance. If a student is admitted, your standing is confirmed or revised after the first semester of study. Students should own their own instrument under normal circumstances (except for piano) and a portable (folding) music stand. Music majors can change from one music curriculum to another with faculty approval, particularly during the freshman or sophomore years, without great loss of course credit. Students are encouraged to explore and follow the curriculum for which they are best qualified and in which they can expect the greatest success. Evaluation of students’ work by the Division of Music faculty aids these decisions. If students wish a broader, liberal arts-oriented, non-professional program, they may pursue the bachelor of arts (B.A.) degree. In addition to the undergraduate program, courses leading to the following graduate degrees are offered: master of music, doctor of philosophy, and doctor of musical arts.

**Music Scholarship Resources**

**John R. Barnes Memorial Scholarship Fund**
Endowment income is to provide scholarship aid annually to enrolled students at the WVU College of Creative Arts majoring in instrumental music.

**Clifford and Carolyn Brown Music Alumni Scholarship**
Endowment income is to be used to provide scholarships for regularly enrolled undergraduate or graduate music majors in the Division of Music.

**Helen Canfield Endowed Music Scholarship**
Endowed income shall be used for scholarships for students enrolled in the Division of Music in the College of Creative Arts majoring in piano.

**Toni and Red Cowser Music Scholarship**
This award is designated for students in the Division of Music with preference for those with disabilities.

**Eleanor Tucker Donley Memorial Scholarship**
Endowment income is to be used to provide scholarships for undergraduate or graduate students in the Division of Music.

**Herman Godes Scholarship for Piano Majors**
Endowment income is to be used to provide scholarships for undergraduate students in the College of Creative Arts Division of Music majoring in piano.

**Susan B. Hardesty Music Scholarships**
Income shall be used for scholarships for undergraduate or graduate students enrolled in the College of Creative Arts Division of Music.

**David C. and Susan B. Hardesty Music Scholarship**
Income shall be used annually for scholarships for undergraduate students enrolled in the College of Creative Arts Division of Music.

**Susie Jamison Music Scholarship**
Income shall be used for scholarships for undergraduate students enrolled in the College of Creative Arts Division of Music.

**John Shields Kramer Endowment Scholarship**
Endowment income is to be used to provide scholarships for deserving bass/baritone students enrolled in the Division of Music.

**Elizabeth Traubert Lane Music Scholarship**
Spendable income is to provide scholarship aid annually to enrolled students in the Division of Music. The recipients shall be regularly enrolled students at WVU of junior, senior, or graduate rank and majoring in music education.

**Frank E. and Margaret S. Lorince Scholarship**
Endowment income shall be used for scholarships for regularly enrolled freshman or first-year undergraduate or graduate students in music education in the Division of Music.

**Loyalty Permanent Endowment Fund**
Scholarships for WV residents provided by the WVU Alumni Association through gifts from various alumni.
Geraldine Hess Lyon Educational Fund
Endowment income is to be used to provide scholarships for graduates of Lincoln High School in Harrison County, WV, who are enrolled as undergraduate students in the Division of Music with preference given to students majoring in voice.

Music Faculty Recognition Scholarship
Endowment income is to be used to provide scholarships for talented music students.

Phyllis McCane Osenton Music Scholarship
Endowment income shall be used for scholarships for regularly enrolled sophomores, juniors, seniors, or graduate students in music education in the Division of Music.

Fine Performing Arts Scholarship
Scholarship awards made possible through funding from West Virginia University.

Presser Scholarships
Given yearly to a senior music student based on merit. Award is funded through a grant from the Presser Foundation.

Walter “Dusty” Rhodes Music Scholarship
Endowment income is to be used to provide scholarships to undergraduate music majors from Monongalia, Marion, or Preston Counties in West Virginia, or Fayette or Greene Counties in Pennsylvania.

Ida Cope Tait Music Endowed Scholarship
Endowment income is to be used to provide scholarships in the Division of Music.

University Presidential Scholarship
Scholarship awards made possible through funding from West Virginia University.

Virginia Holden Wellock Music Scholarship
Endowment income is to be used to provide scholarships for undergraduate or graduate students in the Division of Music.

James C. and Catherine Lemley West Endowed Scholarship
Endowment income is to be used to provide scholarships for music majors in the Division of Music.

Edith Roberts Williams Music Scholarship
Endowment income is to be used to provide scholarships for undergraduate or graduate students in the Division of Music.

WV Wine and Jazz Festival Scholarship in Jazz Studies
Endowment income is to be used to provide scholarship aid annually to enrolled students in the Division of Music. Recipients shall be regularly enrolled at WVU as undergraduate students majoring in jazz studies.

WVU Music Alumni Associate Scholarship Fund
Endowment income is to provide scholarship aid annually to enrolled students in the WVU College of Creative Arts Division of Music.

Musicaele Scholarship Fund
Non-endowed fund to provide general music scholarships

Philip T. & Michael E. Flach Scholarship II
Spendable income from this fund shall be used for student scholarship aid for residents of Marion County. First preference will be given to music majors.

Iris Lusk Memorial Scholarship Music
Endowment income shall provide undergraduate scholarships for students majoring in music.

Performing Ensembles
One of the hallmarks of the Division of Music is its commitment to the study and performance of high-quality and historically significant music from all stylistic genres. WVU music faculty continues to present highly praised performances, both on and off campus. Faculty performing groups include the Laureate Wind Quintet, the Faculty Jazz Ensemble, the West Virginia Piano Quartet, and the Faculty Chamber Ensemble. WVU student performing groups include a wide range of opportunities in a variety of musical traditions and styles.

The student and community performing groups are open to all qualified WVU students by audition. All groups must be taken for credit unless noted below.
In exceptional cases, high school seniors may perform at a director’s discretion in an ensemble for credit, provided the requirements as specified in this catalog are met. Qualified high school and junior high students may participate in select WVU student performing ensembles as part of the Community Music Honors Ensemble Program with the permission of the director of the Community Music Program and the ensemble director. For information contact the director of the Community Music Program at (304) 293-5511.

The award-winning Mountaineer Marching Band (“The Pride of West Virginia”) of over 350 members is open by audition to all qualified students in the University. Its activities are confined to the first semester, during which it presents exciting shows at football games and other special occasions throughout the state and the country.

The Wind Symphony is a select group of the finest wind and percussion performers in the University. Membership is earned through competitive auditions. The ensemble presents at least four concerts per year comprised of the finest classical and contemporary wind literature.

The Symphonic Band is a 60-member ensemble open to both music and non-music majors. Membership is through audition. Emphasis is placed on learning and performing standard and modern concert literature. This ensemble rehearses two days per week and performs a concert at the end of each semester.

The Concert Band is open to any student in the University who wishes to continue his/her musical experience. Membership does not require an audition. This ensemble meets during the spring semester only and rehearses one day each week. Concerts include music by some of today’s top wind band composers and arrangers.

The 50-member Pep Band is open by audition to all qualified WVU students. It performs at men’s and women’s home basketball games and also travels to various tournaments.

The University Symphony Orchestra is open by audition to all qualified WVU students and adult residents of the community who are proficient in the playing of an orchestral instrument. The repertoire is that of the standard orchestra, with special emphasis on contemporary American music.

The University Choir is the flagship choral ensemble, numbering 35–40 vocalists selected by audition. This choir studies and performs challenging repertoire from all stylistic genres, accompanied and a cappella. The choir has premiered the music of student composers, participated in several recording projects, and presented major concerts both regionally and internationally.

The University Choral Union, a choir of 70–90 voices, studies and performs choral masterworks and other music for large choir. University students and adult community members may participate; an audition is required. Adult community members need not enroll.

In addition to the larger choirs, several vocal chamber ensembles are open by audition to the University community. Mountaineer Singers, a select group of 12–16 singers, studies and performs traditional chamber music including madrigals, part songs, and contemporary forms. Comprehensive study and performance of traditional and contemporary vocal jazz music is presented in Same Difference, a vocal sextet with rhythm section, and the 16–24 voice Vocal Jazz Ensemble.

Small and large Jazz Ensembles are open by audition to all qualified WVU students. These ensembles perform a wide variety of jazz styles and many original compositions.

The Opera Theatre mounts fully staged productions of standard operatic repertoire and also presents programs of opera scenes each season. A variety of chamber ensembles feature combinations of woodwinds, brass, percussion, and string instruments and include the internationally acclaimed Percussion Ensemble, African Music and Dance Ensemble, and the New Music Ensemble.

General Requirements for the Bachelor of Music and Bachelor of Arts—Emphasis in Music

It is possible to complete any of the curricula described below in eight regular semesters with careful planning. Students may elect to take additional courses, lengthening the time spent in their degree program.
Proficiency Levels Before graduation, students must satisfy a proficiency level (specified for each curriculum) in their principal performance area and in piano (not required in the B.A.). In addition to fulfilling the proficiency level requirement in piano indicated in the curriculum, students are required to demonstrate proficiency in keyboard harmony and sight-reading by passing a special examination. Music education majors must satisfy additional instrument and voice proficiencies.

Students are required to take applied lessons on their principal performance medium each semester in residence. Proficiency levels in their principal performance medium are awarded at juries, which are usually given at the end of each semester. Jury policies for each principal performance area are provided on the Division of Music website and also available from the chair's office or the area coordinator.

Jury Policy All music majors, music minors, and non-majors enrolled in Music121-127, 221-227, 321-327, 421-427, Music 500, or Music 700 in the fall and/or spring semesters must take a jury. Exceptions will be allowed only in the following cases: 1) When an area jury policy has a provision for a waiver, and 2) in the event of illness or injury. Students who miss juries due to illness or injury will receive an incomplete in Applied Study for the semester and must make up the jury prior to mid-term during the subsequent semester.

Students who are unable to make up a missed jury must submit a written petition to the division chair by mid-term of the first semester following the semester of the original missed jury. The petition must include a complete justification for missing the make-up jury and a written statement of support from the applied faculty member.

Major Ensemble Requirement Students must register for a major ensemble in their major performance medium each semester of residence. Major ensembles are Music 100, 100C, 100D, 102, 103, 105, 105A, 183, and 183A. If a student is a scholarship recipient, they may be called upon to render special service (as a participant in particular organizations or ensembles, as a piano accompanist, etc.) as designated by the division chairperson. Students whose major performance medium is percussion must, in addition to a major ensemble, register for Freshman Percussion Ensemble, Second Percussion Ensemble, or Percussion 2000 each semester in residence. Students whose major performance medium is guitar must take guitar ensemble as a major ensemble.

Chamber Music Requirement Courses that satisfy the chamber music requirements for the B.M. and B.A. are Music 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 183B, 183C, 183D, 183E, 183F, 183G, 183H, and 183I.

Recital and Convocation Attendance Full-time undergraduate music majors entering as a freshman are expected to register for six semesters of Music 189 Music Convocation and to attend five recitals or concerts and five convocation meetings per semester. This requirement maybe adjusted for transfer students. B.A. students are required to take Music 189 for two semesters.

Capstone Requirements Senior-level capstone courses are required for all degree programs in the Division of Music. The required courses are as follows: MUSC 492 for the B.A., MUSC 467 and MUSC 488 for the B.M. in composition, MUSC 487 for the B.M. in music education, MUSC 435 for the B.M. in performance voice, MUSC 435A for the B.M. in performance piano, MUSC 488 for the B.M. in performance instrumental, and MUSC 488 and MUSC 422 for the B.M. in jazz studies. Details about capstone courses in music may be obtained from the instructors of capstone courses.

Completion of Degree Requirements Students are responsible for being aware of and correctly fulfilling all graduation requirements. Students should review the curriculum requirements both before and after every registration period so that errors or omissions will be detected and corrected immediately. Transfer students must establish transfer credit from other institutions as early as possible in their WVU study—preferably during the first semester of residence. The degree of bachelor of music or bachelor of arts is conferred if they comply with the general regulations of the University concerning degrees, satisfy
division requirements (including expected proficiency levels), and complete an appropriate curriculum with a minimum overall grade point average of 2.0 (C). Music education majors must attain a 2.75 grade point average for graduation and certification.

If students achieve a grade of A in Music 262 Sophomore Written Theory, they may elect an upper-division theory analysis course (Music 463 or 464) in place of the Music 264 requirement. If they achieve a grade of A in Music 261 Sophomore Aural Theory, they may elect an upper-division theory elective in place of the Music 263 requirement.

**Music Theory and History Electives** Unless specified as a degree requirement, upper-division theory electives are Music 265, 266, 285, 286, 360, 461, 462, 463, 464, 465, 466, 468, 480, 481. Unless specified as a degree requirement, upper-division history electives are Music 470–475.

**Academic Progress** If in the judgment of the faculty, chair, and dean it will be impossible for students to complete graduation requirements in a reasonable amount of time, their enrollment in the Division of Music will be terminated. If students are admitted conditionally, they must make up deficiencies as soon as possible. Further information regarding academic progress policies can be obtained from their advisor, the division chair’s office or music.wvu.edu/current_students/academic_progress_policy.

**Course Substitutions, Curricular Waivers, or Credit by Examination** Requests for course substitutions, curricular waivers, or credit by examination must be made in writing to the chair of music. If the chair endorses the request, it will be forwarded to the dean of the College of Creative Arts for final approval.

**Student Policies** For further information, refer to the current undergraduate student policies on the Division of Music website music.wvu.edu/current_students or at the office of the division chair.

**Bachelor of Music with a Major in Music Education** Students successfully completing the music education curriculum and all tests required by the West Virginia Department of Education will be qualified for a professional certificate, grades birth through adult, which allows them to teach instrumental, vocal, and general music in West Virginia public schools. Music education students should begin as freshmen at proficiency level three on their principal performance medium (instrument or voice) and must complete proficiency level seven on the medium to be eligible for student teaching. Students must present two solo performances on the major instrument or voice in upper-level recitals before the semester in which they student teach.

**Pre-Professional Requirements** Before enrolling in professional education methods courses (MUSC 380, 381, 382) students must pass the Praxis I Pre-Professional Skills Test (PPST) and meet the following GPA requirements: 1.) An overall GPA of 2.75 in all courses taken at WVU and at any other institution (this includes courses taken at other institutions that are not accepted by WVU); 2.) A GPA of 2.75 in all music (content area) courses; and 3.) A GPA of 2.75 in professional education courses and music education methods courses (Music 138, 180, 280, 281, 282, 283, 284, 380, 381, 382, 384; EDUC 301; SPED 304, 360; RDNG 422) with no Ds or Fs in these courses. Also, students must successfully complete the following pre-professional requirements for any music education methods course: MUSC 133 or equivalent (Level 2), 138, 161–164, 177, 180, 200, 261, 262, 270.

In addition to the general pre-professional requirements indicated above, pre-professional requirements for specific music education methods courses are:

- MUSC 380: MUSC 280 (minimum of two woodwind instrument proficiencies) and recorder proficiency and MUSC 281 (minimum of two brass instrument proficiencies) and guitar proficiency.
• MUSC 381, MUSC 284 and at least one of the following: MUSC 280 (minimum of two woodwind instrument proficiencies) and recorder proficiency; or MUSC 281 (minimum of two brass instrument proficiencies) and guitar proficiency; or MUSC 282 (minimum of two string instrument proficiencies); or MUSC 283 (minimum of four percussion instrument proficiencies) and the world music module.
• MUSC 382, MUSC 280 (minimum of two woodwind instrument proficiencies) and recorder proficiency and MUSC 281 (minimum of two brass instrument proficiencies) and guitar proficiency.

The PPST requirement can be waived for students who have a composite score of 25 (26 enhanced) or above on a single administration of the ACT or a score of 1035 (1125 recentered) or above on a single administration of the verbal and math portions of the SAT.

Requirements to student teach: Students must pass all proficiency examinations prior to the semester in which they student teach. In addition to the piano, recorder, world music, and guitar proficiencies listed above, students must pass proficiencies on voice and selected woodwind, brass, string, and percussion instruments. For the piano proficiency, all undergraduate music education majors (non-piano principals) are required to successfully complete Music 133 or its equivalent (level two) as a minimum proficiency in piano. All music education students, including piano principals, must pass a proficiency examination in keyboard harmony and sight-reading.

To be eligible to student teach, students must pass the Praxis Series subject area test in music (Music: Content Knowledge [0113]) and meet the following GPA requirements:
• An overall GPA of 2.75 in all courses taken at WVU and at any other institution (this includes courses taken at other institutions that are not accepted by WVU);
• A GPA of 2.75 in all music (content area) courses;
• A GPA of 2.75 in professional education courses and music education methods courses (MUSC 138, 180, 280, 281, 282, 283, 284, 380, 381, 382, 384; EDUC 301; SPED 304, 360, RDNG 422) with no Ds or Fs in these courses.

To be recommended for certification, students must pass one of the three following professional education tests: Principles of Learning and Teaching K–6, Principles of Learning and Teaching 5–9, or Principles of Learning and Teaching 7–12.

Student Teaching
Students may indicate a preference to student teach during the fall or spring semester. Ordinarily, preferences will be accommodated, although there may be certain instances in which students will be advised to change semesters. The primary considerations when assigning students to teaching placements are the quality of the placement and the students’ professional goals. Due to the limited number of music placements in the Morgantown area, students should plan to commute or relocate during the semester in which they student teach. Student requests for specific regions, school districts, etc. will not be entertained by the coordinator of the music student teaching program unless the student can demonstrate that she or he is faced with severe personal constraints. Teaching placements will generally be within a 100-mile radius of Morgantown. Students should plan to provide their own transportation during the student teaching semester.

Required Courses

<table>
<thead>
<tr>
<th>Professional Education (16 Credits)</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 301 ..................................................</td>
<td>3</td>
</tr>
<tr>
<td>SPED 304, 360 .........................................</td>
<td>6</td>
</tr>
<tr>
<td>RDNG 422 ..................................................</td>
<td>3</td>
</tr>
<tr>
<td>C &amp; I 491 ..................................................</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Studies in Music (85–91 Credits)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270–271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 180 Introduction to Music Education</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 280–284 Music Pedagogy</td>
<td>10</td>
</tr>
</tbody>
</table>
MUSC 200–202 Conducting ...............................................................6
MUSC 161, 163, 261, 263 Aural Theory .............................................8
MUSC 162, 164, 262, 264 Written Theory ..........................................8
MUSC 130–133 Class Piano (if piano is not principal) ....................4
MUSC 138 Voice Class (if voice is not principal) .........................2
MUSC 150–183H, 140–149 Chamber Music ......................................1
MUSC 121-127, 221-227, 321-327, 421-427 Principal Perf Studies ....14
MUSC 380 Instrumental Music Methods/Tech Apps ......................3
MUSC 381 Vocal Music Methods/Tech Apps .................................3
MUSC 382 General Music Methods/Tech Apps .............................3
MUSC 384 Music Arranging for Public School Groups ..................2
MUSC 487 Student Teaching Capstone ..........................................2
MUSC 491A Professional Field Experience (student teaching) .........10
Major Ensemble ..............................................................................7
GEC Requirements ........................................................................35
Grand Total ....................................................................................142

Combined Performance/Music Education Curriculum

An optional program can be arranged for outstanding students who desire to meet the requirements of majors in both performance and music education. Admission to this rigorous program is by written consent of the coordinator of the appropriate performance area and the coordinator of music education after the student has completed two semesters. This curriculum satisfies the course requirements of the professional certificate for birth through adult. The numerous possible combinations of performance with music education cannot be listed separately here. When students become a candidate for this degree, their advisors designate the specific courses that must be taken to satisfy the requirements for both a bachelor's in performance and a bachelor's in music education. By attending summer sessions, if appropriate courses are available, it may be possible to complete the combined curriculum in four calendar years, although it usually takes longer.

Bachelor of Music with a Major in Performance

The performance curricula are especially designed for students wishing to prepare themselves as performers or as teachers of a particular instrument or voice. The increased interest of society today in the arts is creating many new opportunities for the professional musician and for the private music teacher.

A student in a performance curriculum, if entering as a freshman, should achieve proficiency level six in the principal performance area at the time of audition, and must complete proficiency level ten in that area to be eligible for graduation. In addition to presentation of a senior recital, performance majors also must make three solo appearances on the major instrument in upper-level student recitals or convocations. Exceptions to this policy are noted below.

Performance Curriculum: Band or Orchestra Instrument, or Guitar

Instruments include: Flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, euphonium, tuba, percussion, violin, viola, cello, double bass, and guitar. Proficiency levels of ten and three solo appearances on upper-level recitals are required for graduation.

Required Courses

<table>
<thead>
<tr>
<th>Major Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 121-127, 221-227, 321-327, 421-427</td>
<td>32</td>
</tr>
<tr>
<td>MUSC 432–433 Methods and Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
<tr>
<td>Chamber Music</td>
<td>4</td>
</tr>
<tr>
<td>Major Ensemble</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>
### Music Supportive Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 270–271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 130–135 Class Piano</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

### GEC Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>35–37</strong></td>
</tr>
</tbody>
</table>

### Music Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Electives (any area)</td>
<td>4</td>
</tr>
<tr>
<td>Theory Electives</td>
<td>6</td>
</tr>
<tr>
<td>Music History Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

### Grand Total

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>129</strong></td>
</tr>
</tbody>
</table>

### Performance Curriculum: Piano (Traditional Emphasis)

Proficiency level ten and three solo upper-level recitals are required for graduation.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Area</td>
<td></td>
</tr>
<tr>
<td>MUSC 123B, 223B, 323B, 423B Applied Music (piano)</td>
<td>32</td>
</tr>
<tr>
<td>MUSC 432–433 Methods and Pedagogy (piano)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 434–435 Repertoire, (piano)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
<tr>
<td>Major Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Chamber Music, (Must be performed on a keyboard instrument.)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>46</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Music Supportive Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270–271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
<tr>
<td>Theory Electives</td>
<td>6</td>
</tr>
<tr>
<td>Music History Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

### GEC Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

### Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Electives (from any area)</td>
<td>9</td>
</tr>
<tr>
<td>Chamber Music Electives</td>
<td>2</td>
</tr>
<tr>
<td>Major Ensemble or Chamber Music Electives</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48–50</strong></td>
</tr>
</tbody>
</table>

### Grand Total

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

### Performance Curriculum: Piano (Coaching/Accompanying Emphasis)

Students are admitted only by approval of the piano faculty. Required for graduation: coach and accompany under supervision, two full voice recitals, one string recital, one recital of another instrument (clarinet, flute, oboe, horn, etc.); coach, prepare musically, and accompany in performance two scenes from standard-repertory operas in their original languages (scenes should involve a minimum of two people and have some dramatic development). A proficiency level of ten is required. No solo performances on upper-level recitals are required.
### Required Courses

<table>
<thead>
<tr>
<th>Major Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 123B, 223B, 323B, 423B Applied Music Piano</td>
<td>32</td>
</tr>
<tr>
<td>MUSC 432–433 Methods and Pedagogy (piano)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 434–435 Repertoire (piano)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
<tr>
<td>Major Ensemble</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong></td>
</tr>
</tbody>
</table>

### Music Supportive Courses

<table>
<thead>
<tr>
<th>Music Supportive Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270–271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

### Coaching and Accompanying Courses

<table>
<thead>
<tr>
<th>Coaching and Accompanying Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 104 Introduction to Opera Theatre</td>
<td>6</td>
</tr>
<tr>
<td>MUSC Chamber Music (as an accompanist)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 169 Diction</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 434–435 Repertoire (voice)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
</tr>
</tbody>
</table>

### GEC Requirements

<table>
<thead>
<tr>
<th>GEC Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

### Electives

<table>
<thead>
<tr>
<th>Electives</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber Music, (Must be performed on a keyboard instrument.)</td>
<td>2</td>
</tr>
<tr>
<td>Theory Electives</td>
<td>6</td>
</tr>
<tr>
<td>Music History Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>

| Grand Total | **137** |

### Performance Curriculum: Piano (Pedagogy Emphasis)

Students will be admitted only by approval of the piano faculty. The following are required for graduation: Proficiency level nine, senior recital, and three solo performances on upper-level recitals.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major Area of Performance</strong></td>
<td></td>
</tr>
<tr>
<td>MUSC 123B, 223B, 323B, 423B Applied Music Piano</td>
<td>32</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
<tr>
<td>Chamber Music (At least two semesters must be performed on a keyboard instrument.)</td>
<td>4</td>
</tr>
<tr>
<td>Major Ensemble</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Music Supportive Courses</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270–271 Music Literature</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Pedagogy Courses</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 382 Music Education</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 492 Directed Music Studies: Pedagogy Project</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 430 Piano Class Methods and Materials</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 431 History of Keyboard Pedagogy and Technique</td>
<td>3</td>
</tr>
</tbody>
</table>
Performance Curriculum: Piano (Jazz Emphasis)

Students are admitted only by approval of the piano faculty. (Admission is limited to those students with experience and a demonstrated ability in the area of jazz improvisation.) Required for graduation: proficiency level nine, senior recital (no more than one-half of program consisting of jazz), and three solo upper-level recital performances.

**Required Courses**

**Major Area**
- MUSC 122, 222, 322, 422 Applied Music (Jazz) ............................................. 8
- MUSC 123B, 223B, 323B, 423B Applied Music (Piano) ................................... 24
- MUSC 285–286 Beginning and Advanced Improvisation ............................. 4
- MUSC 432–433 Methods and Pedagogy (Piano) .................................................... 4
- MUSC 434–435 Repertoire (Piano) ..................................................................... 4
- MUSC 488 Recital ......................................................................................... 2
- Chamber Music (must perform jazz piano) ......................................................... 6
- Major Ensemble ............................................................................................. 2

**Total** ........................................................................................................... 54

**Music Supportive Courses**
- MUSC 189 Convocation (six semesters) ......................................................... 0
- MUSC 177 Introduction to Music Listening ....................................................... 1
- MUSC 270–271 Music History .......................................................................... 6
- MUSC 200 Conducting .................................................................................... 2
- MUSC 161, 163, 261, 263 Aural Theory ............................................................. 8
- MUSC 162, 164, 262; 264 Written Theory ....................................................... 8
- Theory Electives .............................................................................................. 6
- Music History Elective .................................................................................... 3

**Total** ........................................................................................................... 34

**GEC Requirements**

**Total** ........................................................................................................... 35–37

**Electives**
- Music Electives (from any area) ....................................................................... 5

**Grand Total** ................................................................................................. 128–130

Performance Curriculum: Voice

In addition to the required proficiency level ten in voice, a student completing this curriculum must also achieve proficiency level three in piano before graduation. One year of Italian, French, or German is required. Three solo upper-level recitals are required. Students can take Opera Theatre for credit only during the junior and senior years. Other policies related to this degree program can be found in the Vocal Student Handbook.
### Required Courses

<table>
<thead>
<tr>
<th>Major Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 104 Opera Theatre</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 102 or 105 Choral Ensemble</td>
<td>8</td>
</tr>
<tr>
<td>(or 2 hr. in MUSC 183G–183H MUSC 147–149)</td>
<td></td>
</tr>
<tr>
<td>MUSC 126/226, 326/426 Applied Music (Voice)</td>
<td>32</td>
</tr>
<tr>
<td>MUSC 169 Diction</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 432–433 Methods and Pedagogy (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 434–435 Repertoire (Voice)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total** | 60

### Music Supportive Courses

<table>
<thead>
<tr>
<th>Music Supportive Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270–271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 130–135 Piano</td>
<td>8</td>
</tr>
</tbody>
</table>

**Total** | 33

### GEC Requirements

<table>
<thead>
<tr>
<th>GEC Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>35</td>
</tr>
<tr>
<td>Theory Electives</td>
<td>6</td>
</tr>
<tr>
<td>Music History Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total** | 9

### Grand Total

| Grand Total | 137

---

**Performance Curriculum: Woodwinds**

If a student is a performance major whose major instrument is in the woodwind family and they show strong performance ability on another woodwind instrument, the student may qualify for the performance curriculum in woodwinds. Approval for admission to this curriculum will not be given by the woodwind faculty until after the first year of study, at which time the student must achieve an appropriate level on three of the five woodwind instruments. In addition to the senior recital (which may be given on more than one instrument), the student must present three solo upper-level student recital performances, one on each of the three major instruments. Proficiency level requirements for this curriculum are:

- A primary major woodwind instrument—proficiency level nine.
- Two secondary major woodwind instruments—proficiency level seven.
- Two minor woodwind instruments—proficiency level four.
- Piano—proficiency level two.

### Required Courses

<table>
<thead>
<tr>
<th>Major Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 432–435 Methods and Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
<tr>
<td>Chamber Music</td>
<td>6</td>
</tr>
<tr>
<td>Major Ensemble</td>
<td>8</td>
</tr>
</tbody>
</table>

**Total** | 60

### Music Supportive Courses

<table>
<thead>
<tr>
<th>Music Supportive Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 127 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270–271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
</tbody>
</table>
Bachelor of Music with a Major in Jazz Studies

Students admitted only by approval of jazz area faculty. Proficiency level ten in jazz performance and level five in classical performance are required for graduation.

Required Courses

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 121-127, 221-227, 321-327, 421-427 Applied Music</td>
<td>32</td>
</tr>
<tr>
<td>MUSC 285 Intro to Jazz Improvisation</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 286 Advanced Jazz Improvisation</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
<tr>
<td>Chamber Music (must be in jazz ensembles)</td>
<td>5</td>
</tr>
<tr>
<td>Large Ensemble, or Music 149 Chamber Accompaniment</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
</tr>
</tbody>
</table>

Music Supportive Courses

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270–271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 130–135 Piano Class (not required for keyboard performers)</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 475 History of Jazz</td>
<td>3</td>
</tr>
<tr>
<td>MUSC 480 Arranging Small Jazz Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 481 Arranging Large Jazz Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 468 Jazz Harmony</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

GEC Requirements

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>35</td>
</tr>
</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Electives (in any area)</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>131</td>
</tr>
</tbody>
</table>

Bachelor of Music with a Major in Composition

A composition major should enter as a freshman having achieved proficiency level four on the major instrument, and must complete proficiency level eight on that instrument before graduation. If piano is not the major instrument, the student must achieve a level four on piano. The student must reach level four before earning four credits: the remaining credits are treated as free electives. Piano majors reduce total curricular credits by four. At least a B average in the required freshman and sophomore theory courses (MUSC 161–164, 261–264) or the consent of the coordinator of theory/composition is required for continuation in this curriculum. The major project (MUSC 467) must be in composition. Majors in this curriculum must present two solo performances on the major instrument in upper-level recitals before graduation.
### Bachelor of Arts in Music

The bachelor of arts in music provides students with the opportunity to major in music while pursuing a broad liberal arts education. Depending upon the courses taken beyond those required for the major, one may prepare for a variety of careers, not just those associated with music. To enter this program, in addition to being admitted to WVU, students must meet audition requirements on one of the following: a band or orchestral instrument, guitar, piano, or voice. Unless otherwise specified, general College of Creative Arts and WVU regulations apply. Three principal areas of coursework are required, as shown in the following outline:

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 160 Introduction to Composition</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 265 Instrumentation</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 266 Orchestration and Band Arranging</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 460 Upper Division Composition</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 461-462 Counterpoint</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 463 or 464 Analysis</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 467 Major Project in Composition</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 465-466 Electronic Music</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 488 Recital</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Music Supportive Courses</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 189 Convocation (six semesters)</td>
<td>0</td>
</tr>
<tr>
<td>MUSC 177 Introduction to Music Listening</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 270-271 Music History</td>
<td>6</td>
</tr>
<tr>
<td>MUSC 200 Conducting</td>
<td>2</td>
</tr>
<tr>
<td>MUSC 161, 163, 261, 263 Aural Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 162, 164, 262, 264 Written Theory</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 130-135 Secondary Piano (if piano is not principal)</td>
<td>4</td>
</tr>
<tr>
<td>MUSC 183–183H, 100–105 or 140–149 (at least 4 hrs. in 183, 183A, 100–105)</td>
<td>8</td>
</tr>
<tr>
<td>MUSC 121-127, 221-227, 321-327, 421-427</td>
<td></td>
</tr>
<tr>
<td>Principal Performance Studies</td>
<td>16</td>
</tr>
<tr>
<td>MUSC 474 Music of the Twentieth Century</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>56</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GEC Requirements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language (in one language)</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total (six may come from foreign language study)</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Electives (from any area)</td>
<td>2</td>
</tr>
<tr>
<td>Music History Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

**Grand Total** | **128**

Note: Foreign language study, consisting of 12 credits in a single language, is in addition to GEC requirements.
Musicianship
History (MUSC 177, 270, 271 WR)..........................................................7
Theory (MUSC 161, 162, 163, 164, 261, 262, 263, 264)..............................16
Upper-Level Music Electives (in theory, composition, history or lit.)................3–6
Total .............................................................................................................26–29
Performance
Ensembles (Music 100–105, 140–149, 150–159, 183–183H).........................8
Major Performance Area (Music 106-127)..................................................16
Total .............................................................................................................24
Grand Total ................................................................................................128–133

Students must attain a proficiency in their major performance area suitable for public performance (at least level seven). Secondary piano proficiency is not required. Two solo upper-level appearances and two semesters of MUSC 189 Music Convocation are required. If the student does not make satisfactory progress in achieving the expected performance proficiency, the student will be discontinued.

Music Minor
The music minor allows students in any undergraduate major who have competency in music to receive official transcript recognition for their music studies at WVU. The music minor reflects a minimum of 18 hours of study in the areas of music history, theory, and performance.

The intention to declare a minor in music should occur no later than the semester prior to the student’s junior year. Check-sheets with the requirements for minors are available in the College of Creative Arts Student Records Office, with the advisor for music minors, or on the Division of Music’s website. It is the responsibility of the student to obtain information about the minor and to complete the required courses.

Admission to this program is based on two criteria: a performance audition (vocal or instrumental), and the availability of teaching time in the particular applied studio. The entering performance level must be at least a level three.

Successful completion of the music minor is based on a minimum 2.5 grade point average in the selected music courses, and improvement in the student’s performance skills as assessed by the music faculty in music juries (performance final examinations).

At the time of application for graduation, the student must request certification for the minor. Successful completion of the requirements for a formal minor in music will be recorded on the student’s official transcript by the student’s major degree program.

Division of Theatre and Dance
Joshua Williamson, M.F.A., Chair
Jerry McGonigle, M.F.A., Associate Chair
http://theatre.wvu.edu/

Degrees Offered
Bachelor of Arts Theatre
Bachelor of Fine Arts Theatre
   Emphasis in Acting, Puppetry/Creative Dramatics, Design and Technology

Minors
Theatre
Dance

Accreditation
The Division of Theatre and Dance and its programs in theatre are fully accredited by the National Association of Schools of Theatre (NAST).
Nature of Program
The Division of Theatre and Dance offers an intensive training program for the student who seeks artistic growth and development. The four-year course of study, leading to the bachelor of fine arts (B.F.A.) degree, is designed for students who intend to pursue professional theatre careers, or who may enter other fields where theatre skills are desirable.

The theatre major may choose from among three different areas of emphasis, each of which provides a well-rounded knowledge of the art as well as an opportunity to specialize. The various curricula combine formal classes in theory with practical application and experience in the division’s theatre, studio, and laboratory areas.

A bachelor of arts degree covering a broad aspect of theatre studies is also available.

Theatre Curricula
B.F.A. students may select an area of emphasis in acting, theatre design and technology, or creative dramatics/puppetry. General theatre studies are offered through the bachelor of arts degree.

Mission Statement
We, the faculty and staff, educate students in the diverse traditions and practices of theatre and dance. We challenge each student to engage and confront—vigorously, honestly, and innovatively—the many processes of collaborative theatre and dance. We exemplify to our students the role of creative artists to develop, to explore, and to contribute meaningfully to the world they inhabit.

Performances
The division annually produces five to seven major productions in three major performance spaces, the Gladys G. Davis Theatre, Lyell B. Clay Concert Theatre, and the Vivien Davis Michael Laboratory Theatre, all in the Creative Arts Center. The division also produces in the historic Metropolitation Theatre in downtown Morgantown. These productions provide practical experience for all theatre students and serve the community audience with a balance of classic and contemporary drama and musical theatre.

Young People’s Theatre: Theatre majors, under the direction of a faculty member, operate a complete puppet theatre program. The division’s Puppet Mobile tours the state from September through April. Creative dramatics and children’s theatre courses are also offered.

The division also presents one major dance concert and one studio dance concert each year.

Entrance Requirements
Upon entrance, students must comply with the general regulations of the University concerning degrees, satisfy all entrance and divisional requirements, and complete one of the curricula of the Division of Theatre and Dance with a 2.0 (C) grade point average.

For admission to the junior year of the Division of Theatre and Dance, a student must have established an overall 2.0 (C) grade point average. Transfer students must establish transfer credit from other institutions during the first semester in which they are enrolled in the Division of Theatre and Dance.

Students are responsible for correctly fulfilling all requirements. Each student should review the course requirements both before and after every registration period so that errors or omissions will be detected immediately.

Graduates of the Division of Theatre and Dance are employed in professional theatre, radio, television, and film. Others have chosen careers in fashion design, commercial sales, makeup, lighting design and installation, law, and positions in the public arena. Undergraduates are frequently offered graduate student positions with leading university training programs offering M.F.A. study.

Teacher Certification
Although there is no teacher certification with a specialty in theatre, students planning to teach theatre at the high school level will pursue certification in teacher education, which may include coursework in theatre.
Acting
The first two years of the program are considered probationary. Admission to the junior year (the studio program) is carefully limited to maintain a nucleus of talented actors with balanced skills and abilities. The studio program is structured as a closed program, open only by invitation from the acting faculty, and from which, one may be dismissed. Students not chosen for the studio program are encouraged to transfer to the B.A. program.

Design/Technology
In addition to completing the required coursework, students enrolled in design/ technology emphasis program must participate in a portfolio review at the end of each semester of their sophomore and junior years. First-semester seniors must also complete a portfolio review. Furthermore, additional mid-term assessments may be required at the discretion of the division chair or the director of the design and technology program. Students must successfully complete these assessments to be allowed to continue in the program.

Theatre and Dance Scholarship Resources
Susan Tait Endsley Drama Scholarship
Scholarships for students in theatre
Sam Boyd Jr. Scholarship
Scholarships for students in theatre
Mabel DeVries Tanner Drama Scholarship
Endowment income to be used for drama students enrolled at WVU. First preference will be given to students with financial need from the Morgantown area and secondly to residents of West Virginia.
Charles D. Neel Scholarship
Endowment income to be used for regularly enrolled undergraduate junior or senior students in the bachelor of fine arts program in the Division of Theatre and Dance.
Richard S. Lawrence Memorial Book Scholarship
Income shall be used to provide book scholarships to undergraduate students.
Susan J. Robinson Performing Arts Scholarship
Endowment income to be used for regularly enrolled undergraduate or graduate students majoring in theatre.

Theatre Minor/Dance Minor
The Division of Theatre and Dance offers two separate minor programs.

- **The Theatre Minor** allows students in any undergraduate major who might have an interest in theatre to receive official transcript recognition of their theatre studies at WVU. The theatre minor reflects 19 hours of study in all areas of the theatre including acting, design and technology, creative dramatics, and theatre history and criticism. Courses should be taken as follows in each of three areas: (History and Theory 6 cr.) THET 101 or 112 and THET 361, 362, 363 or 170; (Performance: 3 cr.) THET 102 or 144; (Production: 3–4 cr.) THET 103 & 104 or THET 105 & 106; (Electives: 6 cr.) DANC 102, THET 143, 200, 220, 225, 240, 242, 244, 302, 400, 404, 461, or 462.

- **The Dance Minor** is intended for any WVU undergraduate major who has an interest in the study of basic dance methods. The dance minor requires 19 structured hours of dance studies in all areas of dance performance. Courses include technique classes in modern, jazz, and ballet, and fundamental classes in production, choreography, and dance history. The following courses must be completed for the dance minor: DANC 102, or 121, 142 or 241, 160, 131 or 132, THET 103 or 105 or 220, THET 242 or DANC 293/493 or MUSC 492B or DANC 121, DANC 371 and 362.

A student must declare his or her intention to complete a minor in theatre and/or dance at the College of Creative Arts Records Office or at the Division of Theatre and Dance offices. It is the responsibility of the student to obtain information about the minor and to complete all of the required courses. Minors are welcome to audition for and participate in all division productions.
At the time of application for graduation, the student must indicate that he or she wishes to be certified as a minor. Successful completion of the minor will be submitted to the University Registrar’s Office, by the student’s major degree program, to be recorded on the student’s official transcript.

**Bachelor of Arts Degree Requirements**

Students pursuing the bachelor of arts are those interested in a program that takes them through a more traditional liberal arts degree program. Students are responsible for the same University requirements found in all other degree programs. The B.A. student in theatre is one who chooses not to specialize in any one area of the art form, but prefers instead to pursue as many educational options as possible. Depending upon the student’s individual interests, courses may be selected from areas which could provide a basis for future graduate study and/or careers in directing, stage management, playwriting, puppetry and children’s theatre, acting, or design and technology, etc. Of these courses, 60 percent of the B.A. is in general education outside the discipline of theatre and approximately 40 percent of the program falls within the areas of theatre studies, theatre performance, and theatre electives.

**Bachelor of Fine Arts Degree Requirements**

**Acting Emphasis**

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 112 Orientation to the Theatre</td>
<td>3</td>
</tr>
<tr>
<td>THET 103 Stagecraft</td>
<td>3</td>
</tr>
<tr>
<td>THET 104 Stagecraft Lab</td>
<td>1</td>
</tr>
<tr>
<td>THET 105 Costuming</td>
<td>3</td>
</tr>
<tr>
<td>THET 106 Costuming Lab</td>
<td>1</td>
</tr>
<tr>
<td>THET 221 Theatre Make-up</td>
<td>3</td>
</tr>
<tr>
<td>THET 230 Text Analysis</td>
<td>3</td>
</tr>
<tr>
<td>THET 302 Directing</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

**Theatre History Courses (three from the following):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 170 World Drama, THET 361, 362, 363 Theatre History</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Performance Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANC 102 Introduction to Dance Techniques</td>
<td>2</td>
</tr>
<tr>
<td>THET 143 Freshman Directing Workshop</td>
<td>1</td>
</tr>
<tr>
<td>THET 144, 244, 344, 444 Acting courses</td>
<td>12</td>
</tr>
<tr>
<td>THET 345, 445 Acting Studio courses</td>
<td>6</td>
</tr>
<tr>
<td>THET 240, 340, 341, 440, 441 Voice courses</td>
<td>10</td>
</tr>
<tr>
<td>THET 242, 342, 343, 442, 443 Stage Movement courses</td>
<td>10</td>
</tr>
<tr>
<td>THET 348 (x2) Studio Scene Study 1</td>
<td>2</td>
</tr>
<tr>
<td>THET 447 (x2) Studio Scene Study 2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

**Practicum Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 200 (x2) Sophomore Crew</td>
<td>2</td>
</tr>
<tr>
<td>THET 400 (x3) Theatre Rehearsal/Performance Lab</td>
<td>3</td>
</tr>
<tr>
<td>THET 401 Capstone Experience (or THET 445)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

**Open electives**

**University GEC Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Grand Total**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>38-43</strong></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>129-134</strong></td>
</tr>
</tbody>
</table>

*Actual number of credits will be determined by the number and level of the elected GEC courses.*
## Design Technology Emphasis

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 112 Orientation to the Theatre</td>
<td>3</td>
</tr>
<tr>
<td>THET 302 Directing</td>
<td>3</td>
</tr>
<tr>
<td>THET 327 &amp; 328 Costume History &amp; Decor</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Theatre Studies Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 170 World Drama, THET 361, 362, 363 Theatre History</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**Design/Tech Foundation Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 102 or 144 Acting course</td>
<td>3</td>
</tr>
<tr>
<td>THET 103 Stagecraft</td>
<td>3</td>
</tr>
<tr>
<td>THET 104 Stagecraft Lab</td>
<td>1</td>
</tr>
<tr>
<td>THET 105 Costuming</td>
<td>3</td>
</tr>
<tr>
<td>THET 106 Costuming Lab</td>
<td>1</td>
</tr>
<tr>
<td>THET 113 Stage Management</td>
<td>1</td>
</tr>
<tr>
<td>THET 220 Fundamentals of Lighting</td>
<td>3</td>
</tr>
<tr>
<td>THET 222 Sceneographic Techniques (drafting)</td>
<td>3</td>
</tr>
<tr>
<td>THET 225 &amp; 226 Introduction to Stage Design</td>
<td>6</td>
</tr>
<tr>
<td>THET 329 CAD for the Stage</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27</strong></td>
</tr>
</tbody>
</table>

**Intermediate Technical Courses (Two from the following):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 221 Theatre Make-up</td>
<td>3</td>
</tr>
<tr>
<td>THET 310 Stagecraft 2</td>
<td>3</td>
</tr>
<tr>
<td>THET 330 Rendering</td>
<td>3</td>
</tr>
<tr>
<td>THET 425 Adv Costume Construction</td>
<td>3</td>
</tr>
<tr>
<td>THET 433 Model Building</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

**Advanced Technical Courses (Three from the following):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 321 Stage Properties</td>
<td>3</td>
</tr>
<tr>
<td>THET 423 Costume Crafts</td>
<td>3</td>
</tr>
<tr>
<td>THET 424 Adv. Technical Production</td>
<td>3</td>
</tr>
<tr>
<td>THET 427 Lighting Technology</td>
<td>3</td>
</tr>
<tr>
<td>THET 428 Scene Painting</td>
<td>3</td>
</tr>
<tr>
<td>THET 429 Sound Seminar</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Design Courses (Three from the following):**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 325 Lighting Design</td>
<td>3</td>
</tr>
<tr>
<td>THET 421 Lighting Techniques</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Practicum Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 200 (x2) Sophomore Crew</td>
<td>2</td>
</tr>
<tr>
<td>THET 400 (x3) Theatre Rehearsal/Performance Lab</td>
<td>3</td>
</tr>
<tr>
<td>THET 401 Capstone Experience</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

**Open electives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>9–13</strong></td>
</tr>
</tbody>
</table>

**University GEC Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>38–43</strong></td>
</tr>
</tbody>
</table>

**Grand Total**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>128–137</strong></td>
</tr>
</tbody>
</table>

*Actual number of credits will be determined by the number and level of the elected GEC courses.
## Puppetry/Creative Dramatics Emphasis

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 112 Orientation to the Theatre</td>
<td>3</td>
</tr>
<tr>
<td>THET 302 Directing</td>
<td>3</td>
</tr>
<tr>
<td>THET 404 Playwriting</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

### Theatre History Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 170 World Drama, THET 361, 362, 363 Theatre History</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Design/Technical Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 103 Stagecraft</td>
<td>3</td>
</tr>
<tr>
<td>THET 104 Stagecraft Lab</td>
<td>1</td>
</tr>
<tr>
<td>THET 105 Costuming</td>
<td>3</td>
</tr>
<tr>
<td>THET 106 Costuming Lab</td>
<td>1</td>
</tr>
<tr>
<td>THET 113 Stage Management</td>
<td>1</td>
</tr>
<tr>
<td>THET 220 Fundamentals of Lighting</td>
<td>3</td>
</tr>
<tr>
<td>THET 221 Theatre Make-up</td>
<td>3</td>
</tr>
<tr>
<td>THET 321 Stage Properties</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### Performance Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 144 Fundamentals of Acting</td>
<td>3</td>
</tr>
<tr>
<td>THET 240 Fundamentals of Voice</td>
<td>2</td>
</tr>
<tr>
<td>THET 242 Fundamentals of Movement</td>
<td>2</td>
</tr>
<tr>
<td>THET 403 Advanced Directing</td>
<td>3</td>
</tr>
<tr>
<td>THET 461 Creative Dramatics</td>
<td>3</td>
</tr>
<tr>
<td>THET 462 Puppetry for Educators</td>
<td>3</td>
</tr>
<tr>
<td>THET 463 Children’s Theatre</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

### Non-Theatre Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC 182 Music in Elem. Schools</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 414 Promot Creatv Exp</td>
<td>3</td>
</tr>
<tr>
<td>ART 103 Materials &amp; Procedures</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

### Practicum Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 200 (x2) Sophomore Crew</td>
<td>2</td>
</tr>
<tr>
<td>THET 400 (x3) Theatre Rehearsal/Performance Lab</td>
<td>3</td>
</tr>
<tr>
<td>THET 401 Capstone Experience</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

### Open electives

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>9–16</strong>*</td>
</tr>
</tbody>
</table>

### University GEC Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>38–43</strong>*</td>
</tr>
</tbody>
</table>

### Grand Total

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>128–131</strong>*</td>
</tr>
</tbody>
</table>

## Bachelor of Arts Degree Requirements

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 112 Orientation to the Theatre</td>
<td>3</td>
</tr>
<tr>
<td>THET 113 Stage Management</td>
<td>1</td>
</tr>
<tr>
<td>THET 230 Text Analysis</td>
<td>3</td>
</tr>
<tr>
<td>THET 302 Directing</td>
<td>3</td>
</tr>
<tr>
<td>THET 401 Capstone Experience</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

### Theatre History Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 170 World Drama, THET 361, 362, 363 Theatre History</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Production Courses (One from the following):

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>THET 103 &amp; 104 Stagecraft &amp; Stagecraft Lab or</td>
<td>4</td>
</tr>
<tr>
<td>THET 105 &amp; 106 Costuming &amp; Costuming Lab</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>
**Performance Courses:**
- DANC 102 Introduction to Dance Techniques .......................................................... 2
- THET 144 Fundamentals of Acting ............................................................................. 3
- THET 461 or 462 Creative Dramatics or Puppetry ..................................................... 3
**Total**.......................................................................................................................... 8

**Practicum Courses (Four credits from the following):**
- THET 200 Sophomore Crew (may be repeated up to two credits) ......................... 1
- THET 400 Theatre Reh/Perf. Lab (may be repeated up to two credits) ................. 1
- THET 213 Stage Management Practicum.................................................................. 2
**Total**.......................................................................................................................... 4

Theatre electives (THET).................................................................................................. 19-21*
**Total**.......................................................................................................................... 19–21*

Non-THET (Theatre) electives......................................................................................... 18
**Total**............................................................................................................................ 18

Foreign Language courses............................................................................................. 12
**Total**................................................................................................................................ 12

University GEC Requirements...................................................................................... 38–43*
**Total**................................................................................................................................ 38–43*

Grand Total....................................................................................................................... 128–133*

*A actual number of credits will be determined by the number and level of the elected GEC courses.

**Multidisciplinary Studies Bachelor of Arts Degree**

The College of Creative Arts multidisciplinary studies (MDS) degree program is comprised of at least two minors from the College of Creative Arts and one minor another related discipline. Students also have the option of selecting three minors from the College of Creative Arts. Because the MDS program allows for an Individualized curriculum and a focused path to graduation, students can pursue their own Individual educational interests while still graduating in a timely fashion.

For example, a student might choose minors in arts administration, music, and advertising with the goal of pursuing a career in the music and recording industry. Depending upon the individual’s interests and needs, a broad number of minors can be combined to create a customized course of study that still allows the student to earn a degree from the College of Creative Arts.

The College of Creative Arts multidisciplinary studies (B.A.) degree program includes the following requirements:

**Curriculum**
- Completion of the University’s General Education Curriculum
- Completion of English 101 and 102, or 103
- Completion of a writing (W) course in addition to English 101 and 102, or 103
- Completion of a mathematics course in addition to any additional math requirements of the selected minors
- Completion of three minors (two of which must be from the College of Creative Arts) in which none of the courses has been used to satisfy General Education Curriculum requirements
- A grade point average of 2.0 in all minor coursework
- A grade of C or better in all minor coursework
- Completion of at least 60 credit hours of 200-level or above coursework. Of the 60 hours, 30 must be 300–400 level coursework
- Completion of a 492 capstone course in one of the college’s three divisions
- Achievement of a cumulative grade point average of at least 2.0

**Admission Requirements for College of Creative Arts Minors**
- Admission to the music minor program is based on a successful audition.
- There are no special admission requirements for the minors in art history, arts administration, dance, theatre, or visual arts.
Degrees Offered

Bachelor of Science in Aerospace Engineering
Bachelor of Science in Chemical Engineering
Bachelor of Science in Civil Engineering
Bachelor of Science in Computer Engineering
Bachelor of Science in Computer Science
Bachelor of Science in Electrical Engineering
Bachelor of Science in Biometric Systems
Bachelor of Science in Industrial Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Mining Engineering
Bachelor of Science in Petroleum and Natural Gas Engineering

Dual Degrees Offered

Aerospace Engineering and Mechanical Engineering
Biometrics Systems and Computer Engineering
Biometrics Systems and Electrical Engineering
Civil Engineering and Mining Engineering
Computer Engineering and Electrical Engineering
Computer Engineering and Computer Science
Mining Engineering and Geology

Nature of Program

The College of Engineering and Mineral Resources (CEMR) undergraduate degree programs are administered through seven academic departments: Chemical engineering; civil and environmental engineering; computer science and electrical engineering; industrial and management systems engineering; mechanical and aerospace engineering; mining engineering; and petroleum and natural gas engineering. All undergraduate programs are recognized by industry as providing excellent preparation for the engineering profession. They are planned to give students a balanced background in the basic sciences, engineering sciences, engineering analysis, the humanities, and the social sciences. In addition, each curriculum features creative programs in engineering synthesis and design. This blend of science and practice gives students the tools to solve today’s problems and the background to develop the expertise needed for their future success in the profession. Our graduates enjoy a multitude of career opportunities in our nation’s most vital industries.

The college is committed to providing high-quality programs of engineering science education for all undergraduate students so that graduates of the college will:

- Be proficient in their chosen field;
- Develop and maintain professional ethics and understand the comprehensive impact of engineering solutions on a diverse and global society;
- Continue in their education on a life-long basis through both formal study and self-directed inquiry.

The faculty uses modern teaching techniques including programmed material, guest lectures by visiting authorities, team projects, and in-house industrial assignments to provide a breadth of training experiences. Teaching laboratories are equipped with modern instruments, machines, and tools to improve and enrich the student’s understanding of engineering principles and problems. Numerous computer laboratories and facilities are available for classroom work.
College programs are geared to provide graduates with a sound background upon which to enter the industrial workforce or to pursue graduate study in engineering, medicine, law, or business. A number of industries in West Virginia and the region provide meaningful and financially rewarding summer employment for students. These training opportunities often lead to professional positions upon graduation.

**Accreditation**

The Accreditation Board for Engineering and Technology (ABET) is recognized by the U.S. Department of Education and the Council on Postsecondary Accreditation (COPA) as the sole agency responsible for accreditation of educational programs leading to degrees in engineering and computer science. ABET accomplishes its accreditation mission through its commissions, the Engineering Accreditation Commission (EAC) and the Computing Accreditation Commission (CAC). ABET, through its commission, establishes criteria and standards for accreditation of engineering and computer science programs at colleges and universities. All baccalaureate engineering programs in the College of Engineering and Mineral Resources as well as its baccalaureate computer science program, are accredited by ABET.

**Admission Requirements**

The College of Engineering and Mineral Resources will admit freshmen students to study under one of three distinct programs: Engineering; general engineering; or pre-computer science. Admission is based on a combination of high school grade point average (un-weighted 4.0 scale) and standardized ACT/SAT test scores. The objective of having two engineering programs is to be able to provide a freshman curriculum suitably tailored to the level of academic preparation of the student. This maximizes the chance to complete a successful freshman experience. Each program provides students the coursework necessary to meet coursework requirements to move into their intended major.

Students interested in pursuing a degree in biometrics systems should apply to the engineering or general engineering program as appropriate for your high school GPA and ACT or SAT test scores.

The following table summarizes the admission requirements for each program.

<table>
<thead>
<tr>
<th>Program</th>
<th>Residents</th>
<th>High School GPA</th>
<th>ACT Composite</th>
<th>ACT Math</th>
<th>SAT Math</th>
<th>SAT Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>West Virginia</td>
<td>3.0</td>
<td>24</td>
<td>27</td>
<td>620</td>
<td>1110</td>
</tr>
<tr>
<td></td>
<td>Out-of-State</td>
<td>3.0</td>
<td>24</td>
<td>27</td>
<td>620</td>
<td>1110</td>
</tr>
<tr>
<td>General Engineering</td>
<td>West Virginia</td>
<td>2.5</td>
<td>22</td>
<td>23</td>
<td>540</td>
<td>1030</td>
</tr>
<tr>
<td></td>
<td>Out-of-State</td>
<td>2.5</td>
<td>22</td>
<td>23</td>
<td>540</td>
<td>1030</td>
</tr>
<tr>
<td>Pre-Computer Science</td>
<td>West Virginia</td>
<td>3.0</td>
<td>24</td>
<td>27</td>
<td>620</td>
<td>1110</td>
</tr>
<tr>
<td></td>
<td>Out-of-State</td>
<td>3.0</td>
<td>24</td>
<td>27</td>
<td>620</td>
<td>1110</td>
</tr>
<tr>
<td>Pre-Engineering</td>
<td>West Virginia</td>
<td>2.0</td>
<td>19</td>
<td></td>
<td></td>
<td>910</td>
</tr>
<tr>
<td></td>
<td>Out-of-State</td>
<td>2.25</td>
<td>21</td>
<td></td>
<td></td>
<td>990</td>
</tr>
</tbody>
</table>

In addition, students must have the following high school credits:

- Four units of English (including grammar, composition, and literature);
- Three units of social studies (including U.S. history);
- Three units of college preparatory mathematics (algebra I and II and geometry);
- Three units of laboratory sciences (including physics, chemistry, biology, or other laboratory courses);
- Two units of the same foreign language;
- One unit of fine arts;

These requirements are in addition to the GPA and test score criteria needed to review the applications, as noted above.
First-Year Engineering Program Curriculum

The engineering program curriculum is designed for students who have similar math and science backgrounds so they can effectively work in teams, solve problems, and undertake challenging projects in the Freshman Engineering Design course (ENGR 101).

**First Year**

<table>
<thead>
<tr>
<th></th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 155 Calculus I</td>
<td>4</td>
<td></td>
<td>MATH 156 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 115 Fundamtl of Chem.***</td>
<td>4</td>
<td></td>
<td>CHEM 116 Fundamtl of Chem.**</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 101 Engr. Prob. Solving I</td>
<td>2</td>
<td></td>
<td>or GEC Elective</td>
<td>3–4</td>
</tr>
<tr>
<td>ENGR 199 Orientation to Engr.</td>
<td>1</td>
<td></td>
<td>GEC Elective*</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101 Comp. and Rhetoric</td>
<td>3</td>
<td></td>
<td>ENGR 102 Engr. Prob. Solving II</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective*</td>
<td>3</td>
<td></td>
<td>PHYS 111 General Physics</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td></td>
<td><strong>Total</strong></td>
<td>17–18</td>
</tr>
</tbody>
</table>

* Students intending to pursue a mining engineering degree or dual civil and mining engineering degrees should take GEOL 101 and 102 in place of one GEC elective. Students pursuing dual mining engineering and geology degrees need to take GEOL 101, 102, 103 and 104 in place of both GEC electives. Students intending to pursue a petroleum and natural gas engineering degree should take GEOL 101 in place of one GEC elective.

**General Engineering Curriculum**

The general engineering program curriculum is tailored for those students who are not ready to take the Calculus (MATH 155) course and the Fundamentals of Chemistry course (CHEM 115). Based on standardized test scores or the University’s Math Placement Exam scores, students will be placed in algebra and trigonometry courses, or a pre-calculus course and are advised to achieve a grade of C or better in each class to move into Calculus (Math 155).

**First Year**

<table>
<thead>
<tr>
<th></th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 126 and MATH 128</td>
<td>6</td>
<td></td>
<td>MATH 155 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 100 Intro. to Engr. Apps</td>
<td>3</td>
<td></td>
<td>CHEM 115 Fundamtl of Chem.***</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 199 Orientation to Engr.</td>
<td>1</td>
<td></td>
<td>ENGR 101 Engr. Prob. Solving I</td>
<td>2</td>
</tr>
<tr>
<td>ENGL 101 Comp. and Rhetoric</td>
<td>3</td>
<td></td>
<td>GEC Elective*</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective*</td>
<td>3</td>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th></th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 156 Calculus II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CHEM 116 Fundamtl of Chem.**</td>
<td>3–4</td>
<td></td>
</tr>
<tr>
<td>or GEC elective*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEC Elective*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGR 102 Engr. Problem Solving II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PHYS 111 General Physics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17–18</td>
<td></td>
</tr>
</tbody>
</table>

* Students intending to pursue a mining engineering degree or dual civil and mining engineering degrees should take GEOL 101 and 102 in place of one GEC elective. Students pursuing dual mining engineering and geology degrees need to take GEOL 101, 102, 103 and 104 in place of both GEC electives. Students intending to pursue a petroleum and natural gas engineering degree should take GEOL 101 in place of one GEC elective.
** Students intending to pursue a chemical engineering degree or petroleum and natural gas engineering degree must take CHEM 116. Students intending to pursue a civil engineering or industrial engineering degree can take either PHYS 112 (taken in sophomore year) or CHEM 116, but do not need both. Students wishing to pursue an aerospace, biometric systems, computer, electrical, mechanical, dual aerospace and mechanical, or dual electrical and computer degrees do not need CHEM 116.

*** Students intending to pursue a biometric systems degree should take BIOL115 in place of CHEM 115 and CS 110 in place of a first semester second year GEC elective.

Admission to a Discipline Major

To be admitted into an engineering major, a student must have successfully completed MATH 155, with a grade of C or better, CHEM 115, ENGR 101, ENGR 199, ENGR 102, ENGL 101, and have a cumulative GPA of at least 2.0.

All engineering, general engineering, and pre-engineering students need to make adequate academic progress. Students not making adequate academic progress defined by the following situations will be transferred out of CEMR to general studies:

- The second time a student earns a D/F/W in ANY math class (up to and including MATH 155), or
- The student’s GPA is less than 2.0 for a second semester in a row; i.e. after one semester of probation, the student has not improved to be in good academic standing, or
- The student has not completed the freshman engineering requirements within four semesters or five semesters for those students who take Math Workshop in their first semester.

Students will not be permitted to enroll in upper-division engineering courses until they have been accepted into a major.

Early Advancement to Discipline Major

Freshman students having outstanding academic performance during their first semester may elect to move into their selected major at the end of the first semester and substitute a departmentally approved course for ENGR 102. Advancement can be based on the following prior credit and academic performance:

- Have seven credit hours or more of AP or prior college credit including at least four credits of MATH 155, CHEM 115–116, PHYS 111, or PHYS 112; and
- Pass all first semester MATH (155) and science courses (CHEM 115 or 116; PHYS 111 or 112; or GEOL 101, 102) plus ENGR 199 and ENGR 101 with a C or better, and
- Achieve an overall GPA ≥ 3.0.
- Or advancement can be based on the following exceptional performance:
  - Pass all first semester MATH (155) and science courses (CHEM 115 or 116; PHYS 111 or 112; or GEOL 101, 102) plus ENGR 199 and ENGR 101 with a C or better; and
  - Achieve an overall GPA ≥ 3.5.

Transfer Students

Students wishing to transfer into the engineering or pre-computer science program from other programs must have a GPA of at least 2.0 in all college work attempted. Students who meet the freshman admission requirements to the engineering program (shown in the table) are eligible to transfer into the college at any time. Others must have completed at least one semester of college work and present evidence that they are eligible to enroll in MATH 155 Calculus. Students wishing to transfer into a major must have a GPA of at least 2.0 and have completed ENGR 101, ENGR 199, ENGR 102, MATH 155, with a grade of C or better, CHEM 115, and ENGL 101.

If transfer students are sophomore level or above, have credit for completing CHEM 115, and have earned a C or better in MATH 155, MATH 156, and PHYS 111, and have completed at least three credits in a discipline major course, then they may take a major elective as a substitute for ENGR 101 and 102. If the combination of multiple engineering courses transferred to WVU matches the content of ENGR 101 or ENGR 102, those courses may be approved as a course substitution for ENGR 101 or ENGR 102. Other
transferred courses that are not an exact match may be approved as technical electives to substitute for ENGR 101 or ENGR 102 at the discretion of the freshman engineering coordinator.

Admission Petitions
Students not meeting the minimum admission and transfer requirements as described above may request to be admitted to the college by written petition to the dean.

Scholarships
The College of Engineering and Mineral Resources and its constituent departments offer numerous competitive scholarships to undergraduate students. Typically scholarships are based on both academic performance and on financial need and are awarded on a one-year basis unless the scholarship award specifies otherwise. Scholarship awards are typically made in June for the upcoming academic year. Certain scholarships for freshman require the recipient to be pursuing a specific major. In these cases, the student must be taking freshman courses consistent with those required for entry into that specific major.

Curricula
During the first two years, students acquire fundamental knowledge in mathematics, basic sciences, and introductory engineering topics. Engineering design, computer-based experience, and communication skills are integrated throughout the curriculum. In the third and fourth years, the curriculum builds upon the fundamental engineering concepts toward an integrated educational experience, preparing students to pursue a successful professional career and life-long learning. Study in humanities and social sciences are also an integral part of the engineering education, enabling students to understand and appreciate the technological, social, and cultural changes that challenge the world.

Cooperative (Co-op) Education and Internship Programs
The co-op program is available to any student attending a college or university in West Virginia. The co-op opportunity is available to any qualified student interested in pursuing a degree in any of nine engineering majors or computer science. The five-year professional development experience combines practical on-the-job experience with the classroom education of a four-year engineering curriculum. Internships are arranged with an employer for various work periods and may involve an academic semester or summer term.

Dual Degree Majors
The college has formal programs for students wishing to receive two undergraduate degrees simultaneously. Currently those programs are in:
- Aerospace and Mechanical Engineering;
- Biometrics and Computer Engineering;
- Biometrics and Electrical Engineering;
- Civil and Mining Engineering;
- Computer Engineering and Computer Science;
- Computer Engineering and Electrical Engineering; and
- Mining Engineering and Geology.
Each dual-degree program requires at least one semester of additional work over and above that required for a single degree. Please refer to the actual curriculum of each dual program to determine the additional time requirement.

Academic Minor
The College of Engineering and Mineral Resources offers a minor in computer science to all undergraduate students. A student must consult with his or her major advisor to develop a scheduling plan for courses that satisfy the requirements for the computer science minor. The requirements for the minor in computer science can be found under the computer science program description. The completed minor will be recorded on the student's permanent transcript.
International Exchange Programs
The college participates in two international exchange programs for undergraduates as well as the International Student Exchange Program (ISEP). These exchanges are with the University of Hertfordshire in England and the University of Aalborg in Denmark. Both of these universities have international reputations for the strength of their instruction in the area of engineering design. Program details vary, but WVU engineering students can obtain full credit for their junior year while studying abroad. Students pay normal WVU tuition, but housing costs to their host institution are not included. At present, the college has organized exchanges for students in civil, computer, electrical, industrial, mechanical engineering, and computer science.

Undergraduate General Education Curriculum
All engineering undergraduate students must satisfy the University General Education Curriculum (GEC) requirements. Students and advisors should consult the latest Schedule of Courses for the most current list of courses included in the General Education Curriculum Program. The most recent list of approved courses in the GEC Program can be found at the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

Time to Completion of Degree
All undergraduate, single degree programs in the college are structured so that they can be completed in eight semesters of full-time study. However, students who are not prepared to enter MATH 155 Calculus 1 or CHEM 115 Fundamentals of Chemistry in their first semester may not be able to complete an engineering degree within eight semesters. Applicants to the college are strongly urged to take the required prerequisites to calculus and chemistry in the summer before entering WVU or plan on attending summer school after their freshman year in order to avoid delays in their graduation.

Degree Requirements
To be eligible to receive a bachelor's degree, a student is required to complete satisfactorily the number of semester hours of work as specified in the curriculum of the program leading to the degree for which the student is a candidate. Students must achieve an overall 2.0 grade point average and a 2.0 grade point average (2.25 in mining engineering, and petroleum and natural gas engineering) in all courses completed within the student’s major department.

Application for Graduation and Diploma
All candidates for degrees in the College of Engineering and Mineral Resources must complete a Graduation Eligibility Worksheet in the semester prior to the semester in which they plan to graduate. Candidates should complete this form in consultation with their academic advisor during the advising appointment. Candidates must complete an Application for Graduation and Diploma within the first six weeks of the semester in which the candidate will complete all requirements for the degree. No candidate can graduate without application.

Probation, Suspension, Readmission, and Expulsion Policy
Uniform Probation
Students with a cumulative grade point average below 2.0 in all University coursework or in their major coursework will be subject to probation by the College of Engineering and Mineral Resources. Students have the right to have the sanction of academic probation reviewed and explained by the academic official who imposed the sanction. Academic probation is not recorded on a student’s permanent record and essentially constitutes a warning to the student of standards that must be met.
Uniform Academic Suspension Regulations

The student on probation whose cumulative GPA continues below 2.0 in all University coursework or in their major coursework is subject to suspension from their academic program by the College of Engineering and Mineral Resources. Normally, students are suspended at the end of a semester or summer school session. The college can waive suspension in favor of probation if in its judgment the circumstances of individual cases so warrant. The suspension rule will be set aside only under extraordinary conditions.

Academic suspension identifies the status of a student who has failed to meet the University and College of Engineering and Mineral Resources minimum standards and who has been notified formally by the College of academic suspension. Suspension from the University or college means that a student will not be permitted to register for any classes, including those in summer sessions, offered by the University for academic credit until the student has been officially reinstated. The normal period of suspension is a minimum of one academic semester but will not exceed one calendar year from the date of a student’s first suspension. A student who has been suspended for academic deficiencies and who takes courses at other institutions during the period of suspension cannot automatically transfer such credit toward a degree at WVU upon readmission to the University. Students are not eligible for readmission if they earn less than a 2.0 at other institutions while on suspension from WVU. After one semester of satisfactory performance (C average or better on a minimum of 12 credit hours earned during a regular semester or during the summer sessions) the appropriate transfer credit will be entered into the student’s record upon certification by the advisor and dean that the above conditions have been met. A student who has preregistered and is subsequently suspended shall have his or her registration automatically cancelled.

Reinstatement after Suspension

During the semester immediately following the effective date of suspension, suspended students may petition the college in writing for early reinstatement. Details for petitioning the college for early reinstatement will be provided in the student’s letter of suspension. After one calendar year from the effective date of suspension, any student who has been suspended one time shall, upon written application, be reinstated to the University and to the College of Engineering and Mineral Resources unless the student petitions for admission to another college or school.

A suspended student who is reinstated under the provisions above will be placed on academic probation unless the terms of probation agreed to by the student and that college stipulate otherwise. After the second or any subsequent suspension, a student will be permanently suspended from the College of Engineering and Mineral Resources.

Department of Chemical Engineering
Rakesh Gupta, Ph.D., Chair
403 Engineering Sciences Building
e-mail: rakesh.gupta@mail.wvu.edu
http://www.che.cemr.wvu.edu

Degree Offered
Bachelor of Science in Chemical Engineering

Curriculum in Chemical Engineering

The chemical engineering curriculum is designed to give graduates a broad background in chemical engineering processes and to prepare them to become practicing engineers. Graduates are prepared for positions in operation, development, design, construction, and management of chemical, environmental, life science, materials, and other industrial plants. These industries subject raw materials, such as ethylene, to chemical and physical changes to produce economically desirable products such as plastics, detergents, paints, and adhesives. Students with this background are also prepared for graduate school in engineering and science as well as for any professional school.
The program objectives of the chemical engineering curriculum are:

• Graduates will be successful in their professional careers, and/or post graduate training as demonstrated by their abilities to solve important chemical engineering problems, to solve problems in extended applications of chemical engineering (especially biological, as well as non-related fields), and to develop new and valuable ideas.

• Graduates will be able to work competitively in diverse professional environments, as demonstrated by their abilities to work on teams, to work independently, to provide leadership, to mentor junior co-workers, and to communicate effectively.

• Graduates will possess professional character exhibited by their ethical behavior, their pursuit of professional registration, their pursuit of life-long learning opportunities, their commitment to responsible safety practices, and their ability to articulate the environmental impact of their work.

The program outcomes of the chemical engineering curriculum are as follows:

• Graduates will understand and be able to analyze entire chemical processes, including those with life science applications.

• Graduates will be proficient in the oral and written communication of their work and ideas.

• Graduates will be proficient in the use of computers, computer software, and computer-based information systems.

• Graduates will have the ability to learn independently but will also be able to participate effectively in groups.

• Graduates will be able to design effective laboratory experiments, to perform laboratory experiments, to gather data, to analyze data, and test theories.

• Graduates will be prepared for a lifetime of continuing education.

• Graduates will understand the safety and environmental consequences of their work as chemical engineers and will be able to design safe processes.

• Graduates will understand their professional and ethical responsibilities.

• Graduates will have the broad education necessary to understand the impact of engineering solutions in a global and societal context.

These outcomes are achieved via rigorous individual courses in all basic areas of chemical engineering, the natural and life sciences, mathematics, humanities, and social sciences. A flexible electives program allows specialization in areas such as environment and safety, polymers and materials, biological applications, and coal processes.

Practical work on process and product design and synthesis is incorporated into all chemical engineering classes. One element is the series of group design projects that require sophomores and juniors to use their knowledge as it is gained. Another element is the series of individual design projects that require seniors to synthesize their knowledge of chemical engineering and to correct any deficiencies in their knowledge of chemical engineering, and which provide faculty a method of assessing the success of the sophomore and junior years. The third element is a group project in which seniors work under the direction of a student chief engineer on a year-long comprehensive design. In conjunction with these projects, there are required written and oral presentations and required computer applications integrated throughout the curriculum. Completion of these projects also trains students to work in groups of all sizes and gives them experience in self-directed learning. Additionally, in the senior year, elements of professional practice, ethics, and safety are introduced in the classroom.

The chemical engineering curriculum also contains a significant laboratory component aimed at reinforcing the knowledge gained in the classroom. In addition to basic chemistry and physics laboratories, the chemical engineering laboratories involve simple laboratory experiments or demonstrations in the junior year followed by a two-semester laboratory sequence in the senior year in which the principles of experimental design, laboratory and safety procedures, data analysis, and report writing are stressed.

The chemical engineering department uses an outcomes-assessment plan for continuous program improvement. The design projects, in conjunction with yearly interviews and questionnaires plus follow-up questionnaires after graduation to alumni and employers, provide the measures of learning outcomes. These outcomes-assessment results provide feedback to the faculty to improve teaching and learning processes.
To receive a degree of bachelor of science in chemical engineering, a student must take all of the courses indicated below and must obtain a grade point average of 2.0 or better for all required chemical engineering courses. (If a course is repeated, only the most recent grade received is considered in computing this grade point average. Chemical engineering courses used to satisfy technical or engineering electives are not considered in this grade point average.) This requirement helps assure that the student has demonstrated overall competence in the chosen major.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.Ch.E degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

### First year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 201 Matrl. &amp; Energy Bal.</td>
<td>1 ........ 3</td>
<td>CHE 202 Matrl. &amp; Energy Bal.</td>
<td>2 ........ 3</td>
<td></td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>.......... 4</td>
<td>GEC Electives</td>
<td>.......... 6</td>
<td></td>
</tr>
<tr>
<td>PHYS 112 General Physics</td>
<td>.......... 4</td>
<td>Total</td>
<td>........................... 16</td>
<td></td>
</tr>
<tr>
<td>ENGL 102 Comp. &amp; Rhetoric</td>
<td>.......... 3</td>
<td>Total</td>
<td>........................... 18</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 320 ChE Thermodynamics</td>
<td>.......... 3</td>
<td>CHE 325 Chem. Reaction Eng.</td>
<td>.......... 3</td>
<td></td>
</tr>
<tr>
<td>GEC Elective</td>
<td>.......... 3</td>
<td>Engineering Science Elective</td>
<td>.......... 3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>........................... 16</td>
<td>Total</td>
<td>........................... 16</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 435 Chem. Process Control</td>
<td>........ 3</td>
<td>CHE 451 Unit Operations Lab.</td>
<td>2 ........ 2</td>
<td></td>
</tr>
<tr>
<td>CHE 450 Unit Operations Lab. 1</td>
<td>.......... 2</td>
<td>CHE 456 Chem. Process Design 2</td>
<td>.......... 3</td>
<td></td>
</tr>
<tr>
<td>CHE 455 Chem. Process Design 1</td>
<td>........ 4</td>
<td>GEC Elective</td>
<td>.......... 3</td>
<td></td>
</tr>
<tr>
<td>GEC Elective</td>
<td>.......... 3</td>
<td>Technical Elective</td>
<td>.......... 3</td>
<td></td>
</tr>
<tr>
<td>Advanced Science Elective</td>
<td>.......... 3</td>
<td>Advanced Science Elective</td>
<td>.......... 3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>........................... 15</td>
<td>Total</td>
<td>........................... 17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grand Total</td>
<td>........................... 133</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Electives in junior and senior years must be selected to complete requirements of non-technical electives (21 hrs.), technical electives (seven hrs.), engineering science electives (six hrs.), and advanced science electives (six hrs.). All electives must be selected from a list approved by the Department of Chemical Engineering. A 2.0 grade-point average in required chemical engineering courses is necessary before a student can register for CHE 310, 311, 320, 435, 450, or 455.
Biomedical Engineering Certificate offered in Chemical Engineering

The Department of Chemical Engineering administers a certificate program in biomedical engineering that is open to all students with appropriate prerequisites, which are: basic biology (BIOL 115), mathematics through MATH 261 (differential equations), CHEM 115 and CHEM 116 and a working knowledge of organic chemistry, specifically the naming conventions for, and knowledge of charge distribution in, organic molecules. Currently, the certificate program consists of six required courses listed below. As other courses are added in the biomedical engineering area, more choices of elective courses will be made available.

Core Courses (must take all four)
- BIOL 235 Human Physiology. 3 hrs.
- BIOL 236 Human Phys: Quantitative Laboratory. 1 hr. Lab.
- ChE 381 Introduction to Biomedical Engineering. 3 hrs.
- ChE 382 Biomaterials. 3 hrs.

Elective Courses (pick any 2)
- ChE 481 Applied Bio-Molecular Modeling. 3 hrs.
- ChE 482 Intro. to Tissue Engineering. 3 hrs.

For chemical engineering undergraduates, the certificate program can be completed with the addition of one additional credit hour (134 hours total). Students wishing to attend medical school will have to take CHEM 234/236 (four hours) for a total of 138 credit hours.

Department of Civil and Environmental Engineering
Radhey Sharma, Ph.D., Chair
625 Engineering Sciences Building
e-mail: ceeinfo@mail.wvu.edu
http://www.cee.cemr.wvu.edu/

Degree Offered
Bachelor of Science in Civil Engineering

Curriculum in Civil Engineering

Civil engineering historically encompassed all engineering endeavors not associated with military activities. Because of its origin and history, civil engineering still embraces a wide variety of technological areas. These include environmental engineering, hydro-technical engineering, geotechnical engineering, transportation engineering, and structural engineering.

Civil engineers work with problems that directly impact the health and economic vitality of people and communities. These problems include waste disposal, environmental pollution, transportation systems analysis and design, water resource development, and the design, construction, and rehabilitation of constructed facilities such as dams, bridges, buildings, and highways. Thus, the challenges and opportunities for a civil engineer lie in combining technical competence with a human concern for the applications of technology. To help students to understand their role in the community, to be effective in working with design teams involving other engineers and other professionals, and to be effective in written and spoken communications, the curriculum attempts to give a meaningful educational experience in the humanities, social studies, English, and economics.

The goal of the undergraduate curriculum in civil and environmental engineering is to prepare graduate civil engineers to meet the present and the future infrastructure and environmental needs of society. This requires an education based on scientific and engineering fundamentals as well as one that incorporates experience in engineering design using modern technology. Because the systems they design impact the public directly, civil engineers must be aware of the social and environmental consequences of their designs. Graduates must be prepared to work and communicate with other professionals in a variety of associations and organizations. Ethics and life-long learning are essential
components in the education of civil engineers. During the course of study, civil engineering students are given a solid grounding in mathematics, physics, and chemistry. Added to this is extensive development of the fundamentals of materials science, environmental, soils, hydro-technical, structural, and transportation systems engineering. This broad base of knowledge is provided to insure that civil engineers are educated in all branches of the profession and to permit continuous learning throughout a professional lifetime. Throughout the program, each student works with an academic advisor in the selection of electives. Specialization in one or more of the branches of civil engineering is possible by selection of a sequence of technical electives during the junior and senior years.

**Program Objectives of the Civil Engineering Curriculum**
- Have a strong understanding of basic engineering principles. This includes the ability to apply in practice the fundamentals of mathematics, computing, basic science, engineering science, and economics.
- Have a strong understanding of the fundamental principles, scope, and techniques of the major areas of civil engineering.
- Have an understanding of the relationship of the civil engineering profession to society, industry, government, and the environment.
- Have a strong commitment to professionalism and ethics.
- Have the ability to be competitive in the civil engineering profession, to achieve professional registration, and to engage in life-long learning.
- Have the ability to work productively in teams, developing solutions to engineering problems, employing creative thinking, analysis, design, and evaluation.
- Have the ability to communicate at a professional level using oral and written prose and engineering graphics.

**Program Outcomes of the Civil Engineering Curriculum**
- Graduates will have an ability to apply knowledge of mathematics, science, and engineering.
- Graduates will be able to design and conduct experiments, as well as to analyze and interpret data.
- Graduates will be able to design civil engineering projects or components of projects to meet desired needs.
- Graduates will have an ability to function on teams involving multiple civil engineering specialties.
- Graduates will have an ability to identify, formulate, and solve civil engineering problems.
- Graduates will have an understanding of professional and ethical responsibility.
- Graduates will have an ability to communicate effectively in oral, written, and electronic formats.
- Graduates will have an ability to understand the impact of engineering solutions in global and societal context.
- Graduates will have recognition of the need for, and ability to, engage in life-long learning.
- Graduates will have knowledge of contemporary issues.
- Graduates will have an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.

**Undergraduate Student Minimum Performance Policy**
All civil and environmental engineering students matriculating at WVU, including transfer students and second-degree students, must complete each tracking course with a grade of C or better, with the exception that one D among them is permitted. Tracking courses are identified as: Math 155, 156, 251, and 261; Chemistry 115; Physics 111; and MAE 241, 242, and 243. Any tracking course transferred from outside of WVU must be a C or better.
All tracking courses must be completed collectively before taking any 300-level or higher civil engineering course. However, as an exception to the collective prerequisite requirement, environmental engineering (CE 347) and transportation engineering (CE 332) may be taken before completing all tracking courses.

Second-degree students may petition for a waiver to the collective prerequisite requirement for 300-level or higher civil engineering courses, but must meet individual course prerequisites. The petition must include a plan for completing the tracking courses and be approved by the student's academic advisor and the department chairman. When a course is repeated, the last grade earned in that course will be used for determining compliance with this minimum performance policy.

To be eligible for graduation in civil engineering, a student must attain a grade point average of 2.0 or better for all civil engineering courses attempted, except for those courses in which a grade of W was received. If a course is repeated, only the last grade received is counted in computing the grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the chosen major.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.C.E. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

First Year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year
<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 241 Statics</td>
<td>3</td>
<td>MAE 243 Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Calculus</td>
<td>4</td>
<td>MAE 242 Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>CE 210 CAD</td>
<td>2</td>
<td>GEC Elective*</td>
<td>3</td>
</tr>
<tr>
<td>CE 201 Introduction to CE</td>
<td>1</td>
<td>MATH 261 Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
<td>CE Core Class CE 332 or CE 347</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 112/CHEM 116/BIOL 115</td>
<td>4</td>
<td>Total</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Third Year
<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 321 Fluid Mechanics</td>
<td>3</td>
<td>CE Core Class**</td>
<td>4</td>
</tr>
<tr>
<td>CE Core Class**</td>
<td>4</td>
<td>CE Core Class**</td>
<td>4</td>
</tr>
<tr>
<td>STAT 215 Statistics</td>
<td>3</td>
<td>CE 301 Eng. Professional Dev</td>
<td>1</td>
</tr>
<tr>
<td>ECON 201 Prin. of Microeconomics</td>
<td>3</td>
<td>GEC Elective*</td>
<td>3</td>
</tr>
<tr>
<td>IENG 377 Eng. Economics</td>
<td>3</td>
<td>CE Design Elective^</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td><strong>16</strong></td>
<td>ENGL 305 Sci. and Tech. Writing</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fourth Year
<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Design Elective^</td>
<td>3</td>
<td>CE Open Elective^^</td>
<td>3</td>
</tr>
<tr>
<td>CE Open Elective^^</td>
<td>3</td>
<td>CE 479 Integrated Design</td>
<td>3</td>
</tr>
<tr>
<td>CE Open Elective^^</td>
<td>3</td>
<td>GEC Elective*</td>
<td>3</td>
</tr>
<tr>
<td>ENGR/MATH/Science Elective</td>
<td>3</td>
<td>ENGR/MATH/Science/ Elective</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective*</td>
<td>3</td>
<td>Eng. Elective (outside CEE Dept.)</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>132</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Curriculum for a Dual Major in Civil and Mining Engineering

This curriculum allows students to simultaneously pursue B.S. degrees in civil engineering and mining engineering by completing additional courses. The dual degree program requires satisfactory completion of 158 credit hours. A suggested schedule for the dual curriculum in civil engineering and mining engineering is shown below.

Civil Engineering/Mining Engineering (Dual)

| First Year |  |  |
|------------|  |  |
| Fall Semester | Hrs. | Spring Semester | Hrs. |
| CHEM 115 Fund. of Chemistry | 4 | CHEM 116 Fundamtl of Chem or  |  |
| ENGL 101 Comp. and Rhetoric | 3 | GEC Elective | 4-3 |
| ENGR 199 Introductory Orientation | 1 | GEC: GEOL 101 Planet Earth | 3 |
| GEC Elective | 3 | GEOL 102 Planet Earth Lab | 1 |
| MATH 155 Calculus I | 4 | MATH 156 Calculus | 4 |
| Total | 15-18 | Total | 19-18 |

| Second Year |  |  |
|------------|  |  |
| Fall Semester | Hrs. | Spring Semester | Hrs. |
| CE 201 Introduction to CE | 1 | ENGL 102 Comp. and Rhetoric | 3 |
| MAE 241 Statics | 3 | MAE 242 Dynamics | 3 |
| MATH 251 Multivariate Calculus | 4 | MATH 261 Elem. Differential Equat. | 4 |
| MINE 201 Mine Surveying | 3 | MINE 206 Surface Mining Systems | 4 |
| MINE 205 Undergrd. Mining Syst. | 3 | PHYS 112 General Physics | 4 |
| MINE 261 Engineering CAD | 2 | Total | 18 |
| Total | 16 | Total | 18 |

| Third Year |  |  |
|------------|  |  |
| Fall Semester | Hrs. | Spring Semester | Hrs. |
| CE 321 Fluid Mechanics | 3 | CE Core† | 4 |
| GEOL 342 Structural Geology | 3 | CE Core† | 4 |
| MAE 243 Mechanics of Materials | 3 | MINE 331 Mine Ventilation | 3 |
| MAE 320 Thermodynamics | 3 | MINE 427 Coal Preparation | 4 |
| STAT 215 Statistics | 3 | MINE 480 Interdis. Team Project | 1 |
| Total | 15 | Total | 16 |

| Fourth Year |  |  |
|------------|  |  |
| Fall Semester | Hrs. | Spring Semester | Hrs. |
| CE Core† | 4 | CE Seminar | 1 |
| CE Core† | 4 | CE Design Elective* | 3 |
| MINE 306 Mining Explor. & Eval. | 3 | CE Design Elective* | 3 |
| MINE 382 Mine Power System | 3 | CE 322 Hydrotechnical Eng. | 3 |
| Total | 14 | GEC Elective | 3 |
|  |  | IENG 377 Engineering Economy | 3 |
| Total | 16 | Total | 16 |

* GEC elective and the science elective may be taken in assignment shown or swapped.
** CE core classes are: CE 332 Introduction to Transportation Engineering; CE 347 Environmental Engineering; CE 351 Introductory Soil Mechanics; CE 361 Structural Analysis I.
† CE design electives—any approved CE 400-level design course. See advisor for approved list.
** CE open electives—any approved CE 300 or CE 400-level course. See advisor for approved list.
<table>
<thead>
<tr>
<th></th>
<th>Fall Semester Hrs.</th>
<th>Spring Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEC Elective</td>
<td>.................. 3</td>
<td>CE Technical Elective** .................. 3</td>
</tr>
<tr>
<td>GEC: ECON 201 Prin. of Microe...</td>
<td>3</td>
<td>CE 479 Integrated Design ............... 3</td>
</tr>
<tr>
<td>MINE 411 Rock Mech. &amp; Grd Cont.</td>
<td>. 4</td>
<td>GEC Elective ..................... 3</td>
</tr>
<tr>
<td>MINE 471 Mine &amp; Safety Mgmt...</td>
<td>. 3</td>
<td>GEC Elective ..................... 3</td>
</tr>
<tr>
<td>MINE 483 Mine Dsgn-Exploration...</td>
<td>. 2</td>
<td>MINE 484 Mine Dsgn-Rpt. (W) .......... 4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>.................. 15</td>
<td><strong>Total</strong> .................. 16</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>.................. 158</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Discipline substitutions
   - MINE 306 fulfills requirement of CE Engr/Math/Sci Elective 1
   - MINE 411 fulfills requirement of CE Engr/Math/Sci Elective 2
   - MINE requirement for AGRN 455 is fulfilled through CE 322 and CE 351
   - MINE 382 fulfills requirement of CE engineering elective outside CE
   - MINE 461 is fulfilled by CE 322
   - MINE 484W fulfills CE requirement of ENGL 305
   - MINE requirement for STAT 211 is fulfilled by CE requirement of STAT 215
   - CE 321 fulfills MINE requirement for MAE 331
   - MINE technical elective and MINE Eng/Sci technical elective requirements are fulfilled by any two of the following; CE 332, 347 or 361.
   - GEOL 342 fulfills requirement of CE basic science elective
   - MINE 261 substitutes for CE 210
2. *CE Core Classes
   - CE 332 Introduction to Transportation Engineering
   - CE 347 Environmental Engineering
   - CE 351 Introductory Soil Mechanics
   - CE 361 Structural Analysis I
   * CE Design Electives—any approved CE 400-level design course. See advisor for approved list.
   * CE Open Electives—any approved CE 300 or CE 400-level course. See advisor for approved list.
3. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

**Lane Department of Computer Science and Electrical Engineering**

Brian Woerner, Ph.D., Chair, and Lane Professor
825 Engineering Sciences Building
E-mail: brian.woerner@mail.wvu.edu
http://www.lcsee.cemr.wvu.edu

**Degrees Offered**
- Bachelor of Science in Biometric Systems
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Computer Science
- Bachelor of Science in Electrical Engineering

The department offers undergraduate degrees in computer science, computer engineering, and electrical engineering. It also houses the biometric systems major of the University-level bachelor of science in forensic identification.

**Curriculum in Biometric Systems**

Biometric systems are composed of complex hardware and software designed to measure a signature of the human body, compare the signature to a database, and render a decision for a given application based on the identification achieved from this matching process. Uses of biometric systems for positive personal identification are experiencing rapid growth in such areas as law enforcement, access control, banking, and a wide range of business and administrative systems. In an even broader application context, biometric systems are having a revolutionary impact on health care and the enhancement of the human computer interface including in vivo identification of specific human conditions via implantable devices and the automated administration of life-saving medical therapies.
The continued rapid advance of integrated sensor, signal/image processing, computer, and mass storage technology promises to extend these applications further into our daily lives with even the most inanimate objects able to identify, interact with, and assist their users.

Biometric systems for personal identification are based upon fundamental biometric features that are typically unique and time invariant, such as features derived from fingerprints, faces, irises, retinas, and voices. Biometrics for biomedical, human computer interface, and other applications may include these but will necessarily extend to a wide range of physiological signals which possess identifiable patterns that may change in time, albeit predictably. The spectrum of usable biometrics is defined by human physiology, the bioengineering implied by their measurement, and the application. As biometric system capabilities and applications evolve, biometrics will extend to any known measurement of the human body.

Biometric identification is a highly interdisciplinary field mixing traditional engineering with the forensic sciences. As a result, the engineering design and development of biometric systems requires knowledge of the biometric as well as the engineering disciplines. Designers work with the physics of the sensor to obtain measurements of the biometric defined by human physiology. Signal and image processing techniques are applied to the sensor signal to extract features usable for identification. Databases combined with artificial intelligence enable rapid storage, retrieval, and pattern matching while decision theory supports the mechanisms whereby systems can provide the needed identification results. Underlying the entire system is a foundation of statistics and mathematics that provides the language for implementing and evaluating biometric technology and systems.

Overview of the Major

The biometric systems major at WVU will provide students with a firm foundation in electrical and computer engineering and computer science meshed with an understanding of biology, physiology, forensics, and the interaction between living and nonliving materials and systems necessary to design, implement, and evaluate biometric systems. This foundation is built on a strong framework of mathematics, statistics, and physical sciences appropriate to biometric systems and complemented by an appropriate general studies component. Areas of emphasis established through choice of specific course sets in the junior and senior year enable students to tailor their degree to follow their interests in key areas of biometric system development. Emphasis areas currently include sensors and circuits, signal processing, statistics, and software systems. Engineering design experiences will be a central part of many of the curriculum’s courses beginning in the very first semester of the major and concluding with a capstone design course in the senior year enabling the students to integrate their understanding through application of their core and emphasis area coursework knowledge to realize biometric systems and subsystems of their own design.

Areas of Emphasis

Presently, four specialization paths have been identified for the biometric systems curriculum. Each emphasis area enables students to develop an in-depth technical background in an area of their own choosing which is central to biometric system development. Currently designated areas of emphasis are sensors and circuits, signal processing, statistics, and software systems. Each emphasis area is fulfilled by the successful completion of three courses. Students may obtain at most one emphasis area designation from this four-course set in their degree curriculum. Each emphasis area curriculum is defined by three courses chosen from a set of classes prescribed for that area. At least one of these three courses is a required course. Successful completion of an emphasis area’s requirements is designated on the student’s transcript. Students may elect not to choose an emphasis area in which case no transcript designation is received and students complete three courses from the collective list of classes from all emphasis areas.
Dual Majors

Dual majors are available in which a student may obtain a B.S. in biometric systems and a B.S. in either computer engineering or electrical engineering in four and one-half years.

Curriculum

The required curriculum of the bachelor of science degree in biometric systems is given below in the form of a recommended four-year sequence. The total credit hours required of the major are 133. Four courses (or 12 credits) are devoted to the emphasis areas selected by individual students based upon their educational objectives. Six of the credit hours required to satisfy the University GEC requirements have been devoted to economics in order that students may develop an understanding of system engineering economics.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.B.S. degree program, which completes degree requirements in four years, is as follows. For the most recent list of approved courses in the GEC Program, visit http://registrar.wvu.edu/current_students/general_education_curriculum.

First Year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS 111 Intro. to Data Structures</td>
<td>4</td>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>EE 221/222 Intro. Elec. Eng.</td>
<td>4</td>
<td>EE 223/224 Circuits*</td>
<td>4</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
<td>MATH 261 Elem. Differential Equat.</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 112 General Physics</td>
<td>4</td>
<td>STAT 215 Prob. and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>CPE 271/272 Intro. Digital Log</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third Year</td>
<td></td>
<td>Spring Semester</td>
<td>Hrs.</td>
</tr>
<tr>
<td>Fall Semester</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPE 310/311 Microproc. Systems</td>
<td>4</td>
<td>EE 465 Image Processing*</td>
<td>3</td>
</tr>
<tr>
<td>STAT 316 Forensic Statistics</td>
<td>3</td>
<td>MATH 375 Applied Mod Algebra</td>
<td>3</td>
</tr>
<tr>
<td>EE 327 Signals &amp; Systems 1</td>
<td>3</td>
<td>Assigned GEC Elective*</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 426 Biometric Systems</td>
<td>3</td>
<td>Emphasis Course 1</td>
<td>3</td>
</tr>
<tr>
<td>CS 350 Computer Syst. Concepts</td>
<td>3</td>
<td>Emphasis Course 2</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>BIOL 324 Molecular Genetics*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth Year</td>
<td></td>
<td>Spring Semester</td>
<td>Hrs.</td>
</tr>
<tr>
<td>Fall Semester</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOM 480 Senior Design Seminar</td>
<td>2</td>
<td>BIOM 481 Senior Design Project</td>
<td>3</td>
</tr>
<tr>
<td>EE 425 Bioengineering*</td>
<td>3</td>
<td>Emphasis Course 3</td>
<td>3</td>
</tr>
<tr>
<td>CS 465 Computer Security*</td>
<td>3</td>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 201 Microeconomics</td>
<td>3</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grand Total</td>
<td>133</td>
</tr>
</tbody>
</table>

*Offered once per year in the semester shown.
**One from the following list: POLS 210, PSYC 101, SOCA 101, or SOCA 232.

Curriculum in Computer Engineering

Computer engineers design, develop, test, and oversee the manufacture and maintenance of embedded computer hardware and software. As such, the computer engineer is part electrical engineer and part computer scientist. Embedded computer systems include
applications in the automotive, communications, radio and television, consumer electronics, aircraft, robotics, and health-care industries. In addition, computer engineers design, develop, test, manufacture, and maintain complex systems including digital communications systems such as cell phone networks, computer networks such as the Internet, and system-level software such as operating systems and applications software.

The objective of the bachelor’s degree program in computer engineering is to produce graduates who have the knowledge, skills, and attitudes that will ensure success in professional positions in business, industry, research, government service, or graduate study as well as professional schools. We carry out this mission by providing our students with a sound education in mathematics and the sciences, a broad foundation in the fundamentals of engineering, elective opportunities to develop expertise in one or more emphasis areas, and the general education necessary to put technical knowledge into perspective. Theoretical work is complemented by an emphasis on the practice of engineering, and design activity is integrated throughout the curriculum. The computer engineering program is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

It is our goal that by the time they graduate, B.S. computer engineering students will achieve the following learning outcomes:

- Have the ability to apply knowledge of math, engineering, and science.
- Have the ability to design and conduct experiments on both hardware and software.
- Have the ability to analyze and interpret data.
- Have the ability to design a system, component, or process to meet desired needs, including the planning, specification, detail design, implementation, and evaluation to meet most of the following needs: cost, environmental, performance, safety, and quality requirements.
- Have the ability to function on multi-disciplinary teams.
- Have the ability to identify, formulate, and solve a range of computer engineering problems.
- Have an understanding of professional and ethical responsibility.
- Have the ability to communicate effectively, i.e., to convey technical material through formal written papers/reports that satisfy accepted standards for writing style, and to convey technical material through oral presentation and interaction with an audience.
- Have the broad education necessary to understand the impact of engineering solutions in a global and societal context.
- Have a recognition of the need for, and an ability to engage in life-long learning.
- Have knowledge of contemporary issues.
- Have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice (including computer-based tools, for analysis and design).
- Have knowledge of the breadth and depth across the range of computer engineering topics.
- Have knowledge of mathematics through differential and integral calculus, basic sciences, computer science, and engineering sciences necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components.
- Have knowledge of probability and statistics.
- Have knowledge of discrete mathematics.

Fundamental courses in the computer engineering areas of hardware and software are taken during the second year with general fundamental engineering courses included. The third and fourth years in the curriculum concentrate on areas of computer engineering in both software and hardware, with technical electives provided to allow the student to acquire more depth in a preferred area of expertise.

The computer engineering technical electives must be taken from 400-level CPE regular courses. The other technical electives should be selected from 400-level regular courses in electrical engineering, computer engineering, or computer science. However, students with special career objectives can petition the department through their advisors.
for prior written permission to select technical electives from upper-division courses in mathematics, the sciences, or other areas of engineering.

To be eligible for graduation in computer engineering a student must attain a grade point average of 2.0 or better for all required computer engineering, electrical engineering, and computer science courses. If a required CPE, EE, or CS course is repeated, only the hours credited and the grade received for the last completion of the course are used in computing the grade point average.

A total of five humanities and social science electives (GEC electives) must be selected. The humanities and social science electives must be chosen so as to meet the University General Education Curriculum requirements and Accreditation Board for Engineering and Technology accreditation guidelines.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.Cp.E. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit http://registrar.wvu.edu/current_students/general_education_curriculum.

**First Year**
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

**Second Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 221 Intro. to EE Lec.</td>
<td>3</td>
<td>EE 223 Electrical Circuits Lec.*</td>
<td>3</td>
</tr>
<tr>
<td>EE 222 Intro. to EE Lab</td>
<td>1</td>
<td>EE 224 Electrical Circuits Lab*</td>
<td>1</td>
</tr>
<tr>
<td>CPE 271 Int. Dig. Logic Dsgn. Lec...</td>
<td>3</td>
<td>EE 251 Digital Elect. Lec.*</td>
<td>3</td>
</tr>
<tr>
<td>CPE 272 Digital Logic Lab</td>
<td>1</td>
<td>EE 252 Digital Elect. Lab*</td>
<td>1</td>
</tr>
<tr>
<td>MATH 251 Multivar. Calculus</td>
<td>4</td>
<td>MATH 261 Elem. Diff. Equat.</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 112 General Physics</td>
<td>4</td>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 327 Signals &amp; Systems*</td>
<td>3</td>
<td>CS 350 Comp. Sys Concepts</td>
<td>3</td>
</tr>
<tr>
<td>MATH 375 Applied Modern Algebra</td>
<td>3</td>
<td>CPE 312 Mrcmpt Strc/Intrfng.*</td>
<td>3</td>
</tr>
<tr>
<td>CPE 310 Micropr. Sys. Lec...</td>
<td>3</td>
<td>CPE 313 Mrcmpt Strc/Int Lab*</td>
<td>1</td>
</tr>
<tr>
<td>CPE 311 Microprocessor Lab</td>
<td>1</td>
<td>STAT 215 Intro. Prob. &amp; Stat...</td>
<td>3</td>
</tr>
<tr>
<td>EE 355 Analog Elec. Lec.*</td>
<td>3</td>
<td>CS 230 Intro. Software Engr...</td>
<td>4</td>
</tr>
<tr>
<td>EE 356 Analog Elec. Lab.*</td>
<td>1</td>
<td>ECON 201 Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>CS 111 Intro. Data Structures</td>
<td>4</td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
<td>CPE 481 Senior Design Project</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
<td>Engr. Science Elect.</td>
<td>3</td>
</tr>
<tr>
<td>Tech. Elective</td>
<td>3</td>
<td>CPE Tech. Elect...</td>
<td>3</td>
</tr>
<tr>
<td>CPE 480 Senior Dsgn Seminar</td>
<td>2</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>CS 450 Oper. Syst. Struct.</td>
<td>3</td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
<td><strong>Grand Total</strong></td>
<td><strong>130</strong></td>
</tr>
</tbody>
</table>

*Offered once per year in the summer shown.
Curriculum in Computer Science

Computer science is a discipline that involves the understanding and design of computational processes. The discipline ranges from a theoretical study of algorithms and information processing in general, to a practical design of efficient and reliable software that meets given specifications. This differs from most physical sciences, engineering included, that separate theoretical underpinnings of the science from applications within it.

Partly because of the broad nature of computer science, and partly because students need flexibility in choosing a plan that best fits their needs, the department offers two tracks in the B.S. degree program: one track is with the College of Engineering and Mineral Resources (CEMR), and one track is with the Eberly College of Arts and Science (ECAS).

The B.S. track through CEMR introduces students to engineering principles through Engineering 101/199 and required courses in computer engineering. Chemistry and a two-semester sequence in physics is also required, but the student gains flexibility in choosing senior-level computer science (CS) courses, which leaves open the opportunity to explore much of software engineering or other areas. This option is well-suited for freshman engineering students who meet pre-computer science entrance requirements, and for engineering students who want to double major in computer science and computer engineering.

The B.S. track through ECAS offers flexibility in choosing more of a liberal education that could include courses, even dual majors, offered in many colleges: Eberly College of Arts and Sciences, Business and Economics, Creative Arts, or any others for which course prerequisites are satisfied. The required two-semester sequence in science and the science elective can be fulfilled through a variety of science disciplines, but a few requirements on selection of senior-level CS courses lean to the theoretical side of the discipline. This track is best suited for students who want a more liberal education with the opportunity to pursue minors or double majors outside of engineering.

It is our goal that by the time they graduate, B.S. computer science students in either track will achieve the following learning outcomes:

- Be exposed to a variety of programming languages and systems, and will be proficient in programming in at least two languages.
- Have knowledge of the basic principles and methods of programming language translation, formal languages, and automata.
- Have knowledge of the basic principles of data structures, discrete mathematics and algorithms, and be able to apply this knowledge to problem solving in relevant application areas.
- Have knowledge of software engineering principles and be able to design, implement, and analyze moderately complex and robust systems.
- Be able to communicate ideas effectively in writing.
- Be able to communicate ideas effectively verbally.
- Be able to work and learn effectively as members of a team.
- Have knowledge of and a commitment to the social and ethical responsibilities of computing professionals.
- Have experienced a well-rounded education in areas outside of the computer science major, with emphasis on the arts, sciences, and humanities.
- Be familiar with laboratory procedures and use of the scientific method in at least two different physical or biological sciences.
- Be familiar with advanced concepts of some specialized computer science areas.
- Have knowledge of mathematics through differential and integral calculus, discrete mathematics, and probability and statistics.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit http://registrar.wvu.edu/current_students/general_education_curriculum.
CEMR Track for B.S.

**First Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CS 110</td>
<td>Intro. Computer Science*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 155</td>
<td>Calculus I*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CHEM 115</td>
<td>Fundamentals Chem.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ENGL 101</td>
<td>Comp. and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENGR 199</td>
<td>Orientation to Engr.</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>CS 111</td>
<td>Intro. Data Structures*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 156</td>
<td>Calculus II*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHYS 111</td>
<td>General Physics I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CPE 271</td>
<td>Dig Logic Design*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CPE 272</td>
<td>Dig. Logic Design Lab*</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PHYS 112</td>
<td>Gen. Physics II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CS 210</td>
<td>File and Data Structures*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CS 220</td>
<td>Discrete Mathematics*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>MATH 251</td>
<td>Multivariable Calculus*</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CS 350</td>
<td>Comp. Sys. Concepts*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CS 4xx</td>
<td>Technical Elective*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>STAT 215</td>
<td>Intro. Prob. &amp; Stat*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>CS 310</td>
<td>Prin. Program Language*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CS 450</td>
<td>Operating Syst. Structures*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CS 453</td>
<td>Data Computer Comm.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CS 480</td>
<td>Sr. Design Project*</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>CS 410</td>
<td>Compiler Construction*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2XX Elective</td>
<td>level or above Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Extra GEC 3–9 Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>CS 481</td>
<td>Sr. Design Project*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CS 4XX</td>
<td>Technical Elective*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2XX Elective</td>
<td>level or above Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Grand Total**

|            |            |                                    | **128**|

*Offered once per year in the semester shown.

*All required CPE, CS, MATH, and STAT courses must be completed with a grade of C or better.

ECAS Track for B.S.

**First Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CS 110</td>
<td>Intro. Computer Science*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 155</td>
<td>Calculus I*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ENVL 101</td>
<td>Orientation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>CS 111</td>
<td>Intro. Data Structures*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 156</td>
<td>Calculus II*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ENVL 101</td>
<td>Comp. &amp; Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>CS 110</td>
<td>Intro. Computer Science*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 155</td>
<td>Calculus I*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>CS 111</td>
<td>Intro. Data Structures*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 156</td>
<td>Calculus II*</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEC Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>
## Second Year

<table>
<thead>
<tr>
<th></th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 210 File and Data Structures*</td>
<td>....</td>
<td>4</td>
<td>CPE 271 Digital Logic Design*</td>
<td>....</td>
</tr>
<tr>
<td>CS 220 Discrete Mathematics*</td>
<td>....</td>
<td>3</td>
<td>CPE 272 Digital Logic Design Lab*</td>
<td>....</td>
</tr>
<tr>
<td>ENGL 102 Comp. &amp; Rhetoric II</td>
<td>....</td>
<td>3</td>
<td>CS 221 Analysis of Algorithms*</td>
<td>....</td>
</tr>
<tr>
<td>Laboratory Science, sequence 1</td>
<td>....</td>
<td>4</td>
<td>CS 230 Intro. Software Engr.*</td>
<td>....</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus*</td>
<td>....</td>
<td>4</td>
<td>GEC Elective</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>18</td>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

## Third Year

<table>
<thead>
<tr>
<th></th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 455 Computer Architecture*</td>
<td>....</td>
<td>3</td>
<td>CS 450 Operating Syst. Structure*</td>
<td>....</td>
</tr>
<tr>
<td>CS 4XX Tech. Elect., app. group*</td>
<td>....</td>
<td>3</td>
<td>Laboratory Science elective 3</td>
<td></td>
</tr>
<tr>
<td>GEC Elective</td>
<td></td>
<td>3</td>
<td>GEC Elective</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>15</td>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

## Fourth Year

<table>
<thead>
<tr>
<th></th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 480 Sr. Design Proj. Seminar*</td>
<td>....</td>
<td>2</td>
<td>CS 481 Sr. Design Project*</td>
<td>....</td>
</tr>
<tr>
<td>CS 410 Compiler Construction*</td>
<td>....</td>
<td>3</td>
<td>CS 4xx Tech. Elect., theory group*</td>
<td>....</td>
</tr>
<tr>
<td>CS 4xx Tech. Elective*</td>
<td>....</td>
<td>3</td>
<td>Single-Discipline Elective 2</td>
<td></td>
</tr>
<tr>
<td>Single Discipline Elective 1</td>
<td></td>
<td>3</td>
<td>2xx Free Elective</td>
<td></td>
</tr>
<tr>
<td>Discipline Elective</td>
<td></td>
<td>3</td>
<td>Extra GEC Elective</td>
<td></td>
</tr>
<tr>
<td>2xx Free Elective</td>
<td></td>
<td>3</td>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>14</td>
<td><strong>Grand Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Offered once per year in the semester shown.

* All required CPE, CS, MATH, and STAT courses must be completed with a grade of C or better.

### General Education (GEC):

Students who enrolled at WVU beginning in the Fall 2005 term or after are required to fulfill General Education Curriculum (GEC) requirements. Appropriate courses must be completed to satisfy nine learning outcomes, two of which are automatically fulfilled by required courses. Students choose 21 hours of elective credit in outcomes 3–9. Computer science majors are also required to complete three additional hours chosen from outcomes 3–9. For complete details, see http://registrar.wvu.edu/current_students/general_education_curriculum.

### CS 4XX Technical Electives:

Students must choose CS technical electives according to the following guidelines:
- CS 490, 491, 495, and 493C do not count as technical electives

### Transfer Students

Students wishing to transfer into pre-computer science or computer science must satisfy admission requirements and must petition the Lane Department of Computer Science and Electrical Engineering for admission. If petitioning:
- In person, come to the department’s office and ask for the undergraduate coordinator. Bring a transcript of all college-level coursework attempted.
- By mail, be sure to include a transcript of all college-level coursework attempted and an indication of when the transfer is desired. On the envelope in the lower-left corner write “Transfer Petition for UG CS." Mail to Lane Department of Computer Science and Electrical Engineering, WVU, P.O. Box 6109, Morgantown, WV 26506-6109.
- Transfer students are expected to meet the following requirements:
  - A grade point average of at least 3.0 in all college-level work attempted.
  - A grade of C or better in any transfer course that will count as pre-CS or CS.
The number of transfer students accepted is governed by the enrollment capacities of each of the degree tracks. First admission priority is given to those students currently matriculated at WVU; second priority, to students enrolled in computer science at external colleges and universities; third priority, to students enrolled in other degree programs at external colleges and universities. Within the last two priorities, preferential admission is in the following order: West Virginia residents, U.S. citizens or permanent residents, and international students.

**Minor in Computer Science**
Any student may complete a minor in computer science by taking the following courses and making a C or better. The symbol “/” means sequence courses:
- CS 110 / 111.
- Pick one from: CS 210, CS 220, or CS 230.
- CS 310 and 350.
- At least one CS 400-level course.

**Curriculum in Electrical Engineering**
Electrical engineers design, develop, test, and oversee the manufacture and maintenance of equipment that uses electricity. Electrical equipment includes power generating and transmission equipment, motors, machinery controls, instrumentation in cars and aircraft, robots, computers, communications equipment, and health-care equipment.

The objective of the bachelor’s degree program in electrical engineering (EE) is to produce graduates who have the knowledge, skills, and attitudes that will ensure success in professional positions in business, industry, research, government service, or graduate study as well as professional schools.

We carry out this objective by providing our students with a sound education in mathematics and the sciences, a broad foundation in the fundamentals of engineering, elective opportunities to develop expertise in one or more emphasis areas, and the general education necessary to put technical knowledge into perspective. Theoretical work is complemented by an emphasis on the practice of engineering, and design activity is integrated throughout the curriculum. The electrical engineering program is accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

We expect that all students in the B.S.E.E. program at WVU will have achieved the following outcomes by the time they graduate:
- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to design and conduct engineering and scientific experiments.
- An ability to analyze and interpret engineering and scientific data.
- An ability to design, including the planning, specification, detail design, implementation, and evaluation of components, processes, or systems to meet performance, cost, safety, and quality requirements.
- An ability to function on multi-disciplinary teams.
- An ability to identify, formulate, and solve a range of electrical engineering problems.
- An understanding of professional and ethical responsibility.
- An ability to convey technical material through formal written papers/reports that satisfy accepted standards for writing style.
- An ability to convey technical material through oral presentation and interaction with an audience.
- Knowledge of the wisdom represented by the humanities and fine arts.
- A recognition of the need for, and an ability to engage in, life-long learning.
- Knowledge of contemporary social issues necessary to understand the impact of electrical/computer engineering solutions in a global and societal context.
- An ability to use modern engineering techniques and tools, including computer-based tools, for analysis and design.
- Knowledge of electrical engineering fundamental concepts, with advanced knowledge in at least one sub-discipline of electrical engineering.
• Knowledge of mathematics through differential and integral calculus, basic sciences, and engineering sciences necessary to design complex electrical and electronic devices and systems containing hardware and software components.

• Knowledge of probability and statistics, including electrical engineering applications.

• Knowledge of differential equations and other advanced mathematics such as linear algebra, complex variables, or discrete mathematics.

In the first two years of electrical engineering, coursework is limited to those subjects that are essential as preparatory courses for more technical courses in the third and fourth years. Fundamental courses in electrical engineering are introduced in the second year. In the third and fourth years, the curriculum provides advanced instruction through required courses and electives. These electives are included in the curriculum to allow the student to acquire additional depth in the student’s selected field of electrical engineering. Five technical electives are required for a total of 15 credits. At least three must come from one of the EE emphasis areas. Two additional technical electives may be selected from upper-division engineering, science, or math areas. However, a student with special career objectives may petition the Lane Department through his/her advisor for prior written permission to select one upper division course meeting those objectives.

The mathematics/science elective and engineering science elective are selected from department-approved lists. Students should consult with their advisors to select a course from this list. To be eligible for graduation in electrical engineering a student must attain a grade point average of 2.0 or better for all required electrical engineering courses. If a required EE course is repeated, only the hours credited and the grade received for the last completion of the course is used in computing the grade point average.

A total of five humanities and social science electives (GEC electives) must be selected. The humanities and social science electives must be chosen so as to meet University General Education Curriculum requirements and Accreditation Board for Engineering and Technology accreditation guidelines.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.E.E. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit http://registrar.wvu.edu/current_students/general_education_curriculum.

First Year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year
Fall Semester  Hrs.  Spring Semester  Hrs.
EE 221 Intro. to EE Lec. ............... 3  EE 223 Electrical Circuits Lec.* ........ 3
EE 222 Intro. to EE Lab ............... 1  EE 224 Electrical Circuits Lab* .......... 1
CPE 271 Intro. Dig. Logic Design ...... 3  MATH 261 Elem. Differential Equat. .... 4
CPE 272 Dig. Logic Lab ............... 1  CS 110 Intro. to Computer Science .. 4
MATH 251 Multivariable Calculus ... 4  ENGL 102 Comp. & Rhetoric ............ 3
PHYS 112 General Physics .......... 4  EE 251 Digital Elect.* .................. 3
EE 252 Digital Elect. Lab* .......... 1  Total ........................................ 16
Total ........................................ 16

Third Year
Fall Semester  Hrs.  Spring Semester  Hrs.
EE 335 Elec. Energy Conv. & Sys.* .... 3  EE 329 Signals and Systems 2* .......... 3
EE 336 Elec. Energy Conv. Lab* ....... 1  EE 328 Signals and Systems Lab* .......... 1
EE 345 Engr. Electromagnetics* ...... 3  CPE 310 Microprocessors Sys .......... 3
EE 327 Signals & Systems 1* .......... 3  CPE 311 Microprocessors Lab .......... 1
EE 355 Analog Elec.* .................. 3  Engr. Science Elective .................. 3
EE 356 Analog Elec. Lab* ............. 1  ECON 201 Microeconomics .......... 3
Total ........................................ 17  Total ........................................ 17
Fourth Year

Fall Semester          Hrs.             Spring Semester          Hrs.
ECON 202 Macroeconomics........ 3                 EE 481 Senior Design Project ........3
Technical Elective ............. 3                 GEC Elective .................. 3
Technical Elective ............. 3                 Free Elective ................ 3
EE 480 Senior Design Seminar .... 2                 Technical Elective ............ 3
GEC Elective .................. 3                 Technical Elective ............ 3
Total ..................................... 14
Total ..................................... 15
Grand Total............................... 132

*Offered once per year in semester shown.

Curriculum for a Dual Major in Electrical and Computer Engineering

Students can simultaneously pursue B.S. degrees in two majors within the department by completing a small number of additional classes. The student must satisfactorily complete at least 158 credits and meet all the requirements for both degrees. A suggested schedule for the dual curriculum in electrical engineering and computer engineering is shown below.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Cp.E. and B.S.E.E. program that completes both degree requirements in four and one-half years is as follows. For the most recent list of approved courses in the GEC Program, visit http://registrar.wvu.edu/current_students/general_education_curriculum.

Electrical/Computer Engineering (Dual Major)

First Year

First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year

Fall Semester          Hrs.             Spring Semester          Hrs.
EE 221 Intro. to EE Lec. ............ 3                 EE 223 Electrical Circuits Lec.* ........3
EE 222 Intro. to EE Lab ............. 1                 EE 224 Electrical Circuits Lab* ..........1
PHYS 112 General Physics ........... 4                 ENGL 102 Comp. & Rhetoric ............ 3
CPE 271 Intro. Dig. Log Design ....... 3                 EE 252 Digital Elect. Lab* ............ 1
CPE 272 Dig. Log Lab ............... 1                 EE 251 Digital Elect.* ................. 3
MATH 251 Multivariable Calculus .... 4                 MATH 261 Elem. Differential Equat. .... 4
Free Elective** .................. 3                 CS 110 Intro. Comp Science** .......... 4
Total ..................................... 19
Total ..................................... 19

Third Year

Fall Semester          Hrs.             Spring Semester          Hrs.
EE 327 Signals & Systems 1* ....... 3                 CPE 312 Micro. Struc. & Interface* .... 3
CPE 310 Microprocessor Sys. ....... 3                 CPE 313 Micro. Struc. & Inter. Lab* .... 1
CPE 311 Microprocessor Lab ......... 1                 CS 350 Computer Sys. Concepts ....... 3
MATH 375 Applied Mod Algebra ... .... 3                 CS 230 Intro. Software Engr. ........... 4
CS 111 Intro. Data Structures** .... 4                 EE 328 Signals & Systems Lab* ........ 1
CS 111 Intro. Data Structures** .... 4                 ECON 201 Microeconomics .......... 3
Total ..................................... 17
Total ..................................... 18

West Virginia University Undergraduate Catalog
### Fourth Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 355 Analog Elect. Lec.*</td>
<td>3</td>
<td>CPE 480 Senior Design Seminar</td>
<td>2</td>
</tr>
<tr>
<td>EE 356 Analog Elect. Lab*</td>
<td>1</td>
<td>Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>EE 335 Elect. Enrgy Conv. &amp; Sys.*</td>
<td>3</td>
<td>Engr. Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>EE 336 Elec. Enrgy Conv. Lab*</td>
<td>1</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>EE 345 Engr. Electromagnetics*</td>
<td>3</td>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>CS 450 Operating Sys. Structures</td>
<td>3</td>
<td>Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>CPE Technical Elective</td>
<td>3</td>
<td><strong>Total</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

**Total**............... 17

### Fifth Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 481 Senior Design Project</td>
<td>3</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective^</td>
<td>3</td>
<td>Technical Elective^</td>
<td>3</td>
</tr>
<tr>
<td>Free Elective***</td>
<td>3</td>
<td>Free Elective***</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Grand Total**............... 159

*Only taught once per year, in the semester shown.

** Students may wish to schedule CS 110 and CS 111 in the first year and move the GEC electives to the later years.

*** Nine hours of any University scheduled course(s).

^Technical Electives: Five technical electives are required. At least three must come from one of the electrical engineering emphasis areas other than computers. One additional technical elective must be a 400-level computer engineering course, and one technical elective may be selected from upper-division engineering, science, or math areas. However, a student with special career objectives can petition the department through his or her advisor for prior written permission to select one upper-division course meeting his or her career objectives.

### Curriculum for a Dual Major in Biometric Systems and Computer Engineering

Students can simultaneously pursue B.S. degrees in two majors within the department by completing a small number of additional classes. The student must satisfactorily complete at least 158 credits and meet all the requirements for both degrees. A suggested schedule for the dual curriculum in biometric systems and computer engineering is shown below.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.B.S and B.S.Cp.E program that completes both degree requirements in four and one-half years is as follows. For the most recent list of approved courses in the GEC Program, visit [http://registrar.wvu.edu/current_students/general_education_curriculum](http://registrar.wvu.edu/current_students/general_education_curriculum).

### First Year

First-year program courses and credit hours are listed in the engineering or general engineering curricula.

### Second Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 271 Intro. Digital Logic Design</td>
<td>3</td>
<td>CS 110 Intro. to Computer Science</td>
<td>4</td>
</tr>
<tr>
<td>CPE 272 Intro. Digital Logic Lab</td>
<td>1</td>
<td>EE 223 Electrical Circuits Lec.</td>
<td>3</td>
</tr>
<tr>
<td>EE 221 Intro. to EE</td>
<td>3</td>
<td>EE 224 Electrical Circuits Lab</td>
<td>1</td>
</tr>
<tr>
<td>EE 222 Intro. to EE Lab</td>
<td>1</td>
<td>EE 251 Digital Electronics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
<td>EE 252 Digital Electronics Lab</td>
<td>1</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
<td>MATH 261 Elem. Diff. Equations</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 112 General Physics II</td>
<td>4</td>
<td>STAT 215 Probability &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19</td>
<td><strong>Total</strong></td>
<td>19</td>
</tr>
</tbody>
</table>
### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 310 Microprocessor Systems</td>
<td></td>
<td>3</td>
<td>Engineering Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>CPE 311 Microprocessor Lab</td>
<td></td>
<td>1</td>
<td>BIOL 324 Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>CS 111 Intro. to Data Structures</td>
<td></td>
<td>4</td>
<td>CS 230 Intro to Software Engineering/</td>
<td></td>
</tr>
<tr>
<td>EE 327 Signals &amp; Systems I</td>
<td></td>
<td>3</td>
<td>Emphasis Course 1</td>
<td>4</td>
</tr>
<tr>
<td>EE 355 Analog Electronics</td>
<td></td>
<td>3</td>
<td>EE 465 Image Processing</td>
<td>3</td>
</tr>
<tr>
<td>EE 356 Analog Electronics Lab</td>
<td></td>
<td>1</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>STAT 316 Forensic Statistics</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>16</td>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assigned GEC</td>
<td></td>
<td>3</td>
<td>Free Elective</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 426 Biom Sys / Tech Elect.</td>
<td></td>
<td>3</td>
<td>BIOM 480 Senior Design Seminar</td>
<td>3</td>
</tr>
<tr>
<td>CS 350 Comp. System Concepts</td>
<td></td>
<td>3</td>
<td>CPE 312 Microcomp.Strc/Intrfong.*</td>
<td>2</td>
</tr>
<tr>
<td>EE 425 Bioengineering</td>
<td></td>
<td>3</td>
<td>CPE 313 Microcomp. Strc/Int Lab*</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td></td>
<td>3</td>
<td>CS 450 Operating Syst/Emphasis</td>
<td></td>
</tr>
<tr>
<td>MATH 375 Discrete Math</td>
<td></td>
<td>3</td>
<td>Course 2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>18</td>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

### Fifth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE Technical Elective</td>
<td></td>
<td>3</td>
<td>ECON 201 Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Emphasis Course 3</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOM 481 Senior Design Project</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS 465 Computer Security</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 202 Economics 2</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>15</td>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

**Grand Total** 158

The CPE technical elective and emphasis course 3 may be combined under the software emphasis area. If this option is exercised, an additional elective must be selected. Five technical electives are required. Three fulfill one of the biometric system emphasis areas. One additional technical elective must be a 400-level Computer Engineering course, and one technical elective may be selected from any upper division LCSEE course. All prerequisites must be observed.

The biometrics emphasis courses and CPE technical electives may overlap in many instances. It is recommended that students consult closely with their academic advisor to insure that all requirements are met in a timely manner. Failure to plan ahead may cause delays in graduation.

Credit hours may vary based on student’s choice of technical electives and emphasis courses. A minimum of 158 credit hours are required for dual degree graduation.

### Curriculum for a Dual Major in Biometric Systems and Electrical Engineering

Students can simultaneously pursue B.S. degrees in two majors within the department by completing a small number of additional classes. The student must satisfactorily complete at least 158 credits and meet all the requirements for both degrees. A suggested schedule for the dual curriculum in biometric systems and electrical engineering is shown below.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.B.S. and B.S.E.E. program that completes both degree requirements in four and one-half years is as follows. For the most recent list of approved courses in the GEC Program, visit [http://registrar.wvu.edu/current_students/general_education_curriculum](http://registrar.wvu.edu/current_students/general_education_curriculum).
**First Year**

First-year program courses and credit hours are listed in the engineering or general engineering curricula.

**Second Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 271 Intro. Digital Logic Design</td>
<td>3</td>
</tr>
<tr>
<td>CPE 272 Intro. Digital Logic Lab</td>
<td>1</td>
</tr>
<tr>
<td>EE 221 Intro. to EE</td>
<td>3</td>
</tr>
<tr>
<td>EE 222 Intro. to EE Lab</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 112 General Physics II</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 110 Intro. to Computer Science</td>
<td>4</td>
</tr>
<tr>
<td>EE 223 Electrical Circuits Lec.</td>
<td>3</td>
</tr>
<tr>
<td>EE 224 Electrical Circuits Lab</td>
<td>1</td>
</tr>
<tr>
<td>EE 251 Digital Electronics</td>
<td>3</td>
</tr>
<tr>
<td>EE 252 Digital Electronics Lab</td>
<td>1</td>
</tr>
<tr>
<td>STAT 215 Probability &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 310 Microprocessor Systems</td>
<td>3</td>
</tr>
<tr>
<td>CPE 311 Microprocessor Lab</td>
<td>1</td>
</tr>
<tr>
<td>CS 111 Intro. to Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>EE 327 Signals &amp; Systems I</td>
<td>3</td>
</tr>
<tr>
<td>EE 355 Analog Electronics</td>
<td>3</td>
</tr>
<tr>
<td>EE 356 Analog Electronics Lab</td>
<td>1</td>
</tr>
<tr>
<td>STAT 316 Forensic Statistics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 324 Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>CS 350 Computer Sys &amp; Concepts</td>
<td>3</td>
</tr>
<tr>
<td>EE 328 Signals and Syst. II Lab</td>
<td>3</td>
</tr>
<tr>
<td>EE 329 Signals and Systems II*</td>
<td>3</td>
</tr>
<tr>
<td>MATH 375 Discrete Math</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 426 Biometric Systems*</td>
<td>3</td>
</tr>
<tr>
<td>EE Tech Elec</td>
<td>3</td>
</tr>
<tr>
<td>EE 335 Electromechanical Energy Systems*</td>
<td>3</td>
</tr>
<tr>
<td>EE 336 Electromechanical Lab</td>
<td>1</td>
</tr>
<tr>
<td>EE 345 Engr. Electromagnetics*</td>
<td>3</td>
</tr>
<tr>
<td>EE 425 Bioengineering*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assigned GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>Biometrics Emphasis Course 1/</td>
<td>3</td>
</tr>
<tr>
<td>EE Tech Elec</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 480 Senior Design Seminar</td>
<td>3</td>
</tr>
<tr>
<td>ECON 201 Economics</td>
<td>3</td>
</tr>
<tr>
<td>EE 465 Image Processing*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**Fifth Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biometrics Emphasis Course 2</td>
<td>3</td>
</tr>
<tr>
<td>Biometrics Emphasis Course 3</td>
<td>3</td>
</tr>
<tr>
<td>Free Elective</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 481 Senior Design Project</td>
<td>3</td>
</tr>
<tr>
<td>CS 465 Intro to Computer Security*</td>
<td>3</td>
</tr>
<tr>
<td>EE Tech Elec</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

| Grand Total                               | **158** |

Five technical electives are required. Three must fulfill one of the EE emphasis areas, and three must fulfill one of the biometric systems emphasis areas. These areas may overlap, and in that instance students must select additional technical electives from any upper division LCSEE course, or any permanently numbered upper division engineering, science, or math course. Non-LCSEE courses numbered 493X or designated “Special Topics” must receive prior approval by the Curriculum Committee to be counted as technical electives. All prerequisites must be observed.
Biometrics emphasis courses and EE technical electives may overlap in some instances. It is recommended that students consult closely with their academic advisor to insure that all requirements are met in a timely manor. Failure to plan ahead may cause delays in graduation.

**Curriculum for a Dual Major in Computer Engineering and Computer Science**

Students can simultaneously pursue B.S. degrees in two majors within the department by completing a small number of additional classes. The student must satisfactorily complete at least 158 credits and meet all the requirements for both degrees. A suggested schedule for the dual curriculum in computer science and computer engineering is shown below.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.C.S and B.S.Cp.E program that completes both degree requirements in four and one-half years is as follows. For the most recent list of approved courses in the GEC Program, visit [http://registrar.wvu.edu/current_students/general_education_curriculum](http://registrar.wvu.edu/current_students/general_education_curriculum).

### First Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 199 Orien. to Engineering</td>
<td>1</td>
<td>CS 111 Intro to Data Structures</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 101 Comp. &amp; Rhetoric</td>
<td>3</td>
<td>MATH 156 Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 115 Fundamen. Chemistry</td>
<td>4</td>
<td>PHYS 111 General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>CS 110 Intro to Computer Science</td>
<td>4</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>MATH 155 Calculus I</td>
<td>4</td>
<td>Total</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 271 Intro. Dig. Logic Design</td>
<td>3</td>
<td>CS 230 Intro to Software Engr.</td>
<td>4</td>
</tr>
<tr>
<td>CPE 272 Intro. Dig. Logic Lab</td>
<td>4</td>
<td>EE 223 Electrical Circuits Lec.*</td>
<td>3</td>
</tr>
<tr>
<td>CS 210 File Structures</td>
<td>1</td>
<td>EE 224 Electrical Circuits Lab*</td>
<td>1</td>
</tr>
<tr>
<td>EE 221 Intro. to EE</td>
<td>3</td>
<td>EE 251 Digital Electronics</td>
<td>3</td>
</tr>
<tr>
<td>EE 222 Intro. to EE Lab</td>
<td>1</td>
<td>EE 252 Digital Electronics Lab*</td>
<td>1</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
<td>MATH 261 Elem. Diff. Equations</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 112 General Physics II</td>
<td>4</td>
<td>ENGL 102 Comp. and Rhetoric II</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 310 Microprocessor Systems</td>
<td>3</td>
<td>CPE 312 Microcomp. Strc/Intrfcng.*</td>
<td>3</td>
</tr>
<tr>
<td>CPE 311 Microprocessor Lab*</td>
<td>1</td>
<td>CPE 313 Microcomp. Strc/Int Lab*</td>
<td>1</td>
</tr>
<tr>
<td>CS 220 Discrete Mathematics</td>
<td>3</td>
<td>CS 350 Comp. System Concepts*</td>
<td>3</td>
</tr>
<tr>
<td>EE 327 Signals and Systems</td>
<td>3</td>
<td>CS 221 Analysis of Algorithms*</td>
<td>3</td>
</tr>
<tr>
<td>EE 355 Analog Electronics*</td>
<td>3</td>
<td>CS 310 Prin. of Prog. Lang.*</td>
<td>3</td>
</tr>
<tr>
<td>EE 356 Analog Electronics Lab*</td>
<td>1</td>
<td>ECON 201 Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 375 Applied Modern Algebra</td>
<td>3</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>
### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CpE 4XX Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>CS 410 Compiler Construction*</td>
<td>3</td>
</tr>
<tr>
<td>CS 450 Operating Syst. Structure*</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 215 Probability &amp; Statistics*</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

### Spring Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 480 Senior Design Seminar*</td>
<td>2</td>
</tr>
<tr>
<td>CS 453 Data Computer Comm*</td>
<td>3</td>
</tr>
<tr>
<td>CS 4XX Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>14</td>
</tr>
</tbody>
</table>

### Fifth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPE 481 Senior Design Project*</td>
<td>3</td>
</tr>
<tr>
<td>CS 4xx Technical Elective*</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>Extra GEC 3–9 Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**Grand Total** **158**

\* Only taught once per year, in the semester shown.

\^ All CS required CPE, CS, MATH, and STAT courses must be completed with a grade of C or better.

---

**A. General Education (GEC)**

Students who enrolled at WVU beginning in the Fall 2005 term or after are required to fulfill General Education Curriculum (GEC) requirements. Appropriate courses must be completed to satisfy nine learning outcomes, four of which are automatically fulfilled by required courses. Students choose 18 hours of elective credit in outcomes 3, 5, 6, 7, and 9. Computer science majors are also required to complete three additional hours chosen from outcomes 3–9. For complete details, see [http://registrar.wvu.edu/current_students/general_education_curriculum](http://registrar.wvu.edu/current_students/general_education_curriculum).

**B. CS/CPE Technical Electives**

Students pursuing the dual C.S./C.P.E. degree should choose electives as outlined below. Students should always consult their advisor to be certain electives will count for appropriate credit.

**CS 4XX Technical Electives**

Students must choose nine hours of CS technical electives according to the following guidelines:

- Pick three 3-hour CS 4XX technical electives.
- CS 490, 491, 495, and 493C do not count as technical electives.
- Any CS 4XX course used as a technical elective must be completed with a C or better.

**CPE Technical Elective**

Pick one 3-hour CpE 4XX course.

**Engineering Science Elective**

Pick one elective (3 hrs.) from the following list:

- CHE 201 Material/Energy Balance
- CHE 366 Engr. Materials Science
- MAE 241 Statics
- MAE 320 Thermodynamics
- IENG 377 Engineering Economy
Department of Industrial and Management Systems Engineering

Wafik Iskander, Ph.D., P.E., Chair
321 Mineral and Energy Resources Building
E-mail: wafik.iskander@mail.wvu.edu
http://www.imse.cemr.wvu.edu

Degree Offered

Bachelor of Science in Industrial Engineering

Industrial Engineering

Industrial engineering is the discipline of engineering concerned with the design, improvement, and installation of integrated systems of people, material, information, equipment, and energy to assure performance, reliability, maintainability, schedule adherence, and cost control. Industrial engineers look at the “big picture” of an operation or system and bridge the gap between management and operations. They deal with and motivate people as well as determine what tools should be used and how they should be used. Industrial engineers use computers and sophisticated software as tools to solve complicated problems to design, quantify, predict, and evaluate the performance of all types of complex technologies and systems.

The mission of the industrial engineering program at WVU is to advance the industrial engineering profession through innovative and high-quality academic programs, relevant research, and professional services that address the needs of West Virginia, the nation, and the world. The industrial and management system engineers at WVU are taught to draw upon specialized knowledge and skills in the mathematical, physical, and social sciences, together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems. They are introduced to state-of-the-art software in their coursework for data analysis, information management, scheduling, quality control, optimization, and other practices and procedures used by the industrial engineering profession in highly evolving industries of the early 21st century.

The discipline of industrial engineering has a rich, ever-increasing diversity of applications. Traditionally, industrial engineers have been employed by manufacturing companies to do facilities and plant design, plant management, quality control, ergonomics, and production engineering. Today, however, industrial engineers are employed in almost any type of industry, business, or institution. Because of their skills, industrial engineers are more widely distributed and in greater demand among more industries than any other engineering discipline.

As an industrial engineer educated at WVU you can expect to have employment opportunities in manufacturing companies, insurance companies, banks, hospitals, technical sales, pharmaceutical companies, retail organizations including e-business, airlines, government agencies, consulting firms, construction, transportation, public utilities, social service, electronics, digital and wireless communications, etc. The diverse orientation of industrial engineering coupled with the skills and training you receive at WVU make you a prime source of management talent that offers unique professional advancement opportunities.

The industrial engineering program at WVU devotes considerable attention to the individual needs of the student. It is committed to develop student strengths in technical abilities, personal development, problem solving, and practical experience preparing them for careers in industry, business, government, or advanced professional degrees. One of the defining attributes in the success of the department is the dedication and talent of its faculty and staff. The aggregate careers of our faculty and staff represent nearly 300 years of service to students at WVU. In these 300 years of service are embodied the wisdom and experience to successfully prepare industrial engineers for the 21st century.

The faculty works extensively with over 250 sophomore, junior, and senior students in such areas as communication skills, personal growth and development, creation of summer internship opportunities, senior capstone project experience, and permanent job opportunities. As faculty and staff we are committed to provide for our students:
• A friendly, open-door collegial environment.
• Personable faculty mentoring students.
• Teaching concepts and techniques for today's demands.
• Quality courses that are innovative and challenging.
• Placement in the jobs they want.
• Notable life-long successes.

**Program Objectives of the Industrial Engineering Curriculum**

A graduate of the industrial engineering baccalaureate program at WVU will be prepared to:

• Practice industrial engineering and initiate and develop leadership roles in business, industry, and/or government.
• Continue professional development and life-long learning.
• Interact in society and business in a professional, ethical manner.
• Be proficient in written and oral communication and utilize people-oriented skills in individual and team environments.
• Apply the skills from industrial engineering to be proficient in his/her chosen field or graduate studies.

**Program Outcomes of the Industrial Engineering Curriculum**

At the time of their graduation, students will have acquired:

• The ability to use modern and classical industrial engineering methodologies such as operations research, manufacturing systems, computer programming and simulation, production systems, human factors and ergonomics, engineering statistics and quality control, and engineering economics.
• The ability to apply knowledge of math, science, and general engineering.
• The ability to design and conduct experiments, analyze and interpret data, develop implementation strategies, shape recommendations so that results will be achieved and findings will be communicated effectively.
• The ability to work individually, on teams, and/or on multi-disciplinary teams to identify, formulate, and solve problems using industrial engineering knowledge, skills, and tools.
• The ability to design and implement or improve integrated systems that include people, materials, information, equipment, and energy using appropriate analytical, computational, and experimental practices.
• The broad education necessary to develop and maintain professional ethics and understand the comprehensive impact of their solutions on individuals and the society.
• Recognition of the need for and an ability to engage in life-long learning.
• The professional characteristics expected of a successful industrial engineer.

To be eligible for graduation with a bachelor of science in industrial engineering a student must attain a grade point average of 2.0 or better for all industrial and management systems engineering courses attempted. If a course is repeated, only the last grade received is counted in computing the grade point average, and the course credit hours are counted only once. This requirement assures that the student has demonstrated overall competence in the chosen major.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.I.E. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.
**Industrial and Management Systems Engineering**

*First Year*

First-year program courses and credit hours are listed in the engineering or general engineering.

**Second Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
<td>MATH 261 Elem. Differential Equat.</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 116/GEC Elect. or PHYS 112</td>
<td>3–4</td>
<td>MAE 243 Mech. of Materials</td>
<td>3</td>
</tr>
<tr>
<td>MAE 241 Statics</td>
<td>3</td>
<td>IENG 213 Engineering Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102 Comp. &amp; Rhetoric</td>
<td>3</td>
<td>IENG 377 Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>IENG 200 Fundamentals of IE</td>
<td>1</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>IENG 220 Re-Engineering</td>
<td>3</td>
<td><strong>Total</strong></td>
<td><strong>17–18</strong></td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201 Microeconomics</td>
<td>3</td>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>IENG 301 Materials and Costing</td>
<td>1</td>
<td>IENG 302 Mfg. Processes</td>
<td>2</td>
</tr>
<tr>
<td>IENG 305 Intro. to Syst. Engr.</td>
<td>2</td>
<td>IENG 316 Ind. Quality Cont.</td>
<td>3</td>
</tr>
<tr>
<td>IENG 350 Intro. Oper. Research</td>
<td>3</td>
<td>IENG 331 Computer Appl. IE</td>
<td>3</td>
</tr>
<tr>
<td>IENG 360 Human Factors Engr.</td>
<td>3</td>
<td>IENG 343 Prod. Plan &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 221 Basic Electric Eng.</td>
<td>3</td>
<td>IENG 472 Design Prod. Systems</td>
<td>3</td>
</tr>
<tr>
<td>EE 222 Basic Electric Lab</td>
<td>1</td>
<td>IENG Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>IENG Technical Elective</td>
<td>3</td>
<td>IENG 446 Plant Layout/Mat'l Hand</td>
<td>3</td>
</tr>
<tr>
<td>IENG 455 Simula. Digital Meth.</td>
<td>3</td>
<td>MAE Elective</td>
<td>3</td>
</tr>
<tr>
<td>IENG 471 Design Productive Sys.</td>
<td>3</td>
<td>Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>Grand Total</strong></td>
<td><strong>129</strong></td>
</tr>
</tbody>
</table>

Students must satisfy the following requirements for their technical electives: Two IE technical electives (all IENG 4xx and IENG 5xx), One MAE technical elective (MAE 242, 320, or 331), and one technical elective from the following list: Any IE technical elective, or any MAE technical elective, or any of the following courses: MAE 330 or 427 or IH&S 5xx or CE 347 or 414 or CS 430 or 440 or EE 425 or 426 or GEOG 350 or MATH 343 or 420 or 441 or 455 or SAFM 470 or STAT 421 or 541 or any other course approved by the IMSE department.
Degrees Offered

Bachelor of Science in Mechanical Engineering
Bachelor of Science in Aerospace Engineering

Curriculum in Aerospace Engineering

Aerospace travel, space exploration, and flight of manned or unmanned vehicles continue to gain significance. Aerospace engineering is involved with the science and technology of advanced vehicles, including aircraft, rockets, missiles, and spacecraft. Although a specialized branch of engineering, it is also diverse. Aerospace technology has expanded to include design and development of earthbound vehicles such as ground-effect machines, hydrofoil ships, and high-speed rail-type systems.

The Department of Mechanical and Aerospace Engineering is highly committed to provide a foundation in aerospace engineering so that graduates will meet the following objectives:

- Graduates will be proficient in aerospace engineering.
- Graduates will be prepared to meet the varying demands of the workforce in the technological arena.
- Graduates will be prepared for the pursuit of lifelong learning.

The curriculum consists of a judicious combination of fundamentals, including mathematics and sciences, and practical laboratory experience which provides access to modern engineering tools. Aeronautical engineering subjects are to be the focus of the discipline along with significant exposure to space-related topics. Graduates will be able to critically analyze aerospace engineering problems and execute practical solutions. In addition to being able to function independently, it is expected that graduates will be able to function with effective written and oral communication within multidisciplinary teams and be prepared to address several issues such as environmental, social, and economic considerations, due to a thorough education in the humanities, social sciences, ethics, safety, and professionalism.

The aerospace engineering curriculum includes studies in the disciplines encountered in the design of aerospace vehicles, missiles, rockets, and spacecraft. Undergraduate students extensively study the basic principles of aerodynamics, solid mechanics and structures, stability and control, thermal sciences, and propulsion. The senior year includes a capstone flight vehicle design course providing an experiential learning opportunity.

Students are involved in both theoretical and experimental studies, and trained to integrate knowledge with practical engineering design. With the breadth and depth of education in aerospace engineering, students become versatile engineers, competent to work in many areas. The curriculum may serve as a terminal degree program by incorporating design-oriented courses for technical electives, or it may be used as a preparatory program for advanced study by the selection of science-oriented courses.

While the undergraduate curriculum is sufficiently broad to permit graduates to select from a wide variety of employment opportunities, it contains sufficient depth to prepare students to enter graduate school to pursue advanced degrees. As modern science and engineering become more complex, the desirability of graduate-level preparation is being recognized by most advanced industries and government agencies.

Students can simultaneously pursue B.S. degrees in both aerospace engineering and mechanical engineering by completing additional courses. Information on this 155 credit-hour, four-and-one-half-year option can be seen at the end of this department description.
Students who plan a career in medicine, dentistry, or related areas, but who desire an aerospace engineering degree before entering the appropriate professional school, may substitute eight hours (from a combination of biology and organic chemistry courses) for the required six hours of technical electives. This selection will help students satisfy admission requirements to the professional schools in the health sciences.

The aerospace engineering program at WVU is administered by the faculty of the Department of Mechanical and Aerospace Engineering.

**Minimum Grade Point Average Requirement for Graduation (B.S.A.E.)**

A requirement for graduation in aerospace engineering is a departmental grade point average of at least 2.0 in all required mechanical and aerospace engineering departmental courses. If a required MAE course is repeated, only the hours credited and the grade received for the last completion of the course will be counted in computing the student’s departmental grade point average. Also a grade of C or better is required in each of the four required mathematics courses.

It is important for students to take courses in the order specified as close as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.A.E. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

*First Year*

First-year program courses and credit hours are listed in the engineering or general engineering curricula.

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
<td><strong>Hrs.</strong></td>
<td></td>
</tr>
<tr>
<td>MAE 215 Intro. to Aerospace Engr. ..3</td>
<td></td>
<td>MAE 242 Dynamics..................3</td>
</tr>
<tr>
<td>MAE 241 Statics</td>
<td></td>
<td>MAE 243 Mechanics of Materials..3</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus........3</td>
<td></td>
<td>MAE 244 Dynam. and Strength Lab..</td>
</tr>
<tr>
<td>PHYS 112 General Physics................4</td>
<td></td>
<td>MATH 261 Elem. Differential Equat..</td>
</tr>
<tr>
<td>ENGL 102 Comp. &amp; Rhetoric .............3</td>
<td></td>
<td>ECON 201 Microeconomics..........3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td></td>
</tr>
</tbody>
</table>

| Third Year                               |                  |                                  |
|                                         | **Hrs.**         |                                  |
| **Fall Semester**                        |                  | **Spring Semester**               |
| MAE 316 Analy. of Engr. Sys...........3  |                  | EE 221 Basic Electrical Engr.......|
| MAE 320 Thermodynamics................3 |                  | EE 222 Basic Electrical Lab......1|
| MAE 335 Incompressible Aerodyn.........3 |                  | MAE 336 Compress. Aerodyna.......3|
| MAE 343 Intermed. Mech. of Matls.....3  |                  | MAE 345 Aerospace Structures......3|
| ECON 202 Microeconomics................3 |                  | MAE 365 Flight Dynamics..........3|
| **Total**                                | **15**           | GEC Elective.......................3|
|                                          |                  | **Total**                        | **16**|

| Fourth Year                              |                  |                                  |
|                                         | **Hrs.**         |                                  |
| **Fall Semester**                        |                  |                                  |
| MAE 426 Flight Vehcl. Propulsion ......3 |                  | MAE 423 Heat Transfer.............3|
| MAE 434 Experimental Aerodyne........2   |                  | MAE 460 Automatic Controls......3|
| MAE 456 CAD/Finite Elem. Ana...............|                  | MAE 475 Flight Vehicle Design.....3|
| MAE 476 Space Flight and Sys...........3 |                  | Technical Elective................3|
| Technical Elective.......................3|                  | GEC Elective.......................3|
| **Total**                                | **14**           |                                  |
|                                          |                  |                                  |

*Including 34 credits from the freshman year.

**Note:** The six hours of technical electives must be selected from a list of approved aerospace engineering technical electives after consulting with the advisor; the courses selected should form a clear and consistent pattern according to the career objectives of the student. The six hours of General Education Curriculum (GEC) courses listed in the last two years must be selected to meet the University and college GEC requirements.
Curriculum in Mechanical Engineering

Mechanical engineering is a broad technical discipline. It integrates knowledge of the physical sciences and mathematics for the design, construction, and manufacture, testing, analysis, use, and operation of a device, structure, a machine, a process, or a system in service to mankind. Its development parallels the growth of industry. Modern society needs mechanical engineers who have broad and deep training in the fundamentals of engineering and related sciences, and have developed versatility in analyzing and solving complex problems. The mechanical engineer must not only possess a high level of professional expertise but also have an appreciation for the impact of engineering solutions in a societal context, including ethical and economic considerations.

Mechanical engineers are problem-solvers who are scientifically informed and mathematically minded. The mechanical engineering curriculum prepares students to deal effectively with a broad range of engineering problems rather than with narrow specialties. Graduates find employment in a wide range of industries, government agencies, and educational institutions where they are concerned with many functions: the use and economic conversion of energy from natural sources into useful energy for power, light, heating, cooling, and transportation; the design and production of machines to lighten the burden of human work; the planning and development of systems for using energy machines and resources; the processing of materials into products useful to mankind; and the education and training of specialists who deal with mechanical systems.

The Department of Mechanical and Aerospace Engineering is highly committed to provide a foundation in mechanical engineering so that graduates will meet the following objectives.

• Graduates will be proficient in mechanical engineering.
• Graduates will be prepared to meet the varying demands of the workforce in the technological arena.
• Graduates will be prepared for the pursuit of lifelong learning.

The curriculum consists of a judicious combination of fundamentals, including mathematics and sciences, and practical laboratory experience which provides access to modern engineering tools. Mechatronics, which is a study of the interdependence between mechanical engineering and electrical/electronics engineering, is a key part of the mechanical engineering curriculum. Graduates will be able to critically analyze mechanical engineering problems and execute practical solutions. In addition to being able to function independently, it is expected that graduates will be able to function with effective written and oral communication within multidisciplinary teams and be prepared to address several issues such as environmental, social, and economic considerations due to a thorough education in the humanities, social sciences, ethics, safety, and professionalism.

While the undergraduate curriculum is sufficiently broad to permit graduates to select from a wide variety of employment opportunities, it contains sufficient depth to prepare students to enter graduate school to pursue advanced degrees. As modern science and engineering become more complex, the desirability of graduate-level preparation is being recognized by most advanced industries and government agencies.

Students can simultaneously pursue B.S. degrees in both aerospace engineering and mechanical engineering by completing additional courses. Information on this 155 credit-hour, four-and-one-half-year option can be seen at the end of this section.

Students who plan a career in medicine, dentistry, or related areas, but who desire a mechanical engineering degree before entering the appropriate professional school, may substitute eight hours (from a combination of biology and organic chemistry courses) for the required six hours of technical electives. This selection will help the student satisfy admission requirements to the professional schools in the health sciences.

The mechanical engineering program at WVU is administered by the faculty of the Department of Mechanical and Aerospace Engineering.
Minimum Grade Point Average Requirement for Graduation (B.S.M.E.)

A requirement for graduation in mechanical engineering is a departmental grade point average of 2.0 or better for all required mechanical and aerospace engineering (MAE) courses. If a required MAE course is repeated, only the hours credited and the grade received for the last completion of the course is used in computing the student's departmental grade point average. Also a grade of C or better is required in each of the four required mathematics courses.

It is important for students to take courses in the order specified as close as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.M.E. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

First Year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 211 Mechatron. or ECON 201</td>
<td>3</td>
<td>MAE 242 Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>MAE 241 Statics</td>
<td>3</td>
<td>MAE 243 Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
<td>MAE 244 Dynam. &amp; Strength Lab</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 112 General Physics</td>
<td>4</td>
<td>MATH 261 Elem. Differential Equat</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
<td>MAE 211 Mechatron. or ECON 201</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td><strong>Total</strong></td>
<td>14</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 316 Analy. of Engr. Sys</td>
<td>3</td>
<td>MAE 321 Applied Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>MAE 320 Thermodynamics</td>
<td>3</td>
<td>MAE 322 Thermal and Fluids Lab</td>
<td>1</td>
</tr>
<tr>
<td>MAE 343 Intermed. Mech. Mats.</td>
<td>3</td>
<td>MAE 331 Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>EE 221 Basic Electrical Engr.</td>
<td>3</td>
<td>MAE 342 Dynamics of Machines</td>
<td>3</td>
</tr>
<tr>
<td>EE 222 Basic Electrical Lab</td>
<td>1</td>
<td>IENG 302 Manufacturing Process</td>
<td>2</td>
</tr>
<tr>
<td>ECON 202 Microeconomics</td>
<td>3</td>
<td>IENG 303 Manf. Process Lab</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td><strong>GEC Elective</strong></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 454 Machine Design &amp; Mfg</td>
<td>3</td>
<td>MAE 411 Advanced Mechatronics</td>
<td>3</td>
</tr>
<tr>
<td>MAE 456 CAD/Finite Elem. Ana</td>
<td>3</td>
<td>MAE 423 Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>MAE 471 Prin. of Engr. Design</td>
<td>3</td>
<td>MAE 460 Automatic Controls</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
<td>Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>GEC Elective</strong></td>
<td>3</td>
<td><strong>Total</strong></td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td><strong>Grand Total</strong></td>
<td>124*</td>
</tr>
</tbody>
</table>

*Including 34 credits from the freshman year.

Note: The six hours of technical electives must be selected from a list of approved mechanical engineering technical electives after consulting with the advisor; the courses selected should form a clear and consistent pattern according to the career objectives of the student. The six hours of General Education Curriculum (GEC) courses listed in the last two years must be selected to meet the University and college GEC requirements.

Dual Major in Aerospace Engineering and Mechanical Engineering

In the modern technical marketplace, college graduates must attain every competitive edge possible to enhance their career opportunities. One way to do this is with a master's degree following the bachelor's degree; however, this often results in more specialization than may be desired, and may take an additional two years. Another option is to broaden
the undergraduate experience, thus opening more opportunities for the graduate. The dual B.S.A.E./B.S.M.E. program awards both the aerospace engineering and mechanical engineering degrees at the completion of a planned curriculum.

Students under this option pursue the B.S.A.E. and B.S.M.E. degrees simultaneously. This can be accomplished by declaring intentions as a freshman requesting admission to the programs, or by informing an MAE advisor of the dual-degree preference. Maximum scheduling flexibility will result when this decision is made as early as possible in the student’s academic career. Dual-degree students must take all courses listed in the 155-hour dual curriculum below and satisfy the other requirements of the two individual programs.

The state of West Virginia is a member of a group of Academic Common Market (ACM) states. WVU allows residents of states within the ACM to enroll in the dual B.S.A.E./B.S.M.E. program on an in-state tuition basis. Application must be made through the higher education authority of the state of residence.

It is important for students to take courses in the order specified as close as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.A.E. and B.S.M.E. degrees program that completes both degree requirements in four and one-half years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

**First Year**
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

**Second Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 215 Intro. Aerospace Engr.</td>
<td>3</td>
<td>MAE 211 Mechatronics</td>
<td>3</td>
</tr>
<tr>
<td>MAE 241 Statics</td>
<td>3</td>
<td>MAE 242 Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
<td>MAE 243 Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 112 General Physics</td>
<td>4</td>
<td>MAE 331 Fluid Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
<td>MATH 261 Elem. Differential Equat.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 316 Analysis of Eng. Sys.</td>
<td>3</td>
<td>MAE 244 Dynamics &amp; Strength Lab.</td>
<td>1</td>
</tr>
<tr>
<td>MAE 320 Thermodynamics</td>
<td>3</td>
<td>MAE 322 Thermal &amp; Fluids Lab</td>
<td>1</td>
</tr>
<tr>
<td>MAE 335 Incompressible Aerody...</td>
<td>3</td>
<td>MAE 336 Compressible Aer...</td>
<td>3</td>
</tr>
<tr>
<td>MAE 343 Intermed. Mech of Mat.</td>
<td>3</td>
<td>MAE 342 Dynamics of Machines</td>
<td>3</td>
</tr>
<tr>
<td>EE 221 Basic Electrical Engr.</td>
<td>3</td>
<td>MAE 345 Aerospace Structures</td>
<td>3</td>
</tr>
<tr>
<td>EE 222 Basic Electrical Lab..</td>
<td>1</td>
<td>MAE 365 Flight Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAE 426 Flight Vehicle Propulsion...</td>
<td>3</td>
<td>MAE 411 Advanced Mechatronics</td>
<td>3</td>
</tr>
<tr>
<td>MAE 434 Experiment. Aerodyna.</td>
<td>2</td>
<td>MAE 423 Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>MAE 456 CAD/Finite Elem Ana...</td>
<td>3</td>
<td>MAE 460 Automatic Controls</td>
<td>3</td>
</tr>
<tr>
<td>MAE 476 Space Flight &amp; Systems...</td>
<td>3</td>
<td>MAE 475 Flight Vehicle Design</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
<td>IENG 302 Mfg. Processes</td>
<td>2</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
<td>IENG 303 Mfg. Process Lab</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>
Fifth Year
Fall Semester  Hrs.
MAE 454 Machine Design & Mfg. .... 3
MAE 471 Prin. of Engr. Design .......... 3
Technical Elective ......................... 3
Technical Elective ........................ 2
GEC Elective ............................... 3
Total ............................................ 14
Grand Total ................................. 155*

*Including 34 credits from the freshman year.

Note: Six hours of technical electives must be selected from a list of approved aerospace engineering technical electives and other six hours from a list of approved mechanical engineering technical electives after consulting with the advisor; the courses selected should form a clear and consistent pattern according to the career objectives of the student. The six hours of General Education Curriculum (GEC) courses listed in the last two years must be selected to meet the University and college GEC requirements.

Department of Mining Engineering
Christopher J. Bise, Ph.D., Chair
365-A Mineral Resources Building
E-mail: Chris.Bise@mail.wvu.edu
http://www.mine.cemr.wvu.edu

Degree Offered
Bachelor of Science in Mining Engineering (B.S.Min.E.)
Dual Bachelor of Science in Mining Engineering (B.S.Min.E.) and Civil Engineering (B.S.C.E.)
Dual Bachelor of Science in Mining Engineering (B.S.Min.E.) and Geology (B.S.)

Mining Engineering Program
Mining engineering deals with discovering, extracting, beneficiating, marketing, and utilizing mineral deposits from the earth's crust. The role of the mining engineer may be quite diversified, and the field offers opportunities for specialization in a large number of technical areas. The trained professional in this field is well versed in mining and geology and also in the principles of civil, electrical, and mechanical engineering as applied to the mining industry. With the present trend toward the use of engineers in industrial management and administrative positions, the mining engineer's training also includes economics, business, personnel management, and the humanities.

The mission of the mining engineering undergraduate program at West Virginia University (B.S.Min.E.) has been established to produce graduates who are thoroughly prepared to meet the operational and engineering challenges of the mining industry, and to continue their studies in graduate programs.

The mining engineering program educational objectives have been designed:
• To deliver curriculum material that is of sufficient science and engineering rigor to ensure that graduates have the basis for entering the private or public sector as mining engineers, or higher education, if they so choose.
• To enable graduates to comprehend the interrelationships among geology, exploration, valuation, development, exploitation, reclamation, and processing of mineral deposits in a coordinated manner, from the introductory mining courses to the capstone mine-design course.
• To encourage graduates in the use of computer and information technology, in a comprehensive manner, as it relates to engineering applications for mineral resources.
• To encourage graduates in the development of their awareness, appreciation, and communication capabilities to address societal concerns with regard to the total environment, health and safety, lifelong learning, and the conservation of our natural resources.
The program outcomes of the B.S.Min.E. program have been designed to assure that:

- Students are well prepared in application of mathematics, science, and engineering.
- Students are well prepared to design and conduct experiments, as well as to analyze and interpret data.
- Students are well prepared to design a system, component, or process to meet desired needs.
- Students have an ability to function on multidisciplinary teams.
- Students have an ability to identify, formulate, and solve engineering problems.
- Students have an understanding of professional and ethical responsibility.
- Students have an ability to communicate effectively.
- Students have the broad education necessary to understand the impact of engineering solutions in a global and societal context.
- Students have recognition of the need for, and an ability to engage in life-long learning.
- Students have knowledge of contemporary issues.
- Students have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- Students have an understanding of the importance of economics, environmental, health, and safety issues in the operations of modern mines.
- Students have an ability to learn independently.

Professional technical courses include surface and underground mining systems, engineering principles of blasting, materials handling, ventilation, roof control, rock mechanics, mining equipment, coal and mineral preparation, plant and mine design, geology, and water control. In addition, students receive a foundation in the managerial, financial, environmental, and social aspects of the operation of a mining enterprise. Local coal fields, mines, and preparation plants provide extensive opportunity for research, instruction, and field work in a real-world situation.

In the fourth year, the student may specialize in such career areas as coal mining, ore mining, or other phases of mining engineering through the proper selection of design problems and electives. The student will be assigned an advisor who will assist in this phase of the program.

A student admitted to the program, including the dual degree programs with civil engineering or geology, must achieve a grade point average of 2.25 or better in all mining (MINE) courses in order to qualify for the bachelor's degree.

It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S.Min.E. degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

First Year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year
Fall Semester Hrs.
MINE 205 Undergrd. Mining Syst..... 3
MINE 201 Mine Surveying ............ 3
MINE 261 Engineering CAD .......... 2
MAE 241 Statics ....................... 3
GEOL 342 Struct. Geol. for Engr.... 3
MATH 251 Multivariable Calculus.... 4
Total .................................... 18

Spring Semester Hrs.
MINE 206 Surface Mining Systems... 4
MAE 243 Mech. of Materials .......... 3
MATH 261 Elem. Differential Equat. 4
PHYS 112 General Physics .......... 4
MAE 331 Fluid Mechanics ............ 3
Total .................................... 18
### Third year

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Semester Hrs.</th>
<th>Spring Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINE 306 Mining Expl. and Eval</td>
<td>3</td>
<td>MINE 331 Mine Ventilation</td>
</tr>
<tr>
<td>MINE 382 Mine Power System</td>
<td>3</td>
<td>MINE 427 Coal Preparation</td>
</tr>
<tr>
<td>Mine 461 Appl. Min. Comp. Meth</td>
<td>3</td>
<td>Engl 102 Comp. &amp; Rhetoric</td>
</tr>
<tr>
<td>MAE 320 Thermodynamics</td>
<td>3</td>
<td>MAE 242 Dynamics</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
<td>GEC Elective</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

### Fourth year

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Semester Hrs.</th>
<th>Spring Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINE 411 Rock Mechanics</td>
<td>4</td>
<td>MINE 484 Mine Design-Report</td>
</tr>
<tr>
<td>MINE 483 Mine Design-mapping</td>
<td>2</td>
<td>AGRN 455 Recl. of Disturbed Soils</td>
</tr>
<tr>
<td>MINE 471 Mine &amp; Safety Mgmt</td>
<td>3</td>
<td>Mine 480 Multidisciplin. Team Prjt.</td>
</tr>
<tr>
<td>Technical Elective*</td>
<td>3</td>
<td>Eng/Sci Technical Elective**</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
<td>GEC Elective</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Grand Total: 134

* Technical elective options are MINE 407, MINE 414, or other courses from mining engineering approved by the department.

** Eng/sci. technical elective may be selected from non-mining engineering/science courses, or mining engineering courses approved by the department.

### Curriculum for a Dual Major in Mining and Civil Engineering

This curriculum allows students to simultaneously pursue B.S. degrees in civil engineering and mining engineering by completing additional courses. The dual degree program requires satisfactory completion of 158 credit hours. A suggested schedule for the dual curriculum in civil engineering and mining engineering is shown below.

#### Civil Engineering/Mining Engineering (Dual)

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Semester Hrs.</th>
<th>Spring Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115 Fund. of Chemistry</td>
<td>4</td>
<td>CHEM 116 Fundamtl of Chem. or</td>
</tr>
<tr>
<td>ENGL 101 Comp. and Rhetoric</td>
<td>3</td>
<td>GEC Elective</td>
</tr>
<tr>
<td>ENGR 199 Orientation</td>
<td>1</td>
<td>GEC: GEOL 101 Planet Earth</td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
<td>GEOL 102 Planet Earth Lab</td>
</tr>
<tr>
<td>MATH 155 Calculus I</td>
<td>4</td>
<td>MATH 156 Calculus</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15-18</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Semester Hrs.</th>
<th>Spring Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 201 Introduction to CE</td>
<td>1</td>
<td>ENGL 102 Comp. and Rhetoric</td>
</tr>
<tr>
<td>MAE 241 Statics</td>
<td>3</td>
<td>MAE 242 Dynamics</td>
</tr>
<tr>
<td>MATH 251 Multivariate Calculus</td>
<td>4</td>
<td>MATH 261 Elem. Differential Equat.</td>
</tr>
<tr>
<td>MINE 201 Mine Surveying</td>
<td>3</td>
<td>MINE 206 Surface Mining Systems</td>
</tr>
<tr>
<td>MINE 205 Undergrd. Mining Syst</td>
<td>3</td>
<td>PHYS 112 General Physics</td>
</tr>
<tr>
<td>MINE 261 Engineering CAD</td>
<td>2</td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Grand Total: 134
### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td></td>
<td>Spring Semester</td>
<td></td>
</tr>
<tr>
<td>CE 321 Fluid Mechanics</td>
<td>3</td>
<td>CE Core†</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 342 Structural Geology</td>
<td>3</td>
<td>CE Core†</td>
<td>4</td>
</tr>
<tr>
<td>MAE 243 Mechanics of Materials</td>
<td></td>
<td>MINE 331 Mine Ventilation</td>
<td>3</td>
</tr>
<tr>
<td>MAE 320 Thermodynamics</td>
<td>3</td>
<td>MINE 427 Coal Preparation</td>
<td>4</td>
</tr>
<tr>
<td>STAT 215 Statistics</td>
<td>3</td>
<td>MINE 480 Interdis. Team Project</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td></td>
<td>Spring Semester</td>
<td></td>
</tr>
<tr>
<td>CE Core†</td>
<td>4</td>
<td>CE Seminar</td>
<td>1</td>
</tr>
<tr>
<td>CE Core†</td>
<td>4</td>
<td>CE Design Elective*</td>
<td>3</td>
</tr>
<tr>
<td>MINE 306 Mining Explor. and Eval.</td>
<td>3</td>
<td>CE Design Elective*</td>
<td>3</td>
</tr>
<tr>
<td>MINE 382 Mine Power System</td>
<td>3</td>
<td>CE 322 Hydrotechnical Eng.</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>14</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IENG 377 Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

### Fifth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Semester</td>
<td></td>
<td>Spring Semester</td>
<td></td>
</tr>
<tr>
<td>GEC Elective</td>
<td>3</td>
<td>CE Technical Elective**</td>
<td>3</td>
</tr>
<tr>
<td>GEC: ECON 201 Prin. of Microec.</td>
<td>3</td>
<td>CE 479 Integrated Design</td>
<td>3</td>
</tr>
<tr>
<td>MINE 411 Rock Mech. &amp; Grd Cont.</td>
<td>4</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>MINE 471 Mine &amp; Safety Mgmt</td>
<td>3</td>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>MINE 483 Mine Dsgn- Exploration</td>
<td>2</td>
<td>MINE 484 Mine Dsgn-Rpt. (W)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grand Total</td>
<td>158</td>
</tr>
</tbody>
</table>

### Notes:

1. **Discipline substitutions**
   - MINE 306 fulfills requirement of CE Engr/Math/Sci Elective 1
   - MINE 411 fulfills requirement of CE Engr/Math/Sci Elective 2
   - MINE requirement for AGRN 455 is fulfilled through CE 322 and CE 351
   - MINE 382 fulfills requirement of CE engineering elective outside CE
   - MINE 461 is fulfilled by CE 322
   - MINE 484W fulfills CE requirement of ENGL 305
   - MINE requirement for STAT 211 is fulfilled by CE requirement of STAT 215
   - CE 321 fulfills MINE requirement for MAE 331
   - MINE technical elective and MINE Eng/Sci technical elective requirements are fulfilled by any two of the following: CE 332, 347 or 361.
   - GEOL 342 fulfills requirement of CE basic science elective
   - MINE 261 substitutes for CE 210

2. **CE Core Classes**
   - CE 332 Introduction to Transportation Engineering
   - CE 347 Environmental Engineering
   - CE 351 Introductory Soil Mechanics
   - CE 361 Structural Analysis I

3. **CE Design Electives**—any approved CE 400-level design course. See advisor for approved list.

4. **CE Open Electives**—any approved CE 300 or CE 400-level course. See advisor for approved list.

5. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum

### Dual Degree Curriculum for Mining Engineering and Geology

This curriculum allows students to simultaneously pursue B.S. degrees in both mining engineering and geology. The dual degree program requires satisfactory completion of 158 credits, and fulfilling all the requirements for both degrees.
It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical dual B.S.Min.E. and B.S.Geol. program that completes both degree requirements in five years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

First Year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 284 Mineralogy</td>
<td>3</td>
</tr>
<tr>
<td>MAE 241 Statics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Multivariate Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MINE 201 Mine Surveying</td>
<td>3</td>
</tr>
<tr>
<td>MINE 205 Undergrd Mining Syst</td>
<td>3</td>
</tr>
<tr>
<td>MINE 261 Engineering CAD</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Spring Semester

<table>
<thead>
<tr>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 116 Funda. of Chemistry</td>
</tr>
<tr>
<td>GEOL 285 Introductory Petrology</td>
</tr>
<tr>
<td>MAE 331 Fluid Mechanics</td>
</tr>
<tr>
<td>MINE 206 Surface Mining Systems</td>
</tr>
<tr>
<td>PHYS 112 General Physics</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Total

Total: 18

Third Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 341 Structural Geology</td>
<td>3</td>
</tr>
<tr>
<td>MAE 320 Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 261 Elem. Differential Equat.</td>
<td>4</td>
</tr>
<tr>
<td>MINE 461 App Mlnl Comp. Mthds</td>
<td>3</td>
</tr>
<tr>
<td>STAT 211 Elem. Statistical Inference</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Spring Semester

<table>
<thead>
<tr>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEC Elective</td>
</tr>
<tr>
<td>GEOL 311 Stratigraphy and Sedimentation (W)</td>
</tr>
<tr>
<td>MAE 243 Mechanics of Materials</td>
</tr>
<tr>
<td>MINE 331 Mine Ventilation</td>
</tr>
<tr>
<td>MINE 427 Coal Preparation</td>
</tr>
<tr>
<td>MINE 480 Interdis. Team Project</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Total

Total: 18

Summer

<table>
<thead>
<tr>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 404 Geology Field Camp</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>GEC Elective (ECON 201 Principle of Microeconomics)</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 331 Paleontology, or GEOL 454 Environmental and Exploration Geophysics</td>
<td>3</td>
</tr>
<tr>
<td>MINE 382 Mine Power System</td>
<td>3</td>
</tr>
<tr>
<td>MINE 306 Mine Explor. &amp; Eval</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Spring Semester

<table>
<thead>
<tr>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEC Elective</td>
</tr>
<tr>
<td>GEC Elective</td>
</tr>
<tr>
<td>GEOL 321 Geomorphology</td>
</tr>
<tr>
<td>GEOL Elective*</td>
</tr>
<tr>
<td>MAE 242 Dynamics</td>
</tr>
<tr>
<td>MINE 483 Mine Design-Exploration</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Total

Total: 15

Fifth Year

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEC Elective</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 495 or MINE 495 Independent Study*</td>
<td>1</td>
</tr>
<tr>
<td>MINE 411 Rock Mechanics &amp; Ground Control</td>
<td>4</td>
</tr>
<tr>
<td>MINE 471 Mine and Safety Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>MINE 484 Mine Design-Report (W)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Grand Total

| **158** |
Notes:
1. Discipline substitutions are:
   - GEOL 311 and other GEOL upper-division elective courses fulfill the requirements for MinE technical elective and eng/sci technical elective.
   - GEOL requirement for GEOL 341 is substituted for MINE requirement for GEOL 342.
   - MinE requirement of ARGN 455 is fulfilled through GEOL 321
   - MinE 205 and MinE 206 fulfill the requirement of GEOL upper-division technical electives
   - MinE 484W and GEOL 311W fulfill the requirement of writing course
   - ECON 201 and GEOL 101 fulfill two of the GEC requirements in the mining curriculum

2. * GEOL technical elective may be any GEOL upper-division elective courses including GEOL 493, but not GEOL 351.
   ** One credit hour from GEOL 495, MINE 495, or eng/sci technical electives or others approved by GEOL or MINE department can be used to satisfy 158 total credit hours requirement.
   *** GEOL 404 Summer Field Camp is GEOL capstone course.

Department of Petroleum and Natural Gas Engineering
Sam Ameri, M.S., P.E., Chair
347-A Mineral and Energy Resources Building
E-mail: samuel.ameri@mail.wvu.edu
http://www.pnge.cemr.wvu.edu

Degree Offered
Bachelor of Science in Petroleum and Natural Gas Engineering

Curriculum in Petroleum and Natural Gas Engineering

Petroleum and natural gas engineering is concerned with design and application aspects of the discovery, production, and transportation of oil and natural gas resources.

Professionals in this field must have a thorough understanding of the geological principles relating to the occurrence, discovery, and production of fluid hydrocarbons. The petroleum and natural gas engineer must know and be capable of applying both conventional engineering design principles as well as those pertaining specifically to the field of petroleum and natural gas engineering. These are developed in the petroleum engineering courses in the curriculum. In addition, a strong foundation in mathematics and the sciences broadens the future engineer's professional capabilities. Because many engineers will be employed as supervisors or executives, managerial and social skills are also emphasized.

Students are offered the opportunity to enter all phases of the petroleum and natural gas industry in meaningful and important jobs, continue their education towards advanced degrees, or in some cases pursue a combination of professional employment and continued education.

The petroleum and natural gas engineering undergraduate program educational objectives are to:

- The graduates will be successful in their professional careers as petroleum engineers in the energy industry, government agencies, and/or post-graduate education.
- The graduates will be successful in effectively formulating, communicating, and implementing solutions to engineering problems in a variety of professional environments.
- The graduates will be successful in demonstrating their obligations to the profession, to their employer, and to society.
The foundation for achieving program objectives is established through a rigorous curriculum that provides the students with:

- An understanding of scientific and engineering principles and the application of these principles in solving petroleum and natural gas engineering problems using modern tools.
- An integrated design experience leading to a capstone design course.
- A balanced and rounded education to recognize the need for developing technical communication and teamwork skills, as well as understanding the engineer's professional, ethical, and societal obligations.

The outcomes of the petroleum and natural gas engineering undergraduate program are as follows:

- The graduates will have a thorough understanding of scientific and engineering principles and their application to petroleum and natural gas engineering problems.
- The graduates will have the ability to integrate their scientific and engineering knowledge to design and conduct experiments, and interpret and analyze data.
- The graduates will have the ability to apply scientific and engineering fundamentals to formulate solutions to petroleum and natural gas engineering problems.
- The graduates will have the ability to use techniques, skills, and modern petroleum and natural gas engineering tools.
- The graduates will have the ability to integrate their scientific and engineering knowledge to solve petroleum and natural gas engineering design problems.
- The graduates will have the ability to communicate effectively.
- The graduates will have the ability to function on multi-disciplinary teams.
- The graduates will recognize the professional and ethical responsibilities of a petroleum engineer.
- The graduates will have an understanding of the impact of petroleum and natural gas engineering solutions in societal and global context.
- The graduates will recognize the need to acquire the knowledge of contemporary issues.
- The graduates will recognize the need to engage in lifelong learning.

These outcomes are achieved by enrolling in rigorous individual courses in all basic areas of petroleum and natural gas engineering, basic science, mathematics, geology, and humanities and social sciences. The petroleum and natural gas engineering curriculum also contains significant laboratory components aimed at reinforcing the knowledge gained in the classroom. In the senior year, electives are offered in which the student may obtain additional depth of knowledge in specific areas of petroleum and natural gas technology. Each student is individually assisted in course selection by an advisor who is a member of the petroleum and natural gas engineering faculty.

Students gain practical experience and first-hand knowledge of many aspects of petroleum and natural gas engineering through close proximity to the industry in West Virginia and surrounding states. Production sites, secondary and enhanced oil recovery projects, compressor stations, gas storage fields, and corporate offices all provide excellent opportunities for our students. Additional experience is provided through modern, well-equipped laboratories within the department and the University. Students are urged to gain field experience through summer employment in the industry.

A student admitted to the program must achieve a grade point average of 2.25 or better and a grade of C or better in all petroleum and natural gas engineering (PNGE) courses in order to qualify for the bachelor's degree.
It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical B.S. PNGE degree program that completes degree requirements in four years is as follows. For the most recent list of approved courses in the GEC Program, visit the GEC site at http://registrar.wvu.edu/current_students/general_education_curriculum.

Petroleum and Natural Gas Engineering
First Year
First-year program courses and credit hours are listed in the engineering or general engineering curricula.

Second Year
<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 112 General Physics</td>
<td>4</td>
<td>MATH 261 Elem. Differential Equat.</td>
<td>4</td>
</tr>
<tr>
<td>MATH 251 Multivariable Calculus</td>
<td>4</td>
<td>MAE 243 Mech. of Materials</td>
<td>3</td>
</tr>
<tr>
<td>MAE 241 Statics</td>
<td>3</td>
<td>MAE 331 Fluid Mech.</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102 Composition &amp; Rhetoric</td>
<td>3</td>
<td>IENG 213 or STAT 215</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 101 Planet Earth</td>
<td>3</td>
<td>PNGE 200 Intro. Pet. Engr.</td>
<td>3</td>
</tr>
<tr>
<td>or GEC Elective</td>
<td>3</td>
<td>Total</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Third Year
<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNGE 332 Pet. Prop./Phase Beh.</td>
<td>3</td>
<td>PNGE 310 Drilling Engr.</td>
<td>4</td>
</tr>
<tr>
<td>EE 221 Basic Elec. Engr.</td>
<td>3</td>
<td>PNGE 312 Drilling Fl. Lab.</td>
<td>1</td>
</tr>
<tr>
<td>ECON 201 Microeconomics</td>
<td>3</td>
<td>PNGE 333 Elem. Res. Engr.</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 342 Struct. Geol.</td>
<td>3</td>
<td>GEO Elective*</td>
<td>3</td>
</tr>
<tr>
<td>MAE 320 Thermodynamics</td>
<td>3</td>
<td>ECON 202 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Fourth Year
<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Hrs.</th>
<th>Spring Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNGE 420 Production Engr.</td>
<td>3</td>
<td>PNGE 400 Pet. Engr. Ethics</td>
<td>1</td>
</tr>
<tr>
<td>PNGE 434 App. Res. Engr.</td>
<td>3</td>
<td>PNGE 405 Multidis. Team Project</td>
<td>1</td>
</tr>
<tr>
<td>PNGE 441 O&amp;G Property Eval.</td>
<td>3</td>
<td>PNGE 432 Pet. Res. Lab.</td>
<td>1</td>
</tr>
<tr>
<td>PNGE 450 Formation Eval.</td>
<td>3</td>
<td>PNGE 480 Pet. Engr. Design</td>
<td>3</td>
</tr>
<tr>
<td>PNGE 470 Nat. Gas. Engr.</td>
<td>4</td>
<td>Technical Elective**</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>Total</strong></td>
<td><strong>6</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Grant Total</strong></td>
<td><strong>131</strong></td>
</tr>
</tbody>
</table>

*Recommended geology electives are GEOL 365, 454, or 472.
**Recommended technical electives are PNGE 460, 471, 501, or 532.
College of Human Resources and Education
Dee Hopkins, Ed.D., Dean
Paul Chapman, Ph.D., Interim Associate Dean
http://www.wvu.edu/~hre

Degrees Offered
- Bachelor of Arts in Multidisciplinary Studies
- Bachelor of Science in Child Development and Family Studies
- Bachelor of Science in Speech Pathology and Audiology
- Five-Year Integrated Baccalaureate/M.A. in Elementary Education
- Five-Year Integrated Baccalaureate/M.A. in Secondary Education

Nature of Program
The College of Human Resources and Education is divided into five academic departments: Counseling, Rehabilitation Counseling, and Counseling Psychology; Curriculum and Instruction/Literacy Studies; Technology, Learning, and Culture; Special Education; and Speech Pathology and Audiology. The college's faculty and staff are located in Allen Hall on the Evansdale campus. The college undergraduate programs focus on preparing professionals whose efforts serve the needs of families in schools, homes, clinics, agencies, and other community settings.

The college offers undergraduate programs in child development and family studies and in speech pathology and audiology. The college also offers teacher preparation programs in elementary and secondary education in which students earn a baccalaureate degree in a content area or in an area of specialization from the Eberly College of Arts and Sciences and a master of arts in elementary or secondary education by completing a five-year sequence of study. The teacher education programs integrate liberal studies, coursework in pedagogy and the content area, and a three-year sequence of clinical experiences in a professional development school. The College of Human Resources and Education cooperates with other schools and colleges at WVU to prepare teachers in agriculture, art, music, and physical education. The degree programs that prepare students to teach in these areas are housed in the Davis College of Agriculture, Natural Resources, and Design; the College of Creative Arts; and the College of Physical Activity and Sports Sciences.

The college offers graduate programs of study in counseling, counseling psychology, rehabilitation counseling, special education, speech pathology and audiology, curriculum and instruction, educational leadership, elementary education, reading, secondary education, educational psychology, and instructional design and technology. The Benedum Collaborative, the International Center for Disability Information, the Center for Teaching and Learning Technologies, the Speech and Hearing Clinics, the Center for Democracy and Citizenship Education, the Office of Diversity and Global Initiatives, the Center for Student Advising and Records, and the Reading Clinic are also located in the college.

Accreditation
West Virginia University is fully accredited for the preparation of teachers by the National Council for the Accreditation of Teacher Education (NCATE) and programs are approved by the West Virginia State Department of Education. The Ed.D. and Ph.D. are the highest degrees approved and offered. Students in elementary and secondary education must meet University requirements for admission, retention, and graduation, and West Virginia Department of Education requirements for teacher certification in West Virginia.

The graduate programs in speech pathology and audiology are fully accredited by the Council on Academic Accreditation (CAA) of the American Speech-Language-Hearing Association (ASHA). Upon completion of either the doctor of audiology or master's degree in speech-language pathology, students qualify for national professional certification and
licensure by the West Virginia Board of Examiners for Speech-Language Pathology and Audiology. The counseling program is fully accredited by the Council for Accreditation of Counseling and Related Educational Programs; counseling psychology is fully accredited by the American Psychological Association, and the rehabilitation counseling program is fully accredited by the Council on Rehabilitation Education.

Admission
Admission, curriculum, and degree requirements of the various degree programs of the College of Human Resources and Education are provided in each program section in this catalog. It is the responsibility of the student to take steps to insure that he or she is properly informed of the degree requirements and/or the certification standards being sought. Since certification requirements are changed periodically by the West Virginia Department of Education, the fulfillment of certification requirements as presented in this catalog cannot guarantee compliance with the most recent requirements. Students are, therefore, encouraged to seek the counsel of members of the faculty, their advisors, and the college certification officer on matters pertaining to degree and certification requirements.

Child Development and Family Studies
Carol A. Markstrom, Program Coordinator, Professor of Child Development and Family Studies
Barbara G. Warash, Director, Child Development Laboratory (Nursery School), Professor of Child Development and Family Studies
Nancy Wolfe-Dilgard, Undergraduate Coordinator, Child Development and Family Studies
http://tlc.wvu.edu/academics/cdfs

Program Description
The undergraduate program in child development and family studies leads to a B.S. in which students can choose from two curriculum options: birth through pre-kindergarten/early childhood education or family and youth studies. Birth through pre-kindergarten/early childhood education is best suited for students interested in working with young children, from birth through four years, and their parents in pre-school or child care programs. Family and youth studies is best suited for students interested in working with older children, adolescents, and/or families in youth development or family development programs in community agencies.

Dual Certification in Birth Through Pre-Kindergarten and Early Childhood Special Needs
The birth through pre-kindergarten early childhood education/special needs option focuses on the social, emotional, intellectual, and physical development of all children. Students are educated to plan programs, perform selected developmental assessments, and interact with young children in developmentally appropriate ways. Settings for internship experiences include the West Virginia University Child Development Laboratory for preschool children, public school preschools and placements in community childcare centers to work with infants and toddlers. Upon graduation, students may apply for the West Virginia State Department of Education Certification in birth through pre-kindergarten education. The program also offers an early childhood director’s credential.

Family and Youth Studies
The emphasis in family and youth studies is designed for students with interests in older children, adolescents, and/or families. Students in this emphasis may be seeking careers working with these segments of the population in such settings as youth or family service agencies. Additionally, this emphasis is appropriate for students who will pursue graduate studies in human development, marriage and family therapy, education, developmental psychology, social work, and related fields. In the family and youth studies emphasis, students complete coursework related to family issues, family interaction, human growth
and development, human sexuality, youth concerns, and related topics. All students are required to complete internships at community family- and/or youth-focused agencies. Students in this option may wish to consider completing a certificate in gerontology or disability studies or a minor in women's studies, communication studies, sociology and anthropology, or leadership studies. CDFS online courses are permitted for family and youth studies emphasis majors in CDFS with the exception of research methods (course number pending) and CDFS 412, 413, 414, 415, and 491a which are to be taken as on-campus classes.

**Minor In Child Development and Family Studies**

Upon completion of six three-hour courses, students can earn a minor in CDFS. A minor in CDFS can support students in other fields who may require some background in child or adolescent development and/or family studies to broaden their overall academic experience. For example, students in physical education or recreation and parks may work with children or adolescents in which case some knowledge-base in CDFS would support their preparedness for the work setting. A cumulative college GPA of at least 2.5 is required for admission to the minor. CDFS minors take their courses online through Extended Learning. Minors in CDFS must earn grades of C or better in all courses with the CDFS course designator.

**Admission Requirements**

An overall GPA of 2.5 or higher is required to enter the CDFS program. A number of students transfer to WVU from other institutions, as well as transfer from within the University into CDFS. In order for transfer students to complete the program requirements, they should anticipate spending additional time at the University to complete the program. Certain courses are offered only in the fall or spring of the sophomore, junior, and senior years. In addition, certain courses must be taken in a specified sequence.

Non-CDFS majors cannot take the following courses in the on campus format until they are accepted as majors—211, 212, 412, 413, 415, and 491. Exceptions may be granted with instructor approval. Students transferring from other institutions must apply in advance with the WVU Office of Admissions (304) 293-2124 to determine which courses taken at other institutions will be given full credit at WVU.

Through the 2+2 articulation agreement between WVU and Pierpont Community & Technical College (PCTC; formerly part of Fairmont State University), students transferring with an associate of applied sciences degree in early childhood from PCTC are automatically entered into the CDFS undergraduate program at WVU given they meet the program's requirements for admissions, currently a 2.5 GPA.

**Grade Information**

Students must earn grades of C or better in all courses with the CDFS course designator. If the student receives a D or F in a CDFS course, the course must be repeated until a C or better is obtained. The credits associated with a D grade earned in a CDFS course will not count toward the 128 credit hours required for graduation. If a student’s overall GPA drops below 2.5, he or she may be subject to academic probation and potentially suspension.

**Career Opportunities**

Graduates of CDFS may work with children in a variety of settings, such as public school early childhood education programs, Head Start, childcare centers or Cooperative Extension. Additionally, students may find employment working with other children and adolescents in youth service agencies and with parents and families in a variety of social service settings. Salary is dependent on numerous factors, such as the qualifications of the graduate, the structure of the employing agency (the position, private/public, nonprofit/for profit, etc.), and the geographical location of the employment setting. The CDFS graduate is provided with a foundation for graduate work in a variety of social science and educational disciplines, including child/human development, family studies, developmental psychology, social work, public administration, and counseling.
### Suggested Curricula—Birth Through Pre-Kindergarten Early Childhood

**First year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>MATH 121</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 101 (F)</td>
<td>1</td>
</tr>
<tr>
<td>SOCA 101</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 101 &amp; 103</td>
<td>4</td>
</tr>
<tr>
<td>CDFS 110, 112</td>
<td>6</td>
</tr>
<tr>
<td>Elective</td>
<td>2</td>
</tr>
</tbody>
</table>

Courses to fill Obj. 3, 5, 8, or 9... 6

**Total** ........................................... 31

**Second year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Another Gr B Science</td>
<td>3</td>
</tr>
<tr>
<td>STAT 111</td>
<td>3</td>
</tr>
<tr>
<td>PET 384 or 400 or CDFS 430 (3 hr.)</td>
<td>2</td>
</tr>
<tr>
<td>CDFS 212</td>
<td>3</td>
</tr>
<tr>
<td>CHPR 172</td>
<td>2</td>
</tr>
<tr>
<td>CDFS 210, 211</td>
<td>7</td>
</tr>
<tr>
<td>EDUC 200</td>
<td>3</td>
</tr>
<tr>
<td>SPED 304</td>
<td>3</td>
</tr>
<tr>
<td>SPED 311</td>
<td>3</td>
</tr>
</tbody>
</table>

Courses to fill Remaining Obj. ...3

**Total** ........................................... 35

**Third year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 314 (Spr)</td>
<td>3</td>
</tr>
<tr>
<td>CDFS 316 or one of the following ...</td>
<td>6</td>
</tr>
<tr>
<td>C&amp;I 414 or</td>
<td></td>
</tr>
<tr>
<td>THET 461 or</td>
<td></td>
</tr>
<tr>
<td>ART 103 or</td>
<td></td>
</tr>
<tr>
<td>MUSC 182 or</td>
<td></td>
</tr>
<tr>
<td>CDFS 491A</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 410, 411</td>
<td>6</td>
</tr>
<tr>
<td>RDNG 381</td>
<td>3</td>
</tr>
<tr>
<td>SPED 361, 315</td>
<td>6</td>
</tr>
<tr>
<td>CDFS 422 or BUSA Course</td>
<td>6</td>
</tr>
</tbody>
</table>

Courses to fill Remaining Obj. ...3

**Total** ........................................... 36

**Fourth year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDFS 491A or SPED 319</td>
<td>6</td>
</tr>
<tr>
<td>CDFS 413</td>
<td>3</td>
</tr>
<tr>
<td>SPED 316, 317</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>18</td>
</tr>
</tbody>
</table>

**Total** ........................................... 33

---

### Suggested Curricula—Family and Youth Studies

**First year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>MATH 121 or 124</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 101 (F)</td>
<td>1</td>
</tr>
<tr>
<td>SOCA 101</td>
<td>3</td>
</tr>
<tr>
<td>COMM 100 &amp; 102</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 101 &amp; 103</td>
<td>4</td>
</tr>
<tr>
<td>CDFS 110, 112</td>
<td>6</td>
</tr>
<tr>
<td>PSYCH 101</td>
<td>3</td>
</tr>
</tbody>
</table>

Courses to fill Remaining Obj.

Obj. 3, 5, 8, or 9... 6

**Total** ........................................... 35

**Second year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 111</td>
<td>3</td>
</tr>
<tr>
<td>Another Gr B Science</td>
<td>3</td>
</tr>
<tr>
<td>CHPR 170</td>
<td>3</td>
</tr>
<tr>
<td>CDFS 493</td>
<td>3</td>
</tr>
<tr>
<td>SPA 270</td>
<td>3</td>
</tr>
<tr>
<td>CDFS 210</td>
<td>7</td>
</tr>
<tr>
<td>WMST 170</td>
<td>3</td>
</tr>
</tbody>
</table>

Courses to fill Remaining Obj. ...6

**Total** ........................................... 31

**Third year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGEE 220</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 200</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 122</td>
<td>3</td>
</tr>
<tr>
<td>CDFS 491A</td>
<td>6</td>
</tr>
<tr>
<td>HN&amp;F 171</td>
<td>3</td>
</tr>
<tr>
<td>COMM 112</td>
<td>3</td>
</tr>
<tr>
<td>SOWK 105</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives... 9

**Total** ........................................... 33

**Fourth year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCA 233</td>
<td>3</td>
</tr>
<tr>
<td>CDFS 412, 413, 415</td>
<td>9</td>
</tr>
<tr>
<td>CDFS 212</td>
<td>3</td>
</tr>
<tr>
<td>CDFS 414</td>
<td>3</td>
</tr>
<tr>
<td>SPED 304</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives... 9

**Total** ........................................... 30

---

Key: F = Fall  Spr = Spring  Obj. = GEC Objective
Five-Year Teacher Education Program
Joy Faini Saab, Chair, Department of Curriculum and Instruction/Literacy Studies
with Social and Cultural Foundations and Educational Leadership
Sarah Steel, M.A., Program Coordinator, Five-Year Teacher Education Program

Five-Year Teacher Education Program Purposes and Goals
The goals of the WVU teacher education program describe the qualifications that represent the end result of teacher preparation. Graduates of the program should have these qualifications:

- Possess a commitment to and the skills for life-long learning.
- Be effective communicators.
- Recognize that teaching is a professional, moral, and ethical enterprise with well-developed ethical frameworks which facilitate effective teaching.
- Be a facilitator of learning for all students.
- Possess in-depth knowledge of both pedagogy and content, as well as an integrated understanding of these two important knowledge areas.
- Be reflective practitioners who can thoughtfully apply knowledge and experience to practice and critically examine choices.
- Be aware of and have respect for human diversity.
- Be liberally educated: Value and integrate knowledge from a wide variety of fields, be creative and open to new ideas, and be able to act constructively in a world characterized by technological, cultural, and societal diversity and change.

The teacher education program is a five-year program culminating in two degrees which are awarded simultaneously; a baccalaureate degree in the content area and a master’s degree in education. The program meets standards for teacher licensure in West Virginia.

Five-Year Teacher Education Program for Elementary Education
All students preparing to teach early and middle childhood must complete requirements for the multi-subjects K–6 program. They must also select at least one of the following specialization options.

Specializations for Grades 5–9
- French
- General science
- English
- Mathematics
- Social studies
- Spanish

Specializations for K-adult
- Special education, multi-categorical

Specializations for Early Childhood
- Birth through age four: Pre-kindergarten and kindergarten
Five-Year Teacher Education Program for Secondary Education, Grades 9–Adult
Students must select at least one of the following specialization options.

Specializations in Grades 5–Adult
- English
- French
- General science
- German
- Mathematics
- Social studies
- Spanish

Specializations in Grades 9–adult
- Biology
- Chemistry
- Journalism (taken as a second specialization)
- Physics
- Foreign Languages (French, German, Spanish)

Admission to Pre-Education
High school students interested in teaching careers should seek admission to the pre-education program when applying to the University. Students may also seek admission to pre-education at any point between entry and successful completion of 59 hours of approved University coursework. To be admitted to pre-education, a student must have an ACT score of 23, an SAT math and verbal combined score of 1030, or a high school GPA of 3.0. Students transferring into teacher education must also have an acceptable University GPA. Since formal admission into teacher education cannot occur until 59 hours have been completed, those students admitted to education are designated pre-education students; the general admission requirements for teacher education are described below.

Admission to Teacher Education
Students are admitted to teacher education only in the spring semester. Admissions to teacher education are limited. Within both elementary and secondary education, enrollment is limited to the capacities of specific content areas. Pre-education students are advised to consult with advisors regarding the availability of the specializations in which they are most interested.

General Requirements for Admission
To be eligible for consideration for admission to teacher education, a student must do the following:
- Complete a minimum of 59 hours of approved University coursework.
- Achieve a 2.75 grade point average (GPA) computed on all approved University work attempted, and a 3.0 GPA with no grade below a C on all work completed in professional education.
- Achieve an acceptable level of performance as designated by the State Department of Education and/or the College of Human Resources and Education on the Praxis Pre-Professional Skills Tests.
- Submit a portfolio which includes (a) a statement that all general requirements for admission into teacher education have been met, (b) letters of recommendation from faculty in education, (c) letters of recommendation from faculty in the subject area one wishes to teach, (d) evaluation from volunteer experience, (e) passing scores on the PPST, and (f) transcript.
- Complete successfully EDUC 200 and all its prerequisites.
- Complete an approved volunteer or work experience with children or youth.
Admission Process
Applications for admission to teacher education are accepted and reviewed in the spring semester. Students are normally admitted to teacher education in the fourth semester. The credentials of qualified pre-education students from WVU and WVU Potomac State College will be reviewed by the Admissions Committee, and students are admitted to the specialization of their choice in order of decreasing portfolio scores until the specialization reaches its capacity. If space is not available in the preferred specialization, students may elect to be considered for another specialization or compete for admission in the following year. Minority students may be given special consideration for admission to the major.

Remediation Options
Students who do not meet the skill-proficiency requirements listed under General Requirements for Admission may avail themselves of the numerous remediation options on campus, including the Reading and Study Skills Laboratory and the Teaching and Learning Technologies Center.

General Retention Requirements
Teacher education students must maintain a 2.75 grade point average in all hours attempted, and 2.5 in area(s) of specialization, and with no grade below a C on all work completed in professional education. Students must achieve an acceptable score on each applicable ETS Praxis subject area test and complete all undergraduate coursework by the end of the eighth semester. As applicable, students may fulfill any additional requirements within specific program areas.

Work Taken at Other Institutions
Required professional education courses must ordinarily be taken at WVU. Students who wish to take required courses at other NCATE accredited institutions must have their courses approved by the department chairperson before registering at another institution.

Graduate/Certification Requirements
To be eligible for recommendation for the master of arts in elementary or secondary education, a student must do the following:
- Comply with the general regulations of the University concerning entrance, advanced standing, classification, examination, grades, grade points, etc.
- Complete required courses and the minimum hours of approved courses in education.
- Adhere to the patterns prescribed in completing the subject specialization(s).
- Complete requirements for the approved baccalaureate in subject specialization (for prospective secondary teachers) or multidisciplinary studies (for prospective elementary teachers and secondary science teachers).
- Present a minimum of 158 hours of approved college credit. (Thirty of these must be approved graduate hours.) A general average of 2.75 as described under General Requirements for Professional Certification must be attained for the undergraduate hours with a GPA of at least 3.0 in the graduate hours.
- Submit an acceptable portfolio.

General Requirements for Professional Certification
Individual candidates apply for professional certification. To teach in the public schools of West Virginia, one must hold a professional certificate issued by the West Virginia Department of Education. To be eligible to receive a professional certificate, the WVU applicant must have done the following:
• Met the minimum State requirements.
• Met the University degree requirements.
• Compiled at least 45 hours of upper-division work and 30 approved graduate hours (WVU standards).
• Achieved a grade point average of at least 2.75 on the total of college credits earned, on the hours earned in professional education, and in each subject specialization, on the hours earned in professional education, and 2.5 in each subject specialization.
• Demonstrated competence in supervised practicum and internship.
• Complied with the West Virginia Board of Education regulations for Teacher Certification.
• Be recommended for certification by the dean of the College of Human Resources and Education.
• All candidates for professional certification in West Virginia must be United States citizens.

Reciprocal Certification Agreements
West Virginia, at the time of this publication, has reciprocal agreements with certain other states for teacher certification. Inquiries about reciprocity should be directed to the Center for Student Advising and Records, 710 Allen Hall.

Calculation of Grade Point Averages
The West Virginia State Department of Education system of calculating grade point averages for certification purposes differs in some respects from the WVU system. For certification, all coursework attempted at WVU and at other institutions of collegiate rank will be considered. If a student earns a grade of D, F, or U in any course taken no later than the term when he or she has attempted a total of 60 hours, and the student repeats this course, the second grade earned will be used in determining the grade point average. The first grade will be disregarded.

The teacher education program uses the West Virginia State Department of Education system of calculating grade point averages only for admission to teacher education programs and professional internships, and for assessing teaching field and education averages. Academic performance and eligibility for graduation are assessed by the system used by WVU and other institutions governed by the West Virginia Higher Education Policy Commission.

Professional Education Sequence
Teacher Education Program
All students enrolled in the program will complete the following professional education sequence as part of the five-year program.

Year = Fall/Spring

One
EDUC 100 Education Colloquium
*Volunteering requirement**

Two
EDUC 100* Volunteering Req. ** EDUC 200 Professional Inquiry

Three
EDUC 301 Learning I
EDUC 311 Practicum I
EDUC 312 Practicum II
Four
EDUC 400 Instruct. Design & Eval.  EDUC 401 Managing and Organizing
EDUC 410 Practicum III  Learning Environments
EDUC 411 Practicum IV

Five
EDUC 612 Prof. internship***  Prof. development semester***
EDUC 602 Prof. Id.: Teacher  EDUC 601 Context of Education

Speech Pathology and Audiology
Robert F. Orlikoff, Ph.D., Chair

Program Objectives
The Department of Speech Pathology and Audiology is committed to the preparation of students interested in graduate study and eventual careers in speech-language pathology or audiology. The pre-professional undergraduate program emphasizes education in the following: GEC; basic speech and hearing sciences; anatomy and physiology of the speech and hearing system; normal development and behavior in speech, hearing, and language; awareness of cultural diversity and its relationship to communication; and an introduction to communicative disorders.

Career Prospects
The professions of speech-language pathology and audiology are exciting fields wherein professionals provide services to individuals with communication disorders. The demand for certified practitioners is continually increasing; consequently, job prospects remain very good. The pre-professional undergraduate program and graduate study in either speech-language pathology or audiology enable graduates to seek employment in a variety of settings. Speech-language pathologists and audiologists are employed in schools, hospitals, rehabilitation centers, community clinics, physicians' offices, and private practice.

Pre-Speech Pathology and Audiology

Admission
Normally, students are first admitted to the pre-SPA program of study and matriculate as such during the freshman and sophomore years. Pre-SPA students are assigned an advisor in the College of Human Resources and Education’s Center for Student Advising and Records in 701 Allen Hall. To qualify for admission, incoming freshmen must present an overall high school GPA of 3.0 or higher, 1050 or higher on the SAT, or 23 on the ACT. Students who transfer into pre-SPA during the freshman or sophomore year from either another major at WVU or from another university must present a grade point average of 3.0 for all undergraduate coursework taken prior to the time of transfer.

Requirements
Students are considered pre-SPA until they have met the requirements specified below and have applied and been accepted into the SPA degree program.
1. Completion of at least 58 academic hours. Specific requirements include partial completion of the General Education Curriculum (GEC), and others as listed below:
   • Objective 1: ENGL 101 and 102
   • Objective 2: Completion of at least 13–14 academic hours. Must include: Lab course = BIOL 101 and 103 or BIOL 102 and 104 or PHYS 101; Math course = college algebra (MATH 126) or a higher-level course and STAT 211 or ECON 255; In addition to the lab course above, each student must select at least four additional academic hours from the following science courses: 4 hr. courses (select at least one) BIOL 101 and 103; BIOL 102 and 104; BIOL 115; CHEM 111, 112, 115, 116; CS 101, 110; PHSC 111, 121; PHYS 101, 102, 111 or 3 hr. courses (select at least two) BIOL 235, 337; HN&F 171; MDS 126
Objective 3: at least three academic hours completed in courses related to the past and its traditions
Objective 4: LING 101
Objective 6: UNIV 101 and PSYCH 101

2. Completion of SPA 200 and SPA 270 with a minimum grade of B, and successful completion of SPA 199
3. Overall GPA of 3.0

These requirements are subject to change. Interested students should contact the Department of Speech Pathology and Audiology for information on current requirements.

B.S. Degree Program in Speech Pathology and Audiology

Admission
After completing all pre-SPA requirements listed above, a student must apply for admission to the degree program by completing an application form obtained from the Department of Speech Pathology and Audiology in 805 Allen Hall. It is the student's responsibility to obtain an application form and submit it to the Department of Speech Pathology and Audiology between the deadline dates of January 15 and February 15. No applications will be accepted after February 15. After the application has been reviewed and verified, the student will receive a letter summarizing the department's admission decision. Students will be ranked according to their overall GPA for all undergraduate coursework. The 45 students with the highest GPA will be admitted to the B.S. degree program at the beginning of the junior year. Students who are not admitted must declare another major immediately and officially transfer to that department. However, students denied admission may choose to minor in SPA.

Following admission to the degree program, the student must continue to meet GPA standards set by the department in order to continue in the program and graduate with a degree in speech pathology and audiology.

Graduation Requirements
A total of 128 academic credit hours, including all SPA requirements, is required for the bachelor of science in speech pathology and audiology. The following are specific requirements:

1. Successful completion of the General Education Curriculum (GEC) including all pre-SPA required courses, in addition to either Statistics 211 or Economics 225 (this is a required course for SPA which meets the University mathematics skills component);
2. Successful completion of 17 hours of supporting area courses relating to natural sciences, normal/abnormal growth and development, and related issues;
3. Successful completion of a minimum of 56 hours of academic coursework in SPA.
4. Successful completion of minimum requirements in clinical practicum; and maintenance of an overall GPA of at least 3.0 and a cumulative GPA for SPA courses of at least 3.0 (A-4.0).

Senior Capstone
All students in the B.S. in speech pathology and audiology program must complete a capstone experience during their senior year. During the fall term, SPA majors select a topic of personal interest within the discipline and, with assistance from a faculty capstone mentor, refine that topic to produce a substantive work of original evidence-based scholarship. During the spring term, seniors present their research in both an oral (PowerPoint) and visual (poster) presentation.

Teacher Preparation
Accelerated Bachelor of Arts in Elementary Education
Joy Faini Saab, Chair, Department of Curriculum and Instruction/Literacy Studies with Social and Cultural Foundations and Educational Leadership
Admission to Elementary Education
High school students interested in teaching careers should seek admission as a direct admit into the College of Human Resources and Education elementary education program when applying to the University. To be admitted to elementary education, a student should have an ACT score of 26, an SAT math and verbal combined score of 1200, and a high school GPA of 3.0. Students should submit three character references, a goals statement explaining why they are seeking a degree in elementary education, a resume with evidence of high school leadership, service, and scholarly excellence. Students are admitted to elementary education only in the fall semester. Admissions to elementary education are limited.

General Retention Requirements
Teacher education students must maintain a 2.75 grade point average in all hours attempted, and 2.5 in area(s) of specialization, and with no grade below a C on all work completed in professional education. Students must achieve an acceptable score on each applicable ETS Praxis subject area test and complete all undergraduate coursework by the end of the sixth semester. As applicable, students may fulfill any additional requirements within specific program areas.

Work Taken at Other Institutions
Required professional education courses must ordinarily be taken at WVU. Students who wish to take required courses at other NCATE accredited institutions must have their courses approved by the department chairperson before registering at another institution.

Graduation Requirements
To be eligible for recommendation for graduation in elementary education, a student must do the following:
- Comply with the general regulations of the University concerning entrance, advanced standing, classification, examination, grades, grade points, etc.
- Complete required courses and the minimum hours of approved courses in education.
- Adhere to the patterns prescribed in completing any subject specialization(s).
- Complete requirements for the approved baccalaureate in elementary education.
- Present a minimum of 128 hours of approved college credit. A general average of 2.75 as described under General Requirements for Professional Certification must be attained for the undergraduate hours.
- Submit an acceptable professional portfolio.

Admission to Teacher Education
Students are admitted to teacher education only in the spring semester. Admissions to teacher education are limited. Within both elementary and secondary education, enrollment is limited to the capacities of specific content areas. Pre-education students are advised to consult with advisors regarding the availability of the specializations in which they are most interested.

General Requirements for Professional Certification
Individual candidates apply for professional certification. To teach in the public schools of West Virginia, one must hold a professional certificate issued by the West Virginia Department of Education. To be eligible to receive a professional certificate, the WVU applicant must do the following:
- Meet the minimum State requirements.
- Meet the University degree requirements.
- Successfully complete coursework totaling 127/128 hours (WVU standards).
- Achieve a grade point average of at least 2.75 on the total of college credits earned, on the hours earned in professional education, and in each subject specialization, on the hours earned in professional education, and 2.5 in each subject specialization.
- Demonstrate competence in supervised practicum and internship.
• Comply with the West Virginia Board of Education regulations for teacher certification.
• Be recommended for certification by the dean of the College of Human Resources and Education.
• All candidates for professional certification in West Virginia must be United States citizens.

Reciprocal Certification Agreements
West Virginia, at the time of this publication, has reciprocal agreements with certain other states for teacher certification. Inquiries about reciprocity should be directed to the Center for Student Advising and Records, 710 Allen Hall.

Calculation of Grade Point Averages
The West Virginia State Department of Education system of calculating grade point averages for certification purposes differs in some respects from the WVU system. For certification, all coursework attempted at WVU and at other institutions of collegiate rank will be considered. If a student earns a grade of D, F, or U in any course taken no later than the term when he or she has attempted a total of 60 hours, and the student repeats this course, the second grade earned will be used in determining the grade point average. The first grade will be disregarded.

The teacher education program uses the West Virginia State Department of Education system of calculating grade point averages only for admission to teacher education programs and professional internships, and for assessing teaching field and education averages. Academic performance and eligibility for graduation are assessed by the system used by WVU and other institutions governed by the West Virginia Higher Education Policy Commission.

Professional Education Sequence
Teacher Education Program
All students enrolled in the program will complete the following professional education sequence as part of the elementary education program.

EDUC 100 Orientation: [Cohort Section in place of UNIV 101]................................. 1
EDUC 200 Professional Inquiry-Education ................................................................. 3
EDUC 301 Learning in Educational Settings I......................................................... 3
EDUC 311 Practicum I/Technology Applications...................................................... 1
EDUC 312 Practicum II/Technology Applications.................................................... 1
EDUC 400 Instructional Design and Evaluation......................................................... 3
EDUC 410 Practicum III/Technology Applications..................................................... 2
EDUC 401 Managing and Organizing Learning Environments................................. 3
EDUC 411 Practicum IV/Technology Applications.................................................... 4
EDUC 430 Math Methods for Elementary Teachers................................................. 3
EDUC 440 Elementary-Early Childhood Science Methods....................................... 3
EDUC 450 Issues and Methods for Elementary Social Studies............................... 3
EDUC 460 Foundations of Language and Literacy .................................................... 3
EDUC 461 Promoting Literacy Connections............................................................. 3
RDNG 422 Reading in the Content Areas................................................................. 3
SPED 304 Special Education in Contemporary Society.......................................... 3
SPED 360 Differentiated Instruction for Special Needs............................................. 3
C&I 414 Promoting Creative Experiences in Elementary........................................ 3
C&I 490 Teaching Practicum.................................................................................... 6
C&I 492 Professional Field Experience................................................................... 4
C&I 497 Research...................................................................................................... 6
C&I 491 Professional Field Experience; Student Teaching....................................... 7
Elective Approved Course....................................................................................... 3
Elective Approved Course....................................................................................... 3
College of Physical Activity and Sport Sciences

Dana D. Brooks, Ed.D., Dean
Lynn Housner, Ph.D., Associate Dean
Jack Watson, Ph.D., Department Chair for Sport Sciences
Valerie Wayda, Ed.D., Department Chair for Coaching and Teaching Studies

http://cpass.wvu.edu

Degree Offered
Bachelor of Science in Physical Education

Nature of Program
Students in physical education, athletic coaching education, athletic training, sport and exercise psychology, and sport management examine the relationship of play, games, sport, athletics, fitness, and dance to our culture and cultures throughout the world. Their preparation includes the acquisition of knowledge and skills from a vast array of movement activities in addition to an understanding of associated physiological, biomechanical, sociological, psychological, historical, philosophical, and pedagogical principles. Preparation in athletic training is designed to enable students to prevent and treat injury related to athletic competition.

Graduates in physical education with teaching certification are generally employed as elementary or secondary health and/or physical education teachers and athletic coaches. Graduates in sport and exercise psychology and sport management are employed with professional and collegiate sport enterprises, fitness centers, recreation programs, sporting goods stores, or commercial sporting goods manufacturers, or pursue graduate training in sport and exercise psychology. Athletic coaching education graduates are employed as coaches, strength and conditioning specialists, and work in the health and fitness industry. Athletic training graduates often work in high school, college, professional, and health/medical facilities to help treat and prevent injury.

Programs
Baccalaureate programs offered in the College of Physical Activity and Sport Sciences (CPASS) include athletic training, athletic coaching education, physical education/teacher education, sport management, and sport and exercise psychology. The College of Physical Activity and Sport Sciences has available to students minors in personal trainer and group fitness instructor, sport and exercise psychology, sport communication, aquatic facility management, strength and conditioning, group fitness, and adventure sports leadership.

Facilities
The college's facilities include the gymnasium, dance studio, and swimming pool in E. Moore Hall; a gymnasium in Stansbury Hall; bowling lanes and game rooms in the Mountainlair; indoor track, sports area, weight training room, martial arts room, and rifle range in the Shell Building; outdoor areas including the stadium, tennis courts, soccer and field hockey fields, and outdoor track; and the Natatorium with its pool and diving well.

The Coliseum contains the Advising Center Room, technology classrooms and seminar rooms, a large gymnasium, a dance studio, and faculty offices. Additional faculty and staff offices are in E. Moore Hall, Stansbury Hall, the Natatorium, and the Shell Building.

Credit Load Per Semester
The minimum workload per semester for a full-time student is 12 hours and the maximum workload per semester is 20 hours. However, an advisor may register a student as a part-time student if fewer than 12 hours are required to meet all requirements for the bachelor’s degree. Other exceptions to these regulations may be requested by petitioning the Committee on Academic Standards.
Requirements for Degrees
• All students must complete general education curriculum required courses and UNIV 101.
• Teacher Certification Curriculum: Students in teacher certification programs must complete a group of educationally related courses and other prescribed work.
• Students must complete the major requirements as determined by the appropriate department.
• Students must complete a minimum of 128 hours.
• A minimum grade point average of 2.0 is required for graduation. Those in teacher certification must have a minimum grade point average of 2.5.

Bachelor of Science in Physical Education
Opportunities are offered for you to pursue certification in teaching in physical education and health certification.

Athletic Coaching Education
Required Courses in Athletic Coaching Education
Completion of General Education Curriculum
• GEC #1 Communication—ENGL 101 and 102 (6 hrs.)
• GEC #2 Basic Math and Science—MATH 121 or 126, BIOL 101/103, CS 101 (11 hrs.) and student’s choice (3 hrs.)
• GEC #3 The Past and Its Tradition—Student’s Choice (3 hrs.)
• GEC #4 Contemporary Society—CDFS 110 (3 hrs.)
• GEC #5 Artistic Expression—Student’s Choice (3 hrs.)
• GEC #6 The Individual in Society—UNIV 101 or SEP 170 (athletes only) and SEP 272 (4 hrs.)
• GEC #7 America Culture—SEP 271 (3 hrs.)
• GEC #8 Western Culture—Student’s Choice (3 hrs.)
• GEC #9 Non-Western Culture—Student’s Choice (3 hrs.)

Probation: ATTR 121, CHPR 172, ACE 100, ACE 106, ACE 168, ACE 256, PE 164 or PE 165, and one PE activity course (18 credits; student must have a C or better in all ACE probationary classes to be eligible for the ACE major.

ACE Major Requirements:
• 105 (or HN&F 171) 330, 368, 450, 491 and
• ACE Techniques of Coaching (three different courses), and
• PE 164 or PE 165, and
• Three PE activity courses, and
• EXPH 364, EXPH 365, SM 426. (43–36 credits; student must have a C or better in all ACE majors classes to graduate with an ACE degree.

Electives
Students are strongly encouraged to select one or two minors as part of electives.

Practicum: ACE 491 (12 hrs.)
Writing Requirement: ACE 330

Note: Application to the program must be submitted and admission is competitive. Effective Fall 2009 a 2.5 GPA and formal application will be required for admission. Students are required to earn appropriate WVS-SAC coaching certifications and maintain current American Red Cross first aid, AED, and CRP certification.

Athletic Training
Application Requirements
An individual desiring to become an athletic training student must first spend time in the prospective athletic training student (PATS) program by enrolling in ATTR 101. In order to gain a basic working knowledge of the athletic training profession, the student must observe in the athletic training rooms to see if this is the route that is desired. The application process includes:
The student must have successfully completed ATTR 101 and the PATS program.
A cumulative GPA of 2.75 or better.
Two reference evaluation forms must be submitted.
Transcripts from other institutions attended must be submitted.
An application to the program must be submitted.
Students must complete a minimum of 75 observational hours in the WVU athletic training rooms under the direct supervision of a certified athletic trainer.
Currently enrolled in or successful completion of all prerequisite courses prior to making application to the program (BIOL 101 and 103, BIOL 102 and 104; ATTR 101, 121, 122; ENGL 101).
Students must have a C grade or better in BIOL 101 and 103, BIOL 102 and 104; ENGL 101; and a grade of B or better in ATTR 101, 121, and 122 to be considered a viable candidate.

Each student applying to the program will be interviewed in the presence of all full-time faculty/staff athletic trainers and educational graduate assistant. Selections for admission into the program are based on interviews and other criteria. These criteria include academic performance, reference evaluation forms, outside experiences, WVU experiences, and a written case study. Students are eligible to apply to the athletic training program during the spring semester of their first year at WVU. An average of 15 students are accepted annually; however, the accepted class size may be greater or less than 15 students. The WVU Athletic Training Education Program has established technical standards. These standards are the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills, and competencies of an entry-level athletic trainer, as well as meet the expectations of the program’s accrediting agency (Commission on Accreditation of Athletic Training Education [CAATE]). In the event a student is unable to fulfill these technical standards, with or without reasonable accommodation, the student will not be admitted into the program. Please visit our athletic training website to view these standards: http://cpass.wvu.edu/academic_programs/bachelors/athletic_training/atrr.

Once accepted into the athletic training program, the student will have a minimum of three years to complete both the clinical and didactic portion of the program. The clinical component of the athletic training program requires that all students demonstrate mastery of the National Athletic Trainers’ Association (NATA) athletic training educational competencies.

**Required Courses in Athletic Training**

Completion of General Education Curriculum
- GEC #1 Communication — ENGL 101 and 102 (6 hrs.)
- GEC #2 Basic Math and Sciences — BIOL 101/103, BIOL 102/104, CHEM 115, PHYS 101, MATH 126 and/or MATH 128
- GEC #3 The Past and Its Tradition — Student’s Choice (3 hrs.)
- GEC #4 Contemporary Society — HNF 171 (3 hrs.)
- GEC #5 Artistic Expression — Student’s Choice (3 hrs.)
- GEC #6 The Individual in Society — UNIV 101 or SEP 170 (athletes only) and PSYC 101 (4 hrs.)
- GEC #7 American Culture — Student’s Choice (3 hrs.)
- GEC #8 Western Culture — Student’s Choice (3 hrs.)
- GEC #9 Non-Western Culture — Student’s Choice (3 hrs.)

The didactic portion consists of the following classes: ATTR 101, 121, 122, 218, 219, 220, 221, 222, 281, 282, 301, 302, 321, 323, 324, 325, 326, , 332, 403, 404, 424, and 426, 427.

Remaining coursework required: CHPR 170, BIOL 235 or PSIO 441, SEP 425, EXPH 365, 368 and PATH 300.

Upon graduating from the athletic training major, students are eligible to sit for the Board of Certification (BOC) examination. The successful completion of the BOC examination provides job opportunities at the high school, college, professional, clinical, or corporate levels. Students may also pursue additional education by attending graduate school or enrolling in a health professions program such as physical therapy.
Physical Education Basic Instruction

Physical education classes are open to all students of the University. A wide variety of sport, aquatic, dance, gymnastic, fitness, martial arts, outdoor adventure, and lifetime sport activities are offered. The aims of the physical education basic instruction program are to develop:

- An appreciation of the body and its capacity to move.
- Movement skills of games, sport, dance, and aquatics.
- An appreciation of the value of continued activity throughout all age periods in an individual's life.
- An understanding of the cultural significance of sport and dance.
- Concepts of the physiological characteristics of sport and movement.

All courses numbered PE 101–293 are at a beginner's level unless otherwise specified. Repeating an activity is not allowed except at a more advanced level.

Sport and Exercise Psychology

Required Courses in Sport and Exercise Psychology

Completion of General Education Curriculum

- GEC #1 Communication—ENGL 101 and 102 (6 hrs.)
- GEC #2 Basic Science—MATH 121 or 126 (3 hrs.), BIOL 102/104 (4 hrs.), and seven additional hours—student's choice in GEC 2
- GEC #3 The Past and Its Tradition—student's choice (3 hrs.)
- GEC #4 Contemporary Society—SEP 373 (3 hrs.)
- GEC #5 Artistic Expression—Student’s Choice (3 hrs.)
- GEC #6 The Individual in Society—UNIV 101 or SEP 170 (athletes only) and SEP 272 (4 hrs.)
- GEC #7 American Culture—SEP 271 (3 hrs.)
- GEC #8 Western Culture—Student's Choice (3 hrs.)
- GEC #9 Non-Western Culture—Student’s Choice (3 hrs.)

Applied Area Requirements

- SEP 210, 211, 212, 213, SEP 271 and 272, 373 (this will also count in GEC #4, GEC #6 and GEC #7, SEP 374, 383, 385, 425, PET 175, ATTR 121, EXPH 364, 365 and COUN 303.
- One of the following courses: ACE 256, PET 206 or ACE 493A and one of the following courses: SEP 493 Sport Psychology Seminar or SEP 420.

Foundation Requirements

- PSYC 101, 241, 251, 281
- One three-hour psychology elective 200–300 level;
- SOCA 101
- One three-hour sociology elective 200–300 level; 16–17 elective hours

Application Criteria

Students in the sport and exercise psychology pre-major must complete:

- SEP 271, 272, and 210 or 211 with a grade of B or better, and
- Biology 102/104, English 101, Psychology 101 and Sociology 101 with a grade of C or better to apply for and be accepted into the sport and exercise psychology major.

Admission into the major is not competitive.

Sport Management

Required Courses in Sport Management

Completion of General Education Curriculum

- GEC #1 Communication—ENGL 101 and 102 (6 hrs.)
- GEC #2 Basic Science—MATH 121 or 126 (3 hrs.); Science with lab—BIOL 101/103 or GEOL 101/102 (4 hrs.); CS 101; and three additional hrs. in GEC #2
- GEC #3 The Past and Its Tradition—Student’s Choice (3 hrs.)
- GEC #4 Contemporary Society—COMM 100 and 102 or 104 (3 hrs.)
- GEC #5 Artistic Expression—Student’s Choice (3 hrs.)
• GEC #6 The Individual in Society—UNIV 101 or SEP 170 (athletes only) and SEP 272 (4 hrs.)
• GEC #7 American Culture—SEP 271 (3 hrs.)
• GEC #8 Western Culture—Student’s Choice (3 hrs.)
• GEC #9 Non-Western Culture—Student’s Choice (3 hrs.)

Applied Area Requirements
• SEP 271, 272 (GEC #6 and #7), SM 167 (grade of B or higher), 340, 370, 375, 380, 385, 425, 426, 485, 486, 487

Foundation Requirements
• ACCT 201, ECON 201, CS 101, COMM 306, BUSA 320, 330, JRL 101, PR 215; six hours of approved electives

To Apply For Admission
Students must complete the admission application which can be found on the CPASS website at: cpass.wvu.edu by the November 1 deadline. The following courses must be completed by the end of fall semester in which the student is applying – English 101, Math requirement, Communications 100 and 102 OR 104, SM 167 (grade of “B” or higher), Journalism 101; Accounting 201 or Economics or 201. Students must have a minimum of 2.5 GPA and complete the application form.

Admission into the Program
A maximum of 60 students will be admitted each year from the pool of sophomore applicants to a traditional fall/spring cohort. These students will begin taking sport management coursework during the fall semester of the following year (They will not be allowed to take coursework during the spring semester immediately following acceptance into the program, and will not be able to take summer coursework in the sport management program designed for the summer cohort). The 60 applicants with the highest GPA and who minimally meet or exceed the following admission criteria will be accepted each year into this traditional four-year program cohort. In order from the first admitted student to the last (highest GPA down to the 60th GPA), the opportunity will be given to opt into a three-year summer cohort (maximum of 20 students) instead of the traditional fall/spring cohort. Once accepting admission into the three-year summer program, students are only allowed to take sport management courses in the summer. Those spaces in the traditional four-year major cohort that are opened by students choosing to enter the summer major cohort will be filled in order by students who’s GPAs were categorized as 61–80. Applicants who meet or exceed the admission criteria are not guaranteed admission into either track of the program.

Note: All students enrolled in sport management and sport and exercise psychology programs must earn a grade of C or better in applied and foundation requirements unless otherwise noted. A minimum of 2.5 GPA and formal application are required for admission.
Teacher Certification Program in Physical Education

The required courses in physical education/teacher education are:

Completion of General Education Curriculum
- GEC #1 Communications—ENGL 101 and 102 (6 hrs.)
- GEC #2 Basic Science—BIOL 101/103 (Lab) or BIOL 102/104 (Lab) and Math 126 or 121, STAT 111, CS 101 (13–15 hrs.)
- GEC #3 The Past and Its Tradition—Student’s Choice (3 hrs.)
- GEC #4 Contemporary Society—PSYC 101 and HN&F 171. Both of these classes are required for WV (6 hrs.)
- GEC #5 Artistic Expression—Student’s Choice (3 hrs.)
- GEC #6 The Individual in Society—UNIV 101 or SEP 170 (athletes only) and PSYC 241 (4 hrs.)
- GEC #7 American Culture—Student’s Choice (3 hrs.)
- GEC #8 Western Culture—Student’s Choice (3 hrs.)
- GEC #9 Non-Western Culture—Student’s Choice (3 hrs.)

Probation: PET 124, 125, 167, 175, 206, 276
Health Certification Community Health Promotion: CHPR 170, 172, 271, 250, 301, 302, 305, 320, 400
Other Courses: EXPH 365, C&I 491, SPED 304, RDNG 422
Writing Requirement: PET 228

Note: Application to the program must be submitted and admission is competitive. Swimming proficiency must be met to receive an A or B in WSI. A Red Cross WSI can be substituted for PET 324. In addition, students are required by clinical agencies, including school counties and districts to undergo a criminal background check prior to field/student teaching experiences. Felony convictions and some serious misdemeanors may preclude participation in field/student teaching placements. This could, in turn, prevent the completion of field/student teaching course requirements and thus completing the degree.

Recommendation for Teacher Certification

All students must satisfy the requirements in physical education and professional education. Teacher certification in physical education is provided for grades Pre-K through adult. Community health promotion certifies students to teach health in grades 5–12. Students are required to pass the Praxis I (Pre-Professional Skills Test) prior to program admission, pass Praxis II (091 exam) in physical education, and the Praxis II (550 exam) in health prior to student teaching. To be eligible for certification to teach in West Virginia, prospective teachers must also pass the Praxis III (0524—Principles of Learning and Teaching 7–12).
Davis College of Agriculture, Natural Resources, and Design
Rudolph P Almasy, Ph.D., (Interim) Dean, Director of the Agricultural and Forestry Experiment Station
Dennis K. Smith, Ph.D., Associate Dean, Academic Affairs
Steve Selin, Ph.D., Assistant Dean, Academic Affairs
Timothy T. Phipps, Ph.D., Associate Director, Agricultural and Forestry Experiment Station
Matthew E. Wilson, Ph.D., Interim Director, Division of Animal and Nutritional Sciences
Barbara S. McFall, Ph.D., Director, Division of Design and Merchandising
Joseph F. McNeel, Ph.D., Director, Division of Forestry and Natural Resources
Barton S. Baker, Ph.D., Director, Division of Plant and Soil Sciences
Jerald Fletcher, Ph.D., Director, Division of Resource Management
http://www.davis.wvu.edu

Majors
The Davis College of Agriculture, Natural Resources, and Design is organized into five divisions: Animal and Nutritional Sciences; Design and Merchandising; Forestry and Natural Resources; Plant and Soil Sciences; and Resource Management. There are 21 major areas of study in which undergraduate students can earn a baccalaureate degree, plus a college-wide pre-major (pre-agriculture, forestry and consumer sciences). There also is a college-wide multidisciplinary studies major. These majors are listed below by the division in which they are taught. More detailed information on each major is provided in the appropriate division’s section on the following pages.

Division of Animal and Nutritional Sciences
Animal and Nutritional Sciences; Biochemistry; Human Nutrition and Foods

Division of Design and Merchandising
Design Studies; Fashion Design and Merchandising; Interior Design

Division of Forestry and Natural Resources
Forest Resources Management; Recreation, Parks, and Tourism Resources; Wildlife and Fisheries Resources; Wood Science and Technology

Division of Plant and Soil Sciences
Agroecology; Agronomy; Applied and Environmental Microbiology; Environmental Protection; Horticulture; Soil Science

Division of Resource Management
Agribusiness Management and Rural Development; Agricultural and Extension Education; Environmental and Natural Resource Economics; Landscape Architecture

Minors
There are currently 19 approved minors in the Davis College. Minors can be combined with major fields to broaden or further focus the student’s academic studies. In addition, three minors can be combined in a multidisciplinary studies (MDS) major. You can earn an MDS degree in the Davis College or in other WVU colleges. The Davis College minors include:

Agribusiness Management
Applied and Environmental Microbiology
Arboriculture
Conservation Ecology
Environmental Economics
Environmental Protection
Equine Management
Family and Consumer Sciences
Food Science and Technology
Forest Resource Management
Horticulture
Landscape Studies
Pest Management
Recreation, Parks, and Tourism Resources
Rural Community Development
Soil Science
Sustainable Design
Wildlife and Fisheries Resources
Wood Science and Technology
Nature of Program

The Davis College offers students career paths that are exciting and rewarding. Through our diverse academic programs, students and faculty team up to discover agricultural practices that increase yields while improving the environment, produce bio-based energy alternatives, create more nutritious and flavorful foods, restore degraded ecosystems, conserve forests and natural resources, and design both built and natural environments. Graduates of the Davis College pursue scientific and management careers that foster the wise management, utilization, and conservation of our soils, water, forests, wildlife, domestic animals, food, fiber, and living spaces.

Davis College student learning communities’ help students adjust to their major and get to know their fellow students and professors. Distinguished faculty shares their knowledge through hands-on learning in the field, classroom, and lab, and through academic advising. In the Davis College, we are committed to helping students succeed through a strong academic support system. Whether students are interested in animals, design, the environment, biosciences, or food and health, the Davis College is the perfect place for academic and personal growth.

Accredited Programs

The following programs within the college are accredited by nationally and/or internationally recognized organizations: landscape architecture by the Society of Landscape Architecture; forest resource management and recreation, parks, and tourism resources by the Society of American Foresters; wood science and technology by the Society of Wood Science and Technology; agricultural and extension education by the National Council for Accreditation of Teacher Education; interior design by the Council for Interior Design Accreditation; and the didactic undergraduate program in dietetics by the American Dietetic Association.

Honoraries and Student Organizations

Students are encouraged to become active in honoraries and student professional associations and organizations. Those with a sufficiently high grade point average may be selected for membership in Phi Kappa Phi, the University-wide honorary recognizing excellence in scholarship. Within the college, outstanding students may be chosen for membership in Alpha Tau Alpha, Gamma Sigma Delta, Phi Upsilon Omicron, or Alpha Zeta. There are over 20 student clubs and organizations sponsored by the college.

Admission

The general high school credit requirements for admission into the Davis College are the same as those required by the University (see page 16 of this catalog).

All students are admitted directly to the college and are assigned a faculty advisor.

Honors

Outstanding academic achievement is recognized by awarding President’s List and Dean’s List status to students who obtain a 4.0 grade point average or 3.5 GPA, respectively. Students must be enrolled full-time to be eligible for such recognition.

Students may receive summa cum laude (with highest honors, a minimum 3.8 GPA); magna cum laude (with high honors, a minimum 3.6 GPA to less than a 3.8 grade point average); or cum laude (with honors, a minimum 3.4 GPA to less than a 3.6 GPA) recognition upon graduation. These guidelines are set by the University.
Applications for Graduation

All candidates for the bachelor's degree must fill out an application for graduation in room 1002 of the Agricultural Sciences Building at the beginning of the semester in which they expect to receive their degrees.

College-Wide Majors

There is a college-wide pre-major for the undecided student who enrolls in the Davis College and wishes to explore different academic areas before choosing a major from which to graduate. The Davis College offers a multidisciplinary studies major which requires completion of at least two minors of the required three minors in the Davis College and allows flexibility in defining an academic program that fits the student’s career goals.

Pre-Agriculture, Forestry, and Consumer Sciences Major

The pre-agriculture forestry and consumer sciences (PAFCS) majors in the Davis College are for the student who is undecided as to his or her career path and would like to explore different academic areas in the Davis College or other WVU colleges before choosing a major. A student cannot complete graduation requirements in the PAFCS major.

Students who meet WVU admissions requirements may be accepted directly into the Davis College pre-agriculture, forestry, and consumer sciences major. Students are advised by the Davis College’s Associate Dean for Academic Affairs Office or a faculty advisor designated by the associate dean’s office.

General Education Curriculum courses are combined with introductory courses from majors in which the student may have an interest. PAFCS students are encouraged to talk with professors throughout the Davis College to gain knowledge of the many career options in our college.

There is no specific time when it is appropriate to choose a major since different majors have widely varying course requirements. Students can transfer into many majors at the end of the sophomore year and graduate in four years. However, some majors are more tightly structured and require initiation of studies in the freshman year to complete studies in four years. The PAFCS student’s faculty advisor will provide him or her with guidance on major requirements throughout WVU.

Multidisciplinary Studies

The multidisciplinary studies (MDS) major in the College of Agriculture, Natural Resources, and Design is a flexible degree program which allows students and their advisors to tailor a set of courses which meets the student’s interests and career plans. The major was developed in response to increasing demands from employers and students for broad-based educational programs which prepare students for our rapidly changing society and economies. There are an increasing number of students who wish to tailor their education to their career interests without being constrained by traditional academic majors. The Davis College MDS program is distinct from others at WVU and is oriented toward students who want to focus their studies on the academic areas of the college.

Students who meet university admissions requirements may be accepted directly into the Davis College multidisciplinary studies major. Students may be admitted as freshmen or transfer students.

There is no requirement for a minimum number of course hours to be completed at WVU before admission to the Davis College MDS program. To earn a bachelor’s degree, students complete 128 credit hours including WVU’s General Education Curriculum and the requirements for three minors, at least two of which must be minors in the Davis College. The student is required to complete a capstone course under the direction of his or her advisor.

The student, along with their faculty advisor from the Davis College, chooses three minors and a program of elective courses, which fits the student’s focus and career objectives. Students are not limited to courses in a particular area, but will have the opportunity to develop expertise in several areas with an interdisciplinary focus.
Division of Animal and Nutritional Sciences
Matthew E. Wilson, Ph.D., Interim Director

Programs of Study

As a student in this division, you may pursue a degree that enables you to do graduate work, go into commercial agriculture, or work for federal or state agencies, the food processing industry, or other areas of food and agriculture. The pre-professional program meets requirements for entry into professional school programs of veterinary and human medicine, allied health professions, and the registered dietetics program. Many pre-professional students obtain their bachelor’s degrees after three years of pre-professional study and one year of professional study.

Courses that you will take in the division include animal production, biochemistry, breeding and genetics, food science, animal and human nutrition, pathology, and physiology. To assist in equipping yourself for one of the many varied careers in animal agriculture, you will take supporting courses in other divisions of the Davis College of Agriculture, Natural Resources, and Design and in other colleges. The programs are flexible and permit you to obtain a broad background and take sufficient courses in one area during the last two years to prepare you for your first postgraduate career choice.

Degrees Offered

Bachelor of Science in Agriculture
Major: Animal and Nutritional Sciences

Bachelor of Science
Major: Animal and Nutritional Sciences, Agricultural Biochemistry, and Human Nutrition and Foods

Bachelor of Science in Agriculture: Animal and Nutritional Sciences Major

This curriculum will provide you with the opportunity to acquire the necessary background in agricultural economics, agronomy, breeding, nutrition, and physiology to prepare for a career in livestock, dairy, or poultry production and management, human nutrition and food processing, and technology.

Curriculum Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition and Rhetoric (GEC objective #1)</td>
<td></td>
</tr>
<tr>
<td>(or conformity with University English requirements)</td>
<td>6</td>
</tr>
<tr>
<td>GEC Requirements (objectives 3–9)</td>
<td>22</td>
</tr>
<tr>
<td>Natural Sciences (GEC objective #2)</td>
<td></td>
</tr>
<tr>
<td>(must elect a minimum of eight credits in biology; eight credits in chemistry; three credits in college algebra or equivalent)</td>
<td>24</td>
</tr>
<tr>
<td>Courses in Agriculture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>45</td>
</tr>
<tr>
<td>Elect a minimum of a three-credit course, excluding Assigned Topics, in each of the following categories:</td>
<td></td>
</tr>
<tr>
<td>1. Animal science</td>
<td></td>
</tr>
<tr>
<td>2. Plant science</td>
<td></td>
</tr>
<tr>
<td>3. Soil science</td>
<td></td>
</tr>
<tr>
<td>4. Agricultural economics</td>
<td></td>
</tr>
<tr>
<td>Elect additional courses to obtain a total of 45 hours in the college.</td>
<td></td>
</tr>
<tr>
<td>Free Electives</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>128</td>
</tr>
</tbody>
</table>
Bachelor of Science: Animal and Nutritional Sciences Major

The curriculum in science, with its flexible design, provides you with the opportunity to acquire the necessary background in agricultural biochemistry, chemistry, mathematics, physics, and modern concepts of biology in preparation for professional schools of veterinary medicine, human medicine, dentistry, optometry, pharmacy, or graduate study in such fields as agricultural biochemistry, animal breeding, animal physiology, nutrition and registered dietitian. Selection of individual courses will be your responsibility in consultation with an advisor.

Curriculum Requirements  

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition and Rhetoric</td>
<td>6</td>
</tr>
<tr>
<td>(or conformity with University English requirements)</td>
<td></td>
</tr>
<tr>
<td>GEC Requirements (objectives 3–9)</td>
<td>22</td>
</tr>
<tr>
<td>Natural Sciences (GEC objective #2)</td>
<td>40</td>
</tr>
<tr>
<td>(A minimum of two courses in each of biology, chemistry, physics, and calculus is required. You may substitute advanced chemistry courses for calculus to meet degree requirements. This ordinarily means organic chemistry and/or biochemistry.)</td>
<td></td>
</tr>
<tr>
<td>Courses in Agriculture</td>
<td>24</td>
</tr>
<tr>
<td>Free Electives</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td>128</td>
</tr>
</tbody>
</table>

Bachelor of Science: Agricultural Biochemistry Major

The curriculum in biochemistry prepares you for careers requiring a strong background in basic principles of the physical and life sciences. Students completing a biochemistry major are prepared for professional employment in the expanding fields of agricultural and environmental sciences, the chemical industry, health-related industries, and biotechnology-based industries. The curriculum provides you with the interdisciplinary background in biochemistry, biology, chemistry, mathematics, physics, and molecular biology necessary as preparation for professional schools of human and veterinary medicine, dentistry, optometry, and pharmacy. It also provides strong preparation for graduate study in fields such as animal and plant agriculture, biochemistry, biology, biotechnology, chemistry, food science, nutrition, and physiology.

Curriculum Requirements  

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 &amp; 102—GEC Objective 1</td>
<td>6</td>
</tr>
<tr>
<td>GEC Requirements (objectives 3–9)</td>
<td>22</td>
</tr>
<tr>
<td>Biochemistry Core Curriculum</td>
<td></td>
</tr>
<tr>
<td>Orientation to Biochemistry</td>
<td>1</td>
</tr>
<tr>
<td>MATH 155 and 156</td>
<td>8</td>
</tr>
<tr>
<td>PHYS 101 and 102, or PHYS 111 and 112</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 115, 117, 219, and 310</td>
<td>18</td>
</tr>
<tr>
<td>Concentration Area</td>
<td>30</td>
</tr>
<tr>
<td>coursework beyond the biochemistry core</td>
<td></td>
</tr>
<tr>
<td>selected from courses within the Davis College of Agriculture, Natural Resources and Design.</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>128</td>
</tr>
</tbody>
</table>

Bachelor of Science: Human Nutrition and Foods Major

This is a nationally accredited four-year curriculum that meets the academic requirements for membership in the American Dietetic Association and leads to a bachelor of science degree. After completion of the curriculum in dietetics, seniors are eligible to apply for a highly competitive dietetic internship. Acceptance into an internship is not guaranteed. The dietetic internship involves an additional one to two years, depending on the site and whether graduate study is included. Upon completion of the internship, the graduate is eligible to take the examination to become a registered dietitian (RD). This
program of study is a good pre-professional option for students who wish to pursue the professional school programs of human medicine and the allied health professions.

Students are required to complete core courses as well as courses in food science, nutrition, food service management, sociology, psychology, economics, chemistry, biology, physiology, and microbiology. Students are encouraged to select electives in areas that support anticipated career preferences, e.g., business, food science, nutritional biochemistry, advertising, writing, and exercise physiology.

### Curriculum Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 &amp; 102–GEC Objective 1</td>
<td>6</td>
</tr>
<tr>
<td>MATH 126, 128 or 150 GEC Objective 2A</td>
<td>3–44</td>
</tr>
<tr>
<td>AEM 341 GEC Objective 4</td>
<td></td>
</tr>
<tr>
<td>A&amp;VS 105 or AGBI 199 GEC Objective 6</td>
<td>1–2</td>
</tr>
<tr>
<td>CDFS 110 GEC Objective 6</td>
<td>3</td>
</tr>
<tr>
<td>ECON 201 GEC Objective 8</td>
<td></td>
</tr>
<tr>
<td>SOCA 105 GEC Objective 9</td>
<td>3</td>
</tr>
<tr>
<td>A&amp;VS 402 “W” requirement</td>
<td>3</td>
</tr>
<tr>
<td>Seminar (Capstone)</td>
<td>2</td>
</tr>
<tr>
<td>GEC Requirements Objectives 3, 5 &amp; 7</td>
<td>9–10</td>
</tr>
<tr>
<td>Human Nutrition &amp; Foods Core Curriculum GEC Objective 2 B &amp; C</td>
<td>86</td>
</tr>
<tr>
<td>AGBI 410/411</td>
<td></td>
</tr>
<tr>
<td>ANPH 301</td>
<td></td>
</tr>
<tr>
<td>ARE 110 or ACCT 201</td>
<td></td>
</tr>
<tr>
<td>BIOL 101/103; 102/104</td>
<td></td>
</tr>
<tr>
<td>BUSA 320</td>
<td></td>
</tr>
<tr>
<td>CHEM 115, 116, 233, 234, 235, 236</td>
<td></td>
</tr>
<tr>
<td>AGEE 421</td>
<td></td>
</tr>
<tr>
<td>FDST 200</td>
<td></td>
</tr>
<tr>
<td>HN&amp;F 171, 271, 348, 350, 353, 460, 461, 472, 474, 494</td>
<td></td>
</tr>
<tr>
<td>PHYS 101, 102</td>
<td></td>
</tr>
<tr>
<td>PSYC 101, 251</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>128</td>
</tr>
</tbody>
</table>

### Pre-Professional Programs (Veterinary Medicine, Human Medicine, and Allied Health Professions)

The bachelor of science programs in animal and nutritional sciences and biochemistry and human nutrition and foods are designed to provide students with the academic requirements for entry into professional schools or colleges of veterinary medicine. WVU has agreements with the Southern Regional Education Board and currently include the schools of veterinary medicine at Auburn University, Mississippi State University, and the University of Georgia. To qualify for these positions, you must have been a West Virginia resident for at least the past five years at the time of application. Applicants for admission to these colleges of veterinary medicine must present at least 78 semester hours of acceptable credit. Since a maximum of 13 eligible students are accepted each year, alternate goals in either of the other degree programs are urged for all pre-professional students.

Applicants with a grade point average of 3.0 or above will be given first consideration for admission to these institutions.

If you have completed 90 hours of coursework at WVU or at institutions within the West Virginia state system of higher education, including at least 36 at WVU, and have completed all required courses for the degree, you may transfer credit from a professional school program to WVU to receive a bachelor's degree.
Honors Program
The option of graduating with program honors is available to students with a 3.5 overall grade point average and the approval of departmental faculty. Graduation with program honors includes a senior thesis based upon an approved research project conducted under the supervision of a faculty mentor. For further information and to apply for admission, qualified students should consult their advisors and/or the University catalog.

Division of Design and Merchandising
Barbara McFall, Ph.D., Director

Programs of Study
The majors in the Division of Design and Merchandising focus on designing modifications to person-environment interactions that improve the quality of living. We conceive, plan, and produce the experiences, products, and services mandated by this complex and dynamic century. Our students find employment in traditional design and retail venues as well as in innovative organizations that value design thinking as a way to fully understand their clients and markets. Study abroad is encouraged in all programs and is required in interior design. If you seek to make a new and positive difference in your world, this is the place to be. Programs are offered in design studies, fashion design and merchandising, and interior design.

Accreditation
The interior design program is accredited by the Council for Interior Design Accreditation.

Honorary Society
Phi Upsilon Omicron, a national honor society in Family and Consumer Sciences, is open for membership by invitation to outstanding students.
Gamma Sigma Delta, a national honor society in Agriculture, Forestry, and Consumer Sciences, is open for membership to the top students in the college.

Student Professional Organizations
Student professional organizations provide service activities, social events, and extended learning opportunities, including field trips and guest speakers, for students in each discipline. Students are encouraged to participate in one or more of the following groups:
- American Society of Interior Designers (student chapter)
- Fashion Business Association

Interior Design
Bachelor of Science in Design and Merchandising
Students in this program, which is accredited by the Council for Interior Design Accreditation, learn to identify, research, and creatively solve problems pertaining to the function and quality of the interior environment. They gain specialized knowledge of interior construction, building codes, equipment, materials, furnishings, and aesthetics. Students engage in programming, design analysis, and space planning relative to interiors. They prepare drawings and documents that detail their specification for aesthetically pleasing interiors that also protect the health, safety, and welfare of the public.

Offering a number of special opportunities to students, the program is known for the amount of hands-on experience it makes available to its majors. Coursework and projects focus on current design issues and include topics such as sustainability, universal design, and historic preservation. Through the course ID 400, students may participate in internships where they are able to learn and work with practicing designers while earning university credit. The program has also incorporated a global focus, reflected in design courses as well as additional course requirements. Two semesters of foreign language are required, as well as several courses on global/international issues. The high point of the global focus is seen in the required study abroad, scheduled for the spring semester of the third year.
Students at all levels are encouraged to work together to share information and skills that enhance the design learning throughout their academic career. The student organization, American Society of Interior Designers (ASID), is active on campus and sponsors various tours and trips to supplement the learning experience. Student design competitions are another source of professional and collaborative experience for interior design majors.

**Career Opportunities**

Employment in design occupations is expected to continue to grow. Interior designers often work for design firms, architectural firms, and department and home furnishing stores, or hotel and restaurant chains. Some designers do freelance work full-time, part-time, or in addition to a salaried job.

Beginning designers usually receive on-the-job training and normally need one to three years of apprenticeship before they advance to higher-level positions. Experienced designers in large firms may advance to design director, project manager, or other supervisory positions. Some experienced designers open their own firms.

### Suggested Curricula—Interior Design

#### First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>First Semester Hrs.</th>
<th>Second Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 100</td>
<td></td>
<td>1</td>
<td>ID 125</td>
</tr>
<tr>
<td>DSM 293</td>
<td></td>
<td>3</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>ID 230</td>
<td></td>
<td>3</td>
<td>Art (drawing)</td>
</tr>
<tr>
<td>DSM 101</td>
<td></td>
<td>3</td>
<td>GEC/Program Requirements</td>
</tr>
<tr>
<td>GEC/Program Requirements</td>
<td>3–6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University 101</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>14–17</td>
<td>15</td>
</tr>
</tbody>
</table>

(At end of this semester, students will continue in the program based on GPA ranking in interior design, Gateway Project, and then on overall GPA.)

#### Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>First Semester Hrs.</th>
<th>Second Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 155</td>
<td></td>
<td>3</td>
<td>ID 225</td>
</tr>
<tr>
<td>ID 200</td>
<td></td>
<td>3</td>
<td>ID 235</td>
</tr>
<tr>
<td>ID 230</td>
<td></td>
<td>3</td>
<td>ID 240</td>
</tr>
<tr>
<td>ID 330</td>
<td></td>
<td>3</td>
<td>ID 260</td>
</tr>
<tr>
<td>ENGL 102</td>
<td></td>
<td>3</td>
<td>GEC/Program Requirements</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>15</td>
<td>17</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>First Semester Hrs.</th>
<th>Second Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 270</td>
<td></td>
<td>3</td>
<td>Study Abroad</td>
</tr>
<tr>
<td>ID 325</td>
<td></td>
<td>2</td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>ID 375</td>
<td></td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>BIOL 105</td>
<td></td>
<td>2</td>
<td>GEC/Program Requirements</td>
</tr>
<tr>
<td>BIOL 106</td>
<td></td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>First Semester Hrs.</th>
<th>Second Semester Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID 355</td>
<td></td>
<td>3</td>
<td>ID 450</td>
</tr>
<tr>
<td>ID 420</td>
<td></td>
<td>3</td>
<td>ID 455</td>
</tr>
<tr>
<td>GEC/Program Requirements</td>
<td>9–12</td>
<td></td>
<td>GEC/Program Requirements</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>15–18</td>
<td>16</td>
</tr>
</tbody>
</table>

*Note: The minimum number of hours for graduation is 132. A reduction of course hours during these semesters may require the addition of summer classes in order to graduate on time.
Minimum Program Requirements Description and Guide

The following minimum requirements are set to insure that students who graduate from the program will have the appropriate skill level and knowledge to succeed in this competitive field.

First-Year Level

I. Enrollment in the first-year level is not limited, but second-year, third-year, and fourth-year class levels are limited to 20 students each.

A. To continue in the program beyond the first year, students must meet the following requirements:
   1. Maintain at least a cumulative 2.5 grade point average (GPA) in the major's required first-year classes (DSM 293, ID 125, and ID 230).
   2. Maintain a 2.25 overall GPA.
   3. Earn a minimum grade of C in DSM 293 and ID 230, and a minimum grade of B in ID 125.
   4. Show good citizenship through appropriate behaviors and involvement in the interior design program.

B. If more than 20 students meet the above requirements and wish to continue in the interior design major, then students will be selected based upon:
   1. Their cumulative GPA ranking in DSM 293, ID 125, and ID 230.
   2. Their overall GPA.
   3. Performance in the Gateway Project conducted at the end of the first year.
   4. If needed, faculty interviews.

Sophomore, Junior, and Senior Level

I. All interior design students are required to maintain at least an overall 2.25 GPA and a 2.5 GPA in ID courses.

A. Students’ GPAs will be monitored each semester.

B. Any student who has an overall GPA below 2.25 or an ID GPA below 2.5 will be notified of the deficiency and will not be permitted to enroll in interior design courses.

C. Space permitting, students who have not been permitted to enroll in ID courses because of a low GPA may enroll in ID courses after they have met the appropriate GPA.

II. All interior design students are required to earn at least a C in each required interior design course.

A. Students’ grades in each of the above courses will be monitored each semester.

B. Any student who has earned a grade of D or lower in any of the studio courses will be notified of the problem and will not be permitted to enroll in their next ID studio course.

C. Students who have not been permitted to enroll in their next ID studio course because of receiving a grade of D or lower for one of the courses may correct the problem by successfully repeating the course or courses before graduating, space permitting.

D. Any student who has earned a grade of D or lower in the capstone class, ID 455 Contract Design 2, must successfully repeat the course prior to graduating.

III. The interior design studio courses are to be taken in an uninterrupted sequence (ID 125, ID 155, ID 225, ID 235, ID 325, ID 375, ID 355, and ID 455). Students who interrupt this sequence will be permitted to enroll for the next studio course if space permits.

Design Studies

Bachelor of Science in Design and Merchandising

Design is a way of thinking (about what might be better), and a process (of iterative prototyping), as well as the product of that thinking and process. The design studies program at West Virginia University provides the opportunity for cross-disciplinary study by pairing design thinking and design process courses with an approved minor of your choice.
Description of Program

Design studies is a four-year, non-studio curricula that is open to all freshmen and to students transferring into the program as long as they meet the GPA requirement. Students must have a minimum GPA of 2.5 overall to enter the program, and must maintain an overall 2.25 throughout their time in the major.

Students meet with their academic advisor at the beginning of their program to determine a program of study for their academic major. Each student, as a requirement for graduation, must participate in a minimum of six credit hours of internship. Internships will be allowed only after the student has finished a minimum of 50 percent of their minor coursework, and completed the required second year design studies coursework. Typically, internships will occur during the summer between the student’s third and fourth years. Internship experiences will be unique to each student, and will reflect their area of interest in the design fields.

Career Opportunities

Demand for graduates with design studies degrees has traditionally come from production, sales, marketing, and management firms related to design products and studio-trained designers (fashion, interiors, etc.). More recently there has been growing recognition that design thinking/process supports entrepreneurship and innovation in all venues. Internet searches of Business Week and/or Fast Company using key word “design” will provide a quick overview of the rapidly expanding career potential in this field.

The program is a non-competitive major that is not accredited by CIDA (Council for Interior Design Accreditation—formerly FIDER). The offering of an interdisciplinary, non-studio design major by West Virginia University is unique in the state and within the University. Design studies brings together positive aspects of the studio-based design majors and the multi-disciplinary studies major to provide a design-focused non-studio program that is flexible and student centered. Employment in design-related occupations is expected to continue to grow.

Suggested Curricula—Design Studies

Specifically, the major consists of a) University requirements, b) a common design core, c) additional design-related courses, d) internship or professional field experience, e) an approved minor contributing to a design-related specialty, and f) a capstone experience. Students take a core of design courses to learn and understand the design language. A minor is required to focus their area of study and provide a context for their design thinking. Finally, design-related requirements and recommended electives are chosen to support the understanding of design in a variety of contexts. The capstone requirement will be met with the addition of a six-to-nine hour professional field experience or external study and a final course where students synthesize and present their experiences in the work environment. Each student meets individually with her/his advisor to determine the most appropriate coursework choices for all requirements at the beginning of the semester in which they declare design studies the major.

Curriculum for the design studies major is determined by the area of interest chosen by the student. The area of interest is explored through an approved minor at the University. A list of minors currently approved for the design studies major are advertising, business administration, communications, disability studies (certificate), landscape studies, studio art, entrepreneurship, history/historic preservation, horticulture, public relations, and theatre.

Minimum Program Requirements Description and Guide

The following minimum requirements are set to insure that students who graduate from the program will have the appropriate skill level and knowledge to succeed in their chosen field of professional work. Design studies require a minimum of 128 credit hours for graduation.
First-Year Level

Students should begin the design studies program with an introduction to design as provided in ID 100 and DSM 293, first-semester courses. Students should make an appointment with the program chair at the end of the first semester to determine course selection based on a chosen required minor. Students interested in exploring the application of design principles may also take ID 125 in the spring semester.

Design studies are an open-enrollment major for incoming freshmen. Students may also transfer into the major during either fall or spring semesters as long as they meet the minimum entry requirements. Transfer students must have an overall GPA of a 2.5 to apply for acceptance into the design studies major. It is advisable that students interested in transferring into the major make an appointment with the Advising Center (contact Joy Patterson at joy.patterson@mail.wvu.edu) to discuss details prior to officially transferring paperwork.

Second-, Third-, and Fourth-Year Levels

All design studies students are required to maintain at least an overall 2.25 GPA to remain in the program with good academic standing

- Students' grades will be monitored each semester.
- Any student who has an overall GPA below 2.25 will be notified and put on academic probation for the upcoming semester. It will be necessary for the student to raise their GPA to the required 2.25 in order to continue in the design studies major coursework.
- Students who have an overall GPA below the required 2.25 will not be allowed to enroll in DSGN or ID coursework until the GPA has returned to the minimum required.
- Students who have not been permitted to enroll in design courses because of a low GPA may enroll in design courses after they have met the appropriate GPA, space permitting.
- All design studies students are required to earn at least a C in each required interior design and design studies (DSGN) course.
- Students' grades in DSGN and ID courses will be monitored each semester.
- Any student who has earned a grade of D or lower in any of the DSGN or ID courses will be notified of the problem and will be expected to repeat the course and earn a grade of C or above prior to graduation.

Fashion Design and Merchandising
Bachelor of Science in Design and Merchandising

Students in the fashion design and merchandising (FDM) program obtain a broad-based background in fashion design and merchandising. They may pursue a fashion merchandising or a fashion design option; both curricula consist of a minimum of 128 credit hours. Minors are available in recommended areas such as business, advertising, public relations, and communication studies.

All FDM students are encouraged to seek summer employment in the textile, apparel, or retail fields in order to gain experience and integrate coursework into business professional settings. Fashion merchandising students are required to take a three-credit work practicum following their second year in the program. Both program options require an internship in which students apply textile, apparel, and/or merchandising subject matter in a professional setting. The practicum and internship are available during the summer and fall semesters only.

An elective, study abroad opportunity enables students to observe the textile, apparel, and retail industries in the European fashion capitals of Milan, Italy, or London, England. The FDM program has established connections with fashion schools in each of these cities. Students who study abroad must register with the WVU Office of International Programs, Third Floor, Stansbury Hall, phone (304) 293-6955, ext. 0. Website: http://www.wvu.edu/~intlprog.
An elective fashion study tour to enables students to observe fashion industry and retail sites, view historic costume displays and collections, and network with graduates of the FDM program. A teaching practicum is another elective opportunity that enables a student to broaden his or her perspective. Students are encouraged to enter design and research competitions and exhibitions sponsored by industry, professional societies, and the University. A student organization, the Fashion Business Association, enriches the student experience by bringing working professionals to campus to share their experiences and providing students with opportunities to develop their leadership skills.

**Career Opportunities**
Retail opportunities often begin with an executive training program and may lead to positions in management, buying, allocating, planning, fashion promotion, personnel, or visual merchandising. Placement may be found with department stores, specialty stores, mass merchandisers, discount operations, and with small and large chain organizations. Opportunities in the apparel field include designer, sample coordinator, sourcing specialist, showroom sales executive, and merchandiser. Opportunities in the textile field include sales representative, color analyst, promoter, or educational director. Our students have been successful in gaining admission for advanced work in areas such as historic costume and textiles, social psychology of dress, apparel design, textile design, and business. With additional study at the graduate level, students may secure positions with fiber and fabric producers, museums that exhibit and preserve textiles and apparel, and with colleges and universities. The opportunities are many and the employment possibilities varied.

All FDM graduates are prepared for entry-level positions or graduate study.

**Minimum Program Requirements**
The following minimum requirements are set to insure that students who graduate from the program will have the appropriate skill level and knowledge to succeed in this competitive field.

**First-Year Level**
Enrollment and Requirements
1. Students may enter the FDM program as first-semester freshmen.
   a. Enrollment in the required first-year FDM courses is not limited. The following courses have open enrollment and should be taken the first year in the major: FDM 293 Mentoring, FDM 110, FDM 140, and DSM 293 Introduction to Design. FDM 135 Figure and Fabric Drawing and FDM 293 Basic Garment Construction are also required for design majors during the first year in the major.
   b. Second-level and above courses generally are limited to FDM majors, however two GEC courses, FDM 210 and FDM 220, have open enrollment for non-majors.
2. Students must meet the following requirements in order to continue or transfer into the program beyond the first year:
   a. Maintain a 2.25 overall GPA.
   b. All FDM students must earn a C or above in FDM 293 courses, FDM 110, FDM 140, DSM 293 and MATH 126.
3. Successfully complete ARHS (101 or 120 or 160), ENGL 101, MATH 126, PSYC 101, and SOCA 101.

**Second-, Third-, and Fourth-Year Levels**
GPA Requirement
1. All FDM students are required to maintain a 2.25 GPA or above. Students’ GPA will be monitored each semester.
2. Any student who has an overall GPA below 2.25 will be notified of the deficiency and will not be permitted to enroll in FDM courses.
3. Students, who have not been permitted to enroll in FDM courses because of low GPA may enroll in FDM courses after meeting the 2.25 minimum overall GPA, space permitting.
Grade Requirements
1. All FDM students are required to earn a C or above in all required FDM courses. Students’ grades in FDM courses will be monitored each semester.
2. Any student who has earned a grade of D+ or lower in any of the FDM courses will be notified of the problem and will not be permitted to enroll in the next sequence of FDM courses.
3. Students who have not been permitted to enroll in the next sequence of FDM courses because of receiving a grade of D+ or lower for one of the required FDM courses may correct the problem by repeating the course(s) the next time it is offered, space permitting, and earning a C or above. Please note that most FDM courses are offered only once per academic year.
4. Fashion design students are required to earn a minimum grade of B in FDM 230 and 250 in order to remain in the fashion design option.

Course Sequence
1. The FDM courses are to be taken in an uninterrupted sequence following the fashion merchandising or the fashion design block schedule. Students who step out of this sequence for any reason will be permitted to enroll for the next sequential course, space permitting.
2. Students should complete MATH 126 in their first year; ENGL 102 fall semester of their second year; ECON 201 and CS 101 before FDM 360; and ACCT 201 before FDM 361.

Business and Division Requirements
1. All FDM students are required to take MATH 126, ECON 201, CS 101, ACCT 201, ADV 215, ENGL 304, BUSA 320, BUSA 330, and SPA 270 or AGEE 421.
2. In addition, fashion merchandising students are required to take finance (BUSA 340 or ARE 461).
3. All FDM students may elect to complete a business minor by completing BUSA 340, BUSA 310, and ECON 202 and earning an average of C or above in all of the required courses for the minor (ECON 201, ECON 202, ACCT 201, BUSA 310, BUSA 320, BUSA 330, and BUSA 340). Both ECON courses may be used to fulfill GEC requirements and count toward the minor.

Practicum Requirement
The practicum is a required, three-credit course for all fashion merchandising students, and is designed to allow students to apply the course in a work setting and gain experience. It is offered through WVU fall semester and summer only. The summer practicum is six weeks and is completed during one summer session; students register and pay for three credits. The fall practicum is taken as part of a full course load; it is a minimum of 13 weeks.

Site Selection It is up to each student to select and secure his or her own practicum site using all available resources. It is wise to interview at more than one practicum site in order to locate the best possible position. Prior site approval by the practicum course instructor is required for all sites. The site must specialize in some aspect of fashion merchandising. Students must select a site that will be different from their internship site in order to enhance their competitiveness.

Procedure Students take the practicum after completing all 200-level FDM courses successfully. An application and approval form, signed contract, and resume are required for registration. All paperwork needs to be complete and handed in by the deadlines or the student will be deleted from the course roster. Before registering, a student needs to pay parking tickets, library fines, and check with the Department of Financial Aid so there are no restrictions placed on his or her registration. Prior to embarking on this work experience, all students must participate in the mandatory orientation session(s). Summer orientation is held at the end of spring semester prior to the practicum. Fall orientation is conducted the first week of fall semester.
Internship Requirement

The internship is a required capstone course for all students in the FDM program. It is offered through WVU in fall and summer terms only. Fashion merchandising students are required to have a six-credit internship. A six-credit summer internship is eight weeks long and spans both summer terms; students must register and pay for six credits at the beginning of the first summer session. Apparel design students are required to have a three-credit internship; students must register and pay for three credits and complete the internship within one six-week summer term. Fall internships that are taken as part of a full course load are to be a minimum of 13 weeks. If a student is not taking additional coursework in the fall, he or she may follow the time guidelines for summer internships.

Site Selection It is up to each student to select and secure his or her own internship site using all available resources including the development of networking contacts. These can be made through the Fashion Business Association, study tour, the WVU Career Services Center, and FDM internship instructors. Students should be prepared to interview when recruiters come to campus during the academic year. It is wise to interview with more than one internship site in order to locate the best possible position that will lead to an enhancement of career goals. Approval of the site ahead of time by the internship course instructor is required for all proposed sites. The site must specialize in some aspect of fashion merchandising or apparel design.

Procedure Students may take the internship after completing FDM 361 successfully. An application and approval form, signed contract, and resume are required for registration. This paperwork needs to be complete and handed in by the summer or fall deadlines or the intern will be deleted from the course roster. Before registering for the internship, a student needs to pay parking tickets, library fines, and check with financial aid so there are no restrictions placed on his or her registration. Prior to embarking on the internship, all students must participate in the mandatory orientation session(s). The summer orientation session is held at the end of spring semester prior to the internship. The fall orientation sessions are conducted the first week of class as published in the WVU Schedule of Courses.

FDM Block Schedule—Fashion Merchandising

First Year
First Semester
FDM 110 Introduction to Fashion Business
FDM 140 Introductory Textiles
FDM 293S Mentoring
DSM 293C Introduction to Design

Second Semester
or FDM 110 Introduction to Fashion Business
or FDM 140 Introductory Textiles

Second Year
First Semester
FDM 210 Fashion and Dress Through History
FDM 220 Fashion, the Body, and Culture
FDM 235 Product Development

Second Semester
FDM 251 Applied Fashion/History
FDM 260 Visual Merchandising
Study Abroad—Optional, summer after 1st or 2nd yr.

Third Year
First Semester
FDM 310 Merchandising Practicum, or summer after 2nd yr.
FDM 360 Fashion Merchandising

Second Semester
FDM 361 Merchandise Planning and Control

Fourth Year
First Semester
Semester Study Abroad Optional
FDM 491 Professional Field Exp. or summer after 3rd yr.

Second Semester
FDM 470 Global Issues and Fashion
FDM 311 Fashion Study Tour, or spring of 3rd yr., elective
FDM 493 Special Topics
FDM Block Schedule—Fashion Design

First Year
First Semester
- FDM 135 Figure and Fabric Drawing
- FDM 140 Introductory Textiles
- FDM 293 Mentoring
- DSM 293 SPTP: Intro. to Design

Second Semester
- FDM 110 Introduction to Fashion Business
- FDM 293 Basic Garment Construction

Second Year
First Semester
- FDM 210 Fashion and Dress Through History
- FDM 230 Apparel Production and Fit
- FDM 250 Flat Pattern Design
- DSM 293 SPTP: Intro. to Design

Second Semester
- FDM 251 Applied Fashion/History
- FDM Restricted Elective
- Study Abroad—Optional, summer after 1st or 2nd yr.

Third Year
First Semester
- FDM 220 Fashion, the Body, and Culture
- FDM 360 Fashion Merchandising
- FDM Restricted Elective
- FDM 350 Draping

Second Semester
- FDM 260 Visual Merchandising
- FDM Restricted Elective
- FDM 493 Special Topics

Fourth Year
First Semester
- FDM 430 Fashion Design Portfolio
- FDM 491 Professional Field Exp.
  - preferable previous summer
- FDM 493 Special Topics

Second Semester
- FDM 311 Fashion Study Tour, or spring of 3rd yr. elective
- FDM Restricted Elective
- FDM 493 Special Topics

General Education Curriculum

All WVU students are required to take at least one course from each of the nine WVU General Education Curriculum (GEC) learning objectives; more than one course is required for objectives 1, 2, and 6. The following courses are required for the FDM program: ENGL 101, ENGL 102, CS 101, MATH 126, ARHS (101 or 120 or 160), ECON 201, PSYC 101, and SOCA 101. It is recommended that students select from the following courses/disciplines to complete the GEC Learning Objectives: COMM 316, HIST, SOCA (beyond 101), SPAN, FRCH, JRL 101, ITAL. Selected courses from these disciplines may be used to fulfill requirements for a minor.

General Education Curriculum

<table>
<thead>
<tr>
<th>Objective</th>
<th>Course Requirements (Required*)</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>ENGL 101*, ENGL 102*</td>
<td>6</td>
</tr>
<tr>
<td>Basic Math &amp; Science</td>
<td>CS 101*, MATH 126*, Lab Science* (4 hr.),</td>
<td>14</td>
</tr>
<tr>
<td>The Past &amp; Its Traditions</td>
<td>FDM 210</td>
<td>3</td>
</tr>
<tr>
<td>Contemporary Society</td>
<td>FDM 220</td>
<td>3</td>
</tr>
<tr>
<td>Artistic Expression</td>
<td>ARHS (101 or 120 or 160)</td>
<td>3</td>
</tr>
<tr>
<td>The Individual in Society</td>
<td>UNIV 101* or equivalent,</td>
<td>4</td>
</tr>
<tr>
<td>American Culture</td>
<td>SOCA 101</td>
<td>3</td>
</tr>
<tr>
<td>Western Culture</td>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td>Non-western</td>
<td>COMM 316, HIST, SOCA (beyond 101), SPAN, FRCH, JRL 101</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>Minimum number of credits for FDM</td>
<td>42</td>
</tr>
</tbody>
</table>
Division of Forestry and Natural Resources
Joseph F. McNeel, Ph.D., Director
James P. Armstrong, Associate Director for Academic Affairs
John R. Brooks, Forest Resources Management Coordinator
Chad Pierskalla, Recreation, Parks, and Tourism Resources Coordinator
Kyle Hartman, Wildlife and Fisheries Resources Coordinator
Jingxin Wang, Wood Science and Technology Coordinator

Programs of Study
If you are interested in natural resources and the out-of-doors, you may be interested in one of the four curricula offered by the Division of Forestry and Natural Resources. Those include forest resources management; recreation, parks, and tourism resources; wildlife and fisheries resources; and wood science and technology. If you are unsure about your major, you can be admitted to the pre-agriculture, forestry, and consumer sciences curriculum with a faculty member to advise you until a program major has been selected. If you have chosen a program major, you will be admitted directly to the major and be assigned a faculty advisor at your first registration.

The division, which has excellent facilities, is located in Percival Hall on the Evansdale campus in close proximity to the Evansdale Library and the Evansdale Residential Complex. In addition, 10,400 acres of forested tracts, including the 7,600-acre University Research Forest, are located near the campus and are used as extensive outdoor laboratories. The MeadWestvaco Natural Resource Center is the focal point of the division’s teaching, research, and service activities at the Research Forest.

Transfer Credits for Professional Courses
If you are a transfer student entering the Division of Forestry and Natural Resources from a one- or two-year technical school or from a four-year unaccredited forestry school, you may have to take an advanced standing examination to demonstrate proficiency in any required professional course offered by the Division of Forestry and Natural Resources for which transfer credit is sought. Advanced standing examinations are given after you have enrolled in the Division of Forestry and Natural Resources. All other credits are accepted subject to the regulations of the Office of Admissions regarding transfer of credits. Currently official articulation agreements are being developed for two-year natural resource students transferring from recognized programs at Allegany College, Maryland; Dabney Lancaster Community College, Virginia; Glenville State College, West Virginia; Penn State Mont Alto and Pennsylvania College of Technology, Pennsylvania, and Hocking Technical College, Ohio, into the Division of Forestry and Natural Resources programs.

Accreditation of Forestry Programs
Forest resources management and recreation, parks, and tourism resources are accredited by the Society of American Foresters (SAF). SAF is the specialized accrediting body recognized by the Council on Post-Secondary Accreditation and the U.S. Department of Education as the accrediting agency for forestry in the United States.

The wood science and technology curriculum is accredited by the Society of Wood Science and Technology. It is one of only ten North American programs so accredited.

Summer Field Studies offered by the Division of Forestry and Natural Resources
The division offers a wide range of summer field study opportunities and international travel experiences for WVU students and division majors to gain valuable practical experience and apply what they’ve learned in the classroom. Every summer, a wide selection of field courses is offered through the off-campus Summer Programs office. These have included courses as varied as the Vegetation of WV to Stream Ecology to international expeditions to Fiji and Patagonia. For more information, see http://www.forestry.caf.wvu.edu for details.
The six-hour Forest Resources Management Field Practice (FMAN 400) course consists of a summer session and is designed for students who have completed the sophomore year of the forest resources management curriculum. Students live in Morgantown and travel daily to the University Research Forest for field studies. The course provides training in forest road layout and design, forest mensuration, GIS/GPS, forest management, and silviculture. Several trips are made to wood-using industries, the Fernow Experimental Forest, and to other forest operations and consultants to study current management techniques.

Students in the wood science and technology program are required to complete a three-hour internship, WDSC 491 Professional Field Practice, in the summer between the junior and senior year. Students obtain employment in a planned, paid work experience lasting at least ten weeks with a wood products company or government agency and are required to prepare progress reports and a final report for their academic advisor. Students in the wildlife and fisheries program are required to take a one- to three-hour internship, WMAN 491 Professional Field Experience. The RPTR 491 Internship is required of students who have completed the junior year of the recreation resources management curriculum. Eight weeks of full-time supervised professional field work is required of students who have completed the junior year of the recreation curriculum. The summer experiences acquaint students with management of park, recreation, and tourism enterprises.

**Forest Resources Management**  
**Bachelor of Science in Forestry**

This curriculum is designed to prepare graduates for a career in management of forests and associated natural resources. In forestry, we face growing demands for wood products along with increasing public consciousness of the value of wild lands for recreation, wildlife habitat, watershed protection, aesthetics, and environmental protection. Our curriculum is designed to provide a balanced approach to forest management. The major emphasis is on management and utilization of timber resources, but we also orient students to management of forests for recreation, wildlife, and water. We also stress the importance of forest ecology, environmental protection, and aesthetic qualities in forest management.

**Curriculum Structure**

We require the completion of 128 credit hours of coursework. Required courses include biological, physical, and social sciences, English composition, communication, mathematics, forest science and management, and liberal studies. We require a six-week summer field practice; this period, along with laboratories in several of our courses, provides ample opportunity to gain field experience. Overall, we have designed the curriculum to provide the needed blend of scientific, technical, and managerial knowledge professionals need to manage public or private forest resources. Elective hours are used to develop additional professional competence in specialized areas.

**Curriculum Requirements**

<table>
<thead>
<tr>
<th></th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman Year</strong></td>
<td></td>
</tr>
<tr>
<td>ENGL 101 Composition and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 101 General Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 103 General Biology</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 111/115 Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>FOR 101 Careers-Natural Resources Management</td>
<td>1</td>
</tr>
<tr>
<td>MATH 126 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 206 Principles of Plant Science</td>
<td>4</td>
</tr>
<tr>
<td>MATH 150/155 Introduction to Calculus/Calculus 1</td>
<td>3</td>
</tr>
<tr>
<td>FOR 240 Intro. Computing-Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>WDSC 100 Forest Resources in U.S. History or GEC Obj. #3</td>
<td>3</td>
</tr>
</tbody>
</table>
Sophomore Year
FOR 205 Dendrology ................................................................. 3
STAT 211 Elementary Statistical Inference .................................... 3
FOR 203 Careers and Natural Resources ....................................... 1
FMAN 222 Forest Mensuration ................................................. 4
ECON 201 Principles of Microeconomics .................................... 3
FMAN 212 Forest Ecology ........................................................ 3
WMAN 234 Wildlife, Management ............................................ 3
FMAN 400 Forest Resource Management Field Practice .................. 6
FOR 326 Remote Sensing of Environment ................................... 3
ENGL 102 Composition and Rhetoric ........................................ 3
ENGL 305 Technical Writing ..................................................... 3

Junior Year
FMAN 311 Silvicultural Systems ............................................... 4
WDSC 223 Wood Anatomy and Structure ................................... 3
ECON 202 Principles of Macroeconomics ................................... 3
AGEE 421 Agricultural/Natural Resource Communications
or Approved COMM Elective ...................................................... 3
FMAN 330 Principles of Forestry Economics ............................... 4
AGR 202 Principles of Soil Science ............................................ 3
AGR 203 Principles of Soil Science ............................................ 1
WDSC 232 Primary Conversion and Grading ............................... 3
FOR 438 Human Dimensions of Natural Resources Management .... 3

Senior Year
FMAN 433 Forest Management ................................................ 3
FOR 421 Renewable Resources Policy and Government ................. 3
WDSC 422 Forest Harvesting and Roads ..................................... 3
ENT 470/PPTH 470 Forest Pest Management .............................. 4
FHYD 444 Watershed Management ......................................... 3
FMAN 434 Forest Resources Management Planning ..................... 3
Additional GEC requirements, not elsewhere covered .................... 12
Electives .................................................................................. 7
Total .......................................................................................... 128

Minor in Arboriculture
The minor in arboriculture is designed to provide students educational opportunities in the area of urban forest management. Emphasis is given to the establishment and management of herbaceous and woody plants used in commercial, recreational, and home settings. The minor requires a minimum of 24 hours in forestry and horticulture related courses with a grade of C or higher in each course.

Required Courses–(minimum 18 credit hours) AGRN 410 (3), FOR 205 (3), HORT/LARC 260 (3), ENTO/PPTH 470 (4) or ENTO 404 and PPTH 401 (8), FMAN 315 (1), ENTO/PPTH 471 (1), FMAN 491 or PLSC 491 (3).
(Note: FMAN 491 or PLSC 491 Professional Field Experience must be related to an arboriculture topic and must be approved in advance by the director of the Division of Plant and Soil Sciences or the director of the Division of Forestry and Natural Resources).

Elective Courses–(minimum 6 credit hours) AGRN 315 (3), FMAN 440 (3), HORT 262 (3), HORT 441 (3), Minor Code: U073.

Minor in Forest Resource Management
Requirements include 20 credit hours, including FMAN 212, 222, 311, 330 AND FOR 205 (17 hours); and a minimum of three hours selected from FHYD 444, FMAN 433, FMAN 440, FOR 326, FOR 421, WDSC 422 OR WDSC 423.
Career Opportunities

Our graduates find a variety of career opportunities. Many are professional foresters with governmental agencies, such as the U.S.D.A. Forest Service and state forestry services, and many others are employed by private wood industries such as lumber and wood products companies and pulp and paper companies. Many of our graduates work in private forestry consulting or have chosen a career in urban forestry. A significant number of our students go on to graduate school, studying a wide range of scientific and technical specializations to prepare them for research, teaching, or advanced managerial careers.

As a graduate professional forester, you could expect to do field work such as estimating the volume and value of areas of timberland, planning and supervising timber harvesting operations, and doing forest protection work including fire, insect, and disease control. Managerial work would include planning timber crop rotations, evaluating the economics of alternative forest management plans, and planning for integration of forest land for recreation, timber, watershed, wildlife, and environmental protection. With experience and proven performance in these activities, professional foresters often advance to executive management positions in public forestry agencies or forest products industries.

Recreation, Parks, and Tourism Resources
Bachelor of Science in Recreation

The recreation, parks, and tourism resources major prepares students for careers providing outdoor recreation and tourism opportunities for a wide range of public, commercial, and non-profit agencies. This is a natural resource management degree program, emphasizing the ecological, economic, social, and psychological aspects of managing outdoor recreation and tourism resources. The program requires 128 credit hours of study. A required core of natural resource-based recreation and tourism management courses is complemented by forestry and natural resource management emphasis courses and other required university courses.

Further information on the recreation, parks, and tourism resources major is available at the program’s website at http://recreation.wvu.edu/ or e-mail the program coordinator at cpierska@wvu.edu. Come visit our Recreation, Parks, and Tourism Resources office in the Division of Forestry and Natural Resources, 325 Percival Hall, P.O. Box 6125, West Virginia University, Morgantown, WV 26506-6125.

In the freshman year, you may enroll in RPTR 142 Introduction to Recreation, Parks and Tourism Resources, ENGL 101, BIOL 101 and 103, FOR 101, and FOR 140. RPTR 142, 242, and 239 are required before upper-division RPTR courses may be taken for credit. At the end of the sophomore year, students are required to complete a Wilderness First Responder course (RPTR 148). At the end of the junior year, after completing the following required RPTR courses (RPTR 142, RPTR 239, RPTR 242, RPTR 335, RPTR 433, and RPTR 485), students must complete an approved 400-hour internship of not less than eight weeks with a recreation, parks, or tourism agency (RPTR 491). Most recreation internships occur during the summer months.

Curriculum Requirements  
Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 101</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 103</td>
<td>1</td>
</tr>
<tr>
<td>FOR 101 or RPTR 140</td>
<td>1</td>
</tr>
<tr>
<td>RPTR 142</td>
<td>2</td>
</tr>
<tr>
<td>RPTR 242</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 150</td>
<td>3</td>
</tr>
<tr>
<td>MATH 126</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>3</td>
</tr>
<tr>
<td>WDSC 100</td>
<td>3</td>
</tr>
<tr>
<td>FOR 140</td>
<td>3</td>
</tr>
</tbody>
</table>
**Sophomore Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 105/106 or CHEM 111 or GEOL 110/111</td>
<td>4</td>
</tr>
<tr>
<td>SOC 101</td>
<td>3</td>
</tr>
<tr>
<td>FOR 203</td>
<td>1</td>
</tr>
<tr>
<td>FOR 205</td>
<td>3</td>
</tr>
<tr>
<td>RPTR 239</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>3</td>
</tr>
<tr>
<td>SPA 270</td>
<td>3</td>
</tr>
<tr>
<td>FOR 240</td>
<td>3</td>
</tr>
<tr>
<td>STAT 211</td>
<td>3</td>
</tr>
<tr>
<td>RPTR Emphasis Course</td>
<td>3</td>
</tr>
<tr>
<td>RPTR Wilderness First Responder</td>
<td>3</td>
</tr>
</tbody>
</table>

**Junior Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMAN 212</td>
<td>3</td>
</tr>
<tr>
<td>RPTR 335</td>
<td>3</td>
</tr>
<tr>
<td>RPTR 433</td>
<td>3</td>
</tr>
<tr>
<td>RPTR Emphasis Course</td>
<td>3</td>
</tr>
<tr>
<td>RESM 440 Applied GIS Env. Mgmt</td>
<td>3</td>
</tr>
<tr>
<td>Non-western Culture elective</td>
<td>3</td>
</tr>
<tr>
<td>Artistic Expression elective</td>
<td>3</td>
</tr>
<tr>
<td>Western Culture Elective</td>
<td>3</td>
</tr>
<tr>
<td>RPTR 485</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>RPTR Emphasis Course</td>
<td>3</td>
</tr>
<tr>
<td>RPTR 491 Professional Internship</td>
<td>6</td>
</tr>
</tbody>
</table>

**Senior Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 310</td>
<td>4</td>
</tr>
<tr>
<td>FOR 470A Natural Resource Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>ENVP 460</td>
<td>3</td>
</tr>
<tr>
<td>FOR 421</td>
<td>3</td>
</tr>
<tr>
<td>FOR 438</td>
<td>3</td>
</tr>
<tr>
<td>AGEE 421</td>
<td>3</td>
</tr>
<tr>
<td>RPTR 450</td>
<td>3</td>
</tr>
<tr>
<td>RPTR Emphasis elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total** ................................................................................. 128

**Professional Preparation and Areas of Emphasis**

The professional preparation program in recreation, parks, and tourism resources is grounded in the RPTR core required courses and capped with a professional internship program, usually during the summer following the student’s junior year. Students are encouraged to develop focused emphasis areas in specialties such as park and outdoor recreation, adventure recreation, or sustainable tourism through careful selection of their focused electives. RPTR majors are also urged to seek both volunteer and paid seasonal employment and service learning opportunities in the recreation, parks, and tourism field to enhance their employability when graduating. Finally, RPTR majors are mentored into becoming active in professional societies and associations such as the student-led Professional Recreation and Park Society, Society of American Foresters, and National Recreation and Park Association, and they are encouraged to earn professional certification in areas such as sustainable tourism, leadership, and wilderness first responder.
### Wildlife and Fisheries Resources Bachelor of Science

The wildlife and fisheries resources curriculum, consisting of 128 hours, prepares students for professional positions as wildlife and fish biologists, natural resources conservation officers, wildlife and fisheries managers and planners, wildlife or fisheries communication specialists, wildlife and fisheries toxicologists, and environmental consultants. The program is unique in the region as our graduates are fully trained in both the wildlife and fisheries fields. The curriculum provides a solid basic background in biology, ecology, and natural resource management. Students fulfilling this program will meet the requirements for professional certification as either a wildlife biologist (certified through the Wildlife Society) or fisheries biologist (through the American Fisheries Society). A careful selection of restricted electives enables students to specialize in related natural resource areas and to have the opportunity for widening employment in other environmental fields. Other options can be tailored to your objectives. Students will be able to consult with their advisor in the selection of courses from a group of restricted electives to develop your area of emphasis.

#### Curriculum Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WMAN 100</td>
<td>The Tradition of Hunting</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 150</td>
<td>Principles of Conservation Ecology</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 175</td>
<td>Intro. to Wildlife and Fisheries Management</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 224</td>
<td>Vertebrate Natural History</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 234</td>
<td>Forest Wildlife Management</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 300</td>
<td>Wildlife and Fisheries Techniques</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 313</td>
<td>Wildlife Ecosystem Management</td>
<td>4</td>
</tr>
<tr>
<td>WMAN 421</td>
<td>Renewable Resources Policy and Governance</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 445</td>
<td>Fish Management</td>
<td>3</td>
</tr>
<tr>
<td>WMAN 446</td>
<td>Forest Limnology</td>
<td>4</td>
</tr>
<tr>
<td>WMAN 450</td>
<td>Adv. Wildlife and Fisheries Mgmt. (Capstone)</td>
<td>4</td>
</tr>
<tr>
<td>WMAN 491</td>
<td>Professional field experience</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>A Fisheries Biology Course (e.g. F.W. Fishes, BIOL 341 or 339,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WMAN 550 Fish Ecology, RESM 420 Aquaculture Mgt.,or equiv.)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A Wildlife Biology Course (e.g. WMAN 221, 421, 426 or equiv.)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A Plant / Botany Course (e.g. PLSC 206 or equiv.)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Restricted Electives</td>
<td>12</td>
</tr>
<tr>
<td>FOR 101</td>
<td>Careers in Natural Resources Management</td>
<td>1</td>
</tr>
<tr>
<td>FOR 205</td>
<td>Dendrology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 240</td>
<td>Intro. To Computing in Natural Resources (or equiv.)</td>
<td>3</td>
</tr>
<tr>
<td>FOR 438</td>
<td>Human Dimensions in Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>FOR 310</td>
<td>Surveys for Ecology and Management</td>
<td>4</td>
</tr>
<tr>
<td>WDSC 100</td>
<td>Forest Resources in U.S. History (or GEC #3)</td>
<td>3</td>
</tr>
<tr>
<td>FOR 140</td>
<td>WV Natural Resources (or GEC #4)</td>
<td>3</td>
</tr>
<tr>
<td>LARC 212</td>
<td>History of Landscape Architecture (or GEC #4)</td>
<td>3</td>
</tr>
<tr>
<td>SPA 270</td>
<td>(or GEC #6)</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111 or</td>
<td>(or GEC #8)</td>
<td>3</td>
</tr>
<tr>
<td>SOCA 105 or</td>
<td>(or GEC #9)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 126</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>STAT 211</td>
<td>Elementary Statistical Inference</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 101 and</td>
<td>102 Composition and Rhetoric</td>
<td>6</td>
</tr>
<tr>
<td>BIOL (BIOL 115 &amp; 117 OR BIOL 101–104)</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>CHEM (CHEM 115 &amp; 116 OR CHEM 111 &amp; 112)</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>AGRN 202/203</td>
<td>Principles of Soil Science</td>
<td>4</td>
</tr>
<tr>
<td>Oral Communication (e.g. AGED 421, SPA 270)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ANPH 301</td>
<td>Animal Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>128</td>
</tr>
</tbody>
</table>
When you attend WVU in the wildlife and fisheries resources program, you will have some special opportunities to enhance your education. We have a U.S.G.S. Fish and Wildlife Cooperative Research Unit housed within our program. This unit provides three additional faculty members conducting extensive research programs all around the country. In addition, the WVDNR provides a liaison biologist to the unit that provides a direct link from students to the state’s natural resources agency. Undergraduates benefit from the personnel at the unit in several ways: the unit and liaison provide federal and state contacts for employment opportunities; the unit research programs may provide summer employment on fish and wildlife projects, and faculty in the unit also teaches in our program.

All of our faculties are involved with graduate training. This active research program provides invaluable classroom experiences as faculty remain up-to-date with all the latest studies and methods in the field. Students also benefit through volunteer experiences and summer employment opportunities for students working on research projects.

Career opportunities in wildlife and fisheries are expanding. Even so, we encourage our students to consider going for advanced degrees when they finish here. Such qualified seniors find that assistantships are readily available due to the solid course background, training, and experience they received while here at WVU.

Minor in Wildlife and Fisheries Resources

In order to earn a formal minor, students must complete the following courses:
1. Basic Natural History-WMAN 224
2. Wildlife and Fisheries Techniques – WMAN 300 or WMAN 293 Wildlife and Fisheries Summer Camp
3. Concepts of Ecology, Management, or Conservation – one of the following: WMAN 100, WMAN 150, WMAN 234.
4. Advanced Ecology, Biology and Management-select three of the following: WMAN 313, WMAN 425, WMAN 426, WMAN 445, WMAN 446, WMAN 450, WMAN 550

Wood Science and Technology

Bachelor of Science

The wood science and technology curriculum is designed to prepare students for the challenges of a wood products ever-growing bioenergy, sustainable construction industry career. Society must provide the basic needs for sustainable materials for furniture, paper, packaging, building materials, biofuels, and other products for sustaining a rapidly growing population. At the same time, protection of the environment requires proper use of natural resources. One of the most sensible alternatives for meeting material needs in an environmentally safe manner is by use of wood as a raw material. To meet society’s needs, the wood products industry must harvest timber in an environmentally sound manner and make more efficient and sustainable use of the harvested forest and biomass resources. This responsibility requires development of innovative approaches to obtaining, manufacturing, using, and recycling wood products. The wood science and technology curriculum focuses on these aspects of the wood products industry. The program is accredited by the Society of Wood Science and Technology.

Professional Areas of Emphasis

Students choose a professional area of emphasis, consisting of 41 hours of coursework, to supplement 87 hours of core curriculum in wood science and technology. (1) The area of emphasis may be a University-approved minor plus a core of 16 hours of specialized wood science courses and restricted electives. Students transferring into wood science and technology from a related discipline may use the previous major instead of a minor as the area of emphasis provided the student has passed at least 15 semester hours of core coursework from the previous discipline as indicated by a common course prefix (i.e., FMAN) with a C grade or better, and has received approval from the wood science and technology faculty. (2) Students may also choose a specialized forest utilization area of emphasis consisting of 40 hours of forestry, wood science, restricted electives, and related courses. The forest utilization area of professional emphasis prepares graduates for careers in timber harvesting, forest engineering, primary processing of wood products, and timber procurement.
Curriculum Requirements (Core Courses)                                                                                                      Hrs.
FOR 101 Professional Orientation, or equivalent 1 ................................................................. 1
ENGL 101 Composition and Rhetoric .......................................................................................... 3
ENGL 102 Composition and Rhetoric .......................................................................................... 3
BIOL 101 and 103 Biology, or equivalent 2 ............................................................................. 4
CHEM 111 or CHEM 115 Chemistry .......................................................................................... 4
MATH 150 Introduction to Calculus ........................................................................................... 3
PHYS 101 Introductory Physics .................................................................................................... 4
STAT 211 Elementary Statistical Inference ................................................................................ 3
FOR 203 Careers in Natural Resources .................................................................................... 1
FOR 205 Dendrology .................................................................................................................. 3
FOR 222 Forest Mensuration ...................................................................................................... 4
FOR 240 Computer Applications for Natural Resources ............................................................ 3
FOR 438 Human Dimensions of Natural Resource Management ........................................ 3
ECON 201 Principles of Economics ........................................................................................... 3
ECON 202 Principles of Economics ........................................................................................... 3
WDSC 100 Forest Resources in U.S. History, or equivalent 3 ..................................................... 3
GEC Objective 5 Elective (Artistic Expression) ......................................................................... 3
GEC Objective 6 Elective (The Individual in Society) ................................................................. 3
GEC Objective 7 Elective (American Culture) .......................................................................... 3
GEC Objective 9 Elective (Non-Western Culture) ....................................................................... 3
WDSC 223 Wood Anatomy and Structure ............................................................................... 3
WDSC 340 Physical Properties of Wood .................................................................................... 3
WDSC 341 Wood Mechanics ..................................................................................................... 3
WDSC 413 Wood Chemistry ..................................................................................................... 3
WDSC 337 Wood Adhesion and Finishing ................................................................................. 3
WDSC 362 Forest Products Decision-Making ............................................................................ 4
WDSC 422 Forest Products Harvesting ..................................................................................... 3
WDSC 465 Wood-Based Composite Materials ........................................................................ 4
WDSC 494 Seminar .................................................................................................................... 1

Professional Area of Emphasis in Wood Processing                                                                                             Hrs.
WDSC 100 Forest Resources in U.S. History, or equivalent 3 ..................................................... 3
GEC Objective 5 Elective (Artistic Expression) ......................................................................... 3
GEC Objective 6 Elective (The Individual in Society) ................................................................. 3
GEC Objective 7 Elective (American Culture) .......................................................................... 3
GEC Objective 9 Elective (Non-Western Culture) ....................................................................... 3
WDSC 223 Wood Anatomy and Structure ............................................................................... 3
WDSC 340 Physical Properties of Wood .................................................................................... 3
WDSC 341 Wood Mechanics ..................................................................................................... 3
WDSC 413 Wood Chemistry ..................................................................................................... 3
WDSC 232 Timber Procurement and Grading ........................................................................... 3
WDSC 362 Forest Products Decision-Making ............................................................................ 4
WDSC 422 Forest Products Harvesting ..................................................................................... 3
WDSC 465 Wood-Based Composite Materials ........................................................................ 4
WDSC 494 Seminar .................................................................................................................... 1

Area of Emphasis Based Upon a Minor or Previous Major                                                                                     Hrs.
WDSC 330 Wood Machining ..................................................................................................... 3
WDSC 351 Forest Products Protection ...................................................................................... 3
WDSC 337 Wood Adhesion and Finishing ................................................................................. 3
WDSC 460 Plant Layout for Wood Industries .......................................................................... 3
WDSC 491 Professional Field Experience ................................................................................ 3
University-approved minor or at least 15 hours of core courses in an approved discipline 4 ................................................................. 15
Restricted electives 5 ................................................................................................................ 11

Area of Emphasis in Forest Utilization                                                                                                        Hrs.
CE 200 Land Surveying ........................................................................................................... 3
FOR 326 Remote Sensing of the Environment .......................................................................... 2
FHYD 444 Forest Hydrology ................................................................................................... 3
FMAN 212 Forest Ecology ....................................................................................................... 3
FMAN 311 Silvicultural Systems ............................................................................................... 4
FMAN 433 Forest Management ................................................................................................. 3
WDSC 423 Forest Roads ............................................................................................................ 4
WDSC 491 Professional Field Experience ................................................................................ 3
WMAN 234 Forest Wildlife Management .................................................................................. 3
Writing (W) course ................................................................................................................... 3
Restricted electives .................................................................................................................... 10
Total .......................................................................................................................................... 128
1. Students who transfer into wood science and technology and have completed the UNIV 101 or equivalent prior to transferring do not have to take FOR 101.
2. Students who transfer into wood science and technology and have completed four hours of general plant and cellular biology prior to transferring do not have to take the BIOL 101 and 103.
3. Students who transfer into wood science and technology and have completed the GEC objective 3 prior to transferring do not have to take WDSC 100.
4. For advanced students transferring into wood science and technology from a related major to qualify, the area of emphasis must:
   a. include a core consisting of at least 15 semester hours of coursework from the student’s previous major
   b. must all be from a single discipline as indicated by the course prefix (i.e., FMAN)
   c. must have been passed with a C grade or better, and
   d. must be approved by the wood science and technology faculty
5. Restricted electives must contribute to the student’s professional development and must be approved by the student’s advisor.

Special Opportunities
A regional center for development of the wood products industry, the Appalachian Hardwood Center, is allied with the wood science and technology program. The center’s staff frequently provides opportunities for educational and professional development of wood science and technology students. Students sometimes find part-time employment in the research program of the center as well as with the faculty’s teaching and research program.

Career Prospects
The wood products industry employs an estimated 2.5 million people nationwide. Yet only ten American universities provide accredited programs specifically designed to educate professionals to manage and provide technical expertise to the industry. West Virginia University is one of them. The unique nature of the program and the large base of potential employers result in an excellent job market for wood science and technology graduates. Career opportunities are quite diverse. The jobs span the spectrum from standing timber through manufacture of products to their marketing, distribution, and end use. Graduates may work in sawmills as production managers or as timber procurement foresters, buying timber, and planning harvesting operations in accordance with sound forest management and environmental practices. They may also gain employment as quality assurance managers, production supervisors, and process engineers for companies that manufacture furniture, cabinets, state-of-the-art engineered wood products, renewable construction and bioenergy. Graduates may become product designers and estimators or they may purchase and sell materials and services. Some of our graduates go on to graduate school in wood science or related disciplines, including forestry, business administration, and engineering. They work in all parts of the nation and in both rural and urban communities, yet approximately half find employment in West Virginia. Many of the leaders in the nation’s wood products industry are WVU graduates.

Minor in Wood Science and Technology
Requirements include 18 credit hours, including WDSC 223, 340, and 341 (nine hours); and a minimum of nine hours selected from 232, 413, 422, 423, 330, 337, 351, 362, or 465.

Division of Plant and Soil Sciences
Barton S. Baker, Ph.D., Director

Nature of Program, Objectives, and Goals
Students in the Division of Plant and Soil Sciences may choose from agroecology, agronomy (including a turf emphasis), applied and environmental microbiology, horticulture, environmental protection, or soil science majors. Graduates from these curricula are employed in commercial industries involved with the production and distribution of pesticides, fertilizers, seeds and plants, and nursery, floral, and turf products. Positions as estate and farm managers, land reclamationists, city and county planning technicians, park and golf course superintendents, and environmental protectionists are also available
to graduates. A variety of state and federal governmental and private consulting positions are available as well. Graduates who wish to further their education may acquire the necessary backgrounds to enter professional or graduate programs in such fields as agricultural biochemistry, crop science, entomology, genetics, horticulture, microbiology, mycology, plant pathology, plant physiology, and soil science.

Bachelor of Science in Agriculture
Curriculum Requirements: Plant and Soil Sciences

General Education Curriculum

<table>
<thead>
<tr>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objectives 1 and 3–9</td>
</tr>
<tr>
<td>Objective 2 (including a minimum of eight hours in biology; eight hours in chemistry; three hours in college algebra or equivalent)</td>
</tr>
</tbody>
</table>

Courses in agriculture

Free and Restrictive Electives | 30–31 |

Total | 128 |

Specific requirements of each of the program options are listed under the description of that option.

Agroecology

Agroecology is the interdisciplinary study of how agricultural production of plants and animals affects and is affected by the local environment. Agroecology emphasizes sustainable and environmentally friendly approaches to agricultural production. The agroecology major combines concepts of crop production with those of environmental protection in such a way that there is a sustained balance between production and environmental issues. This major provides students the opportunity to specialize in ecological/sustainable aspects of crop production. Potential areas of employment include: farm and environmental consulting, organic farms, parks, lawn care and maintenance companies, agricultural supply companies, cooperative extension, and state and federal government support agencies.

Required Courses

Students in the agroecology major must complete all requirements for the minor in soil science and must complete two additional minors from the following four minors offered through the Division of Plant and Soil Sciences: environmental microbiology, environmental protection, horticulture, and pest management. Other required courses include: AGRL 111; AGRN 202, 203; AGRN/ENVP 425; A&VS 251; CHEM 111, 112; AEM 341; ENTO 404; GEN 371; MATH 126; PPTH 401; PLSC 206; PLSC 453; STAT 211; plus a capstone course from one of the minors other than soil science.

Agronomy

Agronomy is the application of science to field crop production or turf management. The crop science option in agronomy emphasizes primarily the physiology, production, and quality of forage crops. The turf emphasis allows students to take courses in turf grass management, weed science, and soil fertility. The turf emphasis also requires an internship in turf grass management. Agronomists qualify for a wide variety of occupations, including farming, soil conservation, agricultural sales, extension, research, and turf grass management.
Required Courses
AGRN 452 (Capstone); BIOL 350; CHEM 115, 116; ENGL 305; ENTO 404; AEM 341; GEN 371; MATH 128 or equivalent; PHYS 101; PPTH 401; STAT 211; three hours in computer science; three hours in communication studies or speech pathology and audiology; one semester of organic chemistry including laboratory; six hours in ECON or ARE; seven hours in soil science; 15 hours in crop science.

Additional Requirements for the Turf Emphasis
AGRN 315; AGRN 451; AGRN 410; PLSC 491

Environmental Protection
This option prepares students for careers in areas which safeguard the quality of the environment. The curriculum consists of two elements: interdisciplinary training in a broad array of environmental protection sciences, and a specialization in either pest management or soil and water conservation. Students work with their advisor to select courses from both the environmental protection electives and the specialization electives that match their individual interests and career goals. Recent graduates in this option are employed by municipal, state, and federal governmental agencies; consulting firms, especially those specializing in land reclamation, water quality, or pest management; and companies associated with natural resource industries.

Math and Science Requirements
CHEM 115, 116, 231; MATH 126; STAT 211; GEOL 101, 102 or 110, 111*

Required College Courses
AGRL 111, ARE Course; AGRN 202, 203; A&VS 251, AEM 341; ENVP 155, 460; PLSC 206; choose two of the following courses: GEN 371, ENTO 404, PPTH 401.

Environmental Protection Electives
(15 hours from at least two areas) AGBI 410; ARE 220, 383, 410; BIOL 361; CE 443; CS 101*; or AGEE 110; ENVP 355; FOR 210, 326; GEN 371; GEOG, 205, 305, 350; PHYS 101, 102; POLS 355.

Pest Management Specialization Capstone
ENVP/ENTO 412 plus 14 hours from the following: AGRN 315, AGRN/ENVP 451; BIOL 221; ENTO/PPTH 470; ENTO 404, 410; AEM 401; PPTH 401.

Soil and Water Conservation Specialization Capstone
ENVP/AGRN 425 plus 15 hours from the following: ENVP/AGRN 455; AGEE 460, 461; AGRN 410, 415, 417, 430, 451, 454, 455; BIOL 362; CE 347, 441; AEM 401; AEM/AGRN/ENVP 420; FHYD 444; FMAN 251; GEOL 321, 365, 463; WMAN 350.

*Note: The B.S. in agriculture requires 45 hours in agriculture courses. The total hours may be met by taking the required college courses and by taking college courses offered under environmental protection electives, free electives, or one of the specializations. STAT 211; GEOL 101 and 102, or 110 and 111; and CS 101 are accepted as part of the required 45 hours in agriculture courses.

Horticulture
Horticulture is the science of production, processing, and marketing of fruit, vegetable, greenhouse, and landscape crops. Students in the horticulture option study the physiology, culture, harvesting, quality control, sales, and utilization of horticultural crops. Horticulture prepares students for careers such as orchard, vegetable farm, or greenhouse managers, landscape contractors, golf course and park horticulturists, seed and supply company representatives, state and federal nursery inspectors, and educators in schools and extension. Students will choose an area of emphasis in landscape management or in production depending on their career goals.

Davis College of Agriculture, Natural Resources, and Design

205
Required Courses
A&VS 251; AGRN 202, 203; AGRN 410; ARE course; CHEM 111, 112; BIOL 350; CS 101; ENTO 404; GEN 371 or AEM 341; HORT 220, 420, 441, 445 (Capstone); 491 or 493; MATH 126; PLSC 206; PPTH 401.

Landscape Management Area of Emphasis
LARC 105; HORT 260; HORT 360; and two courses from the following: AGEE 452, AGRN 315, AGRN 451, ARE 204, BIOL 361, ENTO 412, CE 200, HORT 262.

Production Area of Emphasis
AGRN 451; HORT 444; HORT 493; and two courses from the following: AGEE 452, AGRN 315, ARE 204, BIOL 352, ENTO 412, HORT 230, HORT 260, PLSC 453.

Applied and Environmental Microbiology
Bachelor of Science
The major in applied and environmental microbiology is ideal for students desiring a career at the forefront of human and plant health, industry, food science, and the environment. In this curriculum, future professional microbiologists are prepared with basic backgrounds in the areas of microbial ecology, environmental microbiology, soil microbiology, public health microbiology of food and water, plant pathology, and molecular biology. With supporting coursework in such areas as organic chemistry, biochemistry, genetics, plant science, soil science, physics, calculus, and statistics students will be well prepared for employment, further educational training at the graduate level, or for professional school (medical and dental school). Employment opportunities include: environmental laboratories (federal, state, and private); pharmaceutical industry; food industry (food production and food safety); and clinical laboratories in the health care industry. This major requires 128 total hours.

Basic Math and Science Requirements
(14 hours) CHEM 115, 116; MATH 150; STAT 211

Required Courses for Major
(43 hours) AGRL 111, CHEM 233, 234, 235, 236; AGBI 410; PHYS 101, 102; AGRN 202, 203; PLSC 206; GEN 371; PPTH 401; AEM 341, 401 (Capstone)

Restricted Electives for Major
(minimum of 18 hours) AGBI 514; BIOL 312; AEM 408, 420, 445, 449, 495; ENVP 355, 460; PPTH 409, 470, 503

Soil Science
The focus of the soil science major is the wise use and management of land and soil resources. This major is ideal for those students interested in soil and water conservation, soil and water quality, mined land reclamation, use of soils for construction sites, waste water treatment, and wetland preservation. Students will be prepared for positions in soil survey, soil and water conservation, wetland delineation, and environmental management with the federal or state governments, private industries, private consulting, or cooperative extension. This major also prepares students for graduate programs in earth science, environmental science, or soil science. This major requires 128 total hours. Students will choose an area of emphasis in land use or in watershed management depending on their career goals.
Basic Math and Science Requirements
CHEM 115, 116, 231; GEOL 110, 111: MATH 150; STAT 211.

Required Courses for Major
AGRL 111, AGRN 202, 203; AGE 110 or CS 101; AGEE 220; ECON 201; AEM 341;
ENVP 155; PLSC 206; PHYS 101, 102; SPA 170, 270; and two of the following courses:
ENTO 404, GEN 371, PPTH 401.

Restricted Electives for Major
(Minimum of 15 hours) AGRN 125, 410, 415, 417, 420, 430, 455.

Land Use Area of Emphasis
(Minimum of 12 hours) AGRN 425 (Capstone); CE 200, 351, 441; GEOL 201, 321;
RESM 493

Watershed Management Area of Emphasis
(Minimum of 12 hours) AGRN 425 (Capstone); BIOL 361; CE 347; ENVP 355, 460;
GEOL 321; 463; WMAN 446

Minor in Arboriculture
The minor in arboriculture is designed to provide students educational opportunities
in the area of ornamental horticulture as it relates to current urban environments. Emphasis
is given to the establishment and management of herbaceous and woody plants used in
commercial, recreational, and home settings. The minor requires a minimum of 24 hours
in forestry and horticulture related courses with a grade of C or higher in each course.

Required Courses
(Minimum 18 credit hours) AGRN 410 (3), FOR 205 (3), HORT/LARC 260 (3), ENTO/
PPTH 470 (4) or ENTO 404 and PPTH 401 (8), FMAN 315 (1), ENTO/PPTH 471 (1), FMAN
491 or PLSC 491(3) (Note: FMAN 491 or PLSC 491 Professional Field Experience must be
related to an arboriculture topic and must be approved in advance by the director of the
Division of Plant and Soil Sciences or the director of the Division of Forestry and Natural
Resources).

Elective Courses
(Minimum 6 credit hours) AGRN 315 (3), FMAN 440 (3), FOR 340 (3), HORT 262 (3),
HORT 441 (3)

Minor in Environmental Microbiology
The minor in environmental microbiology is designed to introduce students to the
beneficial and harmful roles of microorganisms in a variety of diverse environments in-
cluding plants, animals, soil, food, air, and water. Emphasis is given to the importance
of microorganisms in such applied areas as public health, plant disease, pollution and
pollution abatement, biological control of pests, bio-deterioration, and ecology.

Total number of required hours: 15 hours with a minimum letter grade of C in each
course and a cumulative GPA of at least 2.5. Required courses: AEM 341 General Micro-
biology (4 hr.), and PPTH 401 General Plant Pathology (4 hr.).

Minimum of seven hours selected from the following: AEM 401 Environmental Micro-
biology (4 hr.) AEM 420 Soil Microbiology (3 hr.), AEM 493 Special Topics in Environmental
Microbiology (*1–4 hr.), PPTH 470 Forest Pest Management (3 hr.), PPTH 493 Special Top-
ics in Plant Pathology (*1–4 hr.), PPTH 503 Mycology (4-hr.), and PPTH 409 Nematology
(3 hr.).

*Maximum of four hours of special topics courses (AEM 493 or PPTH 493) can be applied toward the 15-hour
total and requires approval of the division director.
Minor in Environmental Protection

The minor in environmental protection is designed to provide students the opportunity to study, through a set of selected courses, ways to safeguard the environment with emphasis on water, soil, and crop protection. Emphasis is given to the relationships among a wide range of science-based disciplines and how they collectively are applied to environmental protection. This minor requires 15 hours of required and restricted electives with a minimum letter grade of C in each course. Required courses are ENVP 155 and ENVP 460.

An additional nine hours must be selected from the following courses: ENVP 355, AEM/ENVP 401, ENTO/ENVP 412, AGRN/ENVP 425, AGRN/ENVP 451, AGRN/ENVP 455.

Minor in Horticulture

The minor in horticulture is designed to provide students educational opportunities in the area of ornamental horticulture as it relates to current urban environments. Emphasis is given to the establishment and management of herbaceous and woody plants used in commercial, recreational, and home settings. This minor requires a minimum 16 hours in horticulture related courses with a grade of C or higher in each course. Required courses are PLSC 206 and HORT 220. A minimum of nine additional hours must be chosen from the following courses: HORT 420, HORT 441, HORT 444, and HORT 445.

Minor in Pest Management

The minor in pest management is designed to introduce students to various insects, plant pathogens, and weeds as pests that attack and compete with agriculture crops, ornamentals, and forest trees. Emphasis is placed on environmentally sound management system based on cultural, biological, and chemical strategies. Relationships among pests, crops, and the environment are critical in this minor. The minor requires 15 hours of pest management related courses with a grade of C or better in each course. Required courses are ENTO/ENVP 412 and PPTH 401. An additional seven hours must be selected from the following courses with no more than four hours being special topics: AGRN/ENVP 451, ENTO 410, ENTO/PPTH 470, ENTO 493, PPTH 493.

Minor in Soil Science

The minor in soil science is designed to introduce students to the relationship of soils to environmental protection and agriculture production. This minor broadens and strengthens non-soils curricula where students are interested in the relationships among biological and earth science in an environmental setting. The soil science minor requires a minimum of 15 hours of soil science courses with a grade of C or better in each course. Required courses are AGRN 202, AGRN 203, and AGRN/ENVP 425. An additional eight hours must be selected from the following courses: AGRN 125, AGRN 410, AGRN 415, AGRN 417, AGRN/AEM/ENVP 420, AGRN 430, AGRN/ENVP 455.

Division of Resource Management
Jerald J. Fletcher, Ph.D., Director

Programs

The Division of Resource Management offers curricula in agricultural and extension education, landscape architecture, and agricultural and resource economics. The curriculum in agricultural and resource economics allows emphasis in environmental and resource economics, or agribusiness management and rural development. Students are prepared to pursue graduate studies or work in agriculture, business, industry, government, finance, and related areas. The curriculum in agricultural and extension education prepares students to teach agriculture in secondary schools, enter the extension service, or accept professional employment in government, industry, or entrepreneurship. The landscape architecture curriculum prepares students for professional careers with private firms and government agencies.
Minor in Agribusiness Management
A minor in agribusiness management requires a minimum of 15 credit hours including: ARE 110, 204, 431 or 435 and 461. The remaining three or four credit hours must be chosen from: ARE 382, 406, 421 or 440.

Minor in Environmental Economics
Fifteen credit hours and a GPA of at least 2.0 will be counted toward the minor. Students must select 15 credit hours of courses with an environment component: one course on environmental problems or issues (3 hr.); three courses in environmental and resource economics (9 hr.); and one course on law, policy, or analysis (3 hr.). Eligible courses include: environmental problems or issues (ARE 187, ENV 155, or FOR 140); environmental and resource economics (ARE 220, 401, and 410); and law, policy, or analysis (ARE 382, ARE 450, or RESM 440).

Minor in Equine Management
This minor is designed for students who wish to advance their knowledge of equine management practices or wish to find employment within the equine industry. Students will gain knowledge of equine management related to reproduction, nutrition, health, training methods, design of facilities, and economy of the industry. Completion of a minor in equine management will require 16 credit hours of coursework. Required courses include: ANNU 260, AVS 281, AVS 344, ARE 421 and RESM 330.

Minor in Rural Community Development
This minor covers the concepts and principles pertaining to rural community development and requires courses focusing on the economy, communication and leadership, and community design principles. Total credit hours equal 18. Required courses: ARE 204, ARE 411, AGEE 220, AGEE 421, and two of LARC 465, LARC 466, and LARC 570.

Minor in Landscape Studies
The undergraduate minor in landscape studies is offered to any student enrolled at West Virginia University who is interested in gaining a broad understanding of the body of knowledge and the skills involved with landscape architecture. The main focus of the minor is to provide students with a comprehensive landscape architecture theoretical background, including both cultural and historical issues related to the discipline, and planning and design issues at an urban and a regional scale. Students can select among a variety of courses depending on their own interest.

Completion of a minor in landscape studies will require a minimum of 15 hours of coursework with a grade of C or better in all courses. Students completing the minor are required to take LARC 105 and LARC 212, and to take nine credit hours in the following courses: LARC 465, LARC 466, and LARC 570.

Agribusiness Management and Rural Development Major Bachelor of Science
The goal of this major is to provide students with a breadth of knowledge in both the social and natural sciences upon which further professional training can be based. After graduation, students will be prepared for employment in private and public sectors of agriculture and rural development. Students with this major can expect to find employment in: agribusiness firms or farms; rural economic development agencies; financial institutions; or state and federal government agencies dealing with agriculture or natural resource management. Employment in these areas requires the essential components of this major: a broad educational background combined with knowledge of agricultural and rural economies. This major provides students with the flexibility to pursue coursework in preparation for graduate school.
### General Education Curriculum

#### Course Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>6</td>
</tr>
<tr>
<td>Basic Math and Science</td>
<td>13–15</td>
</tr>
<tr>
<td>The Past and Its Traditions</td>
<td>3</td>
</tr>
<tr>
<td>Contemporary Society</td>
<td>3–4</td>
</tr>
<tr>
<td>Artistic Expression</td>
<td>3</td>
</tr>
<tr>
<td>The Individual in Society</td>
<td>4</td>
</tr>
<tr>
<td>American Culture</td>
<td>3</td>
</tr>
<tr>
<td>Western Culture</td>
<td>3</td>
</tr>
<tr>
<td>Non-Western Culture</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41–44</strong></td>
</tr>
</tbody>
</table>

#### Required Courses

ARE 110, 150, 204, 401, 411, 431, 461, and 494; AGEE 110; ECON 201 and 202; and ECON 225 or STAT 211

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

#### Restricted Electives

(Selected and approved in consultation with advisor; must include at least four courses from the college; capstone experience (ARE 491 or 496) is included.)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

#### Free Electives

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>20–23</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

### Minor in Agribusiness Management

Principles pertaining to agribusiness management require 15 or 16 credit hours including: ARE 110, 204, 431 or 435, and 461. The remaining three or four credit hours must be chosen from: ARE 382, 406, 420, 421 or 440.

### Agricultural and Extension Education

#### Bachelor of Science in Agriculture

The agricultural and extension education curriculum is designed to prepare students for entry into agricultural teaching, extension, or other professional employment in government, industry, or entrepreneurship where competence in communications and leadership are required. In order to prepare career-ready graduates, the curriculum provides flexibility to develop programs in options emphasizing teacher preparation, extension education, or production and technical agriculture. Courses are selected by the student, in consultation with an advisor that will prepare the student to achieve his or her aspirations.

#### Curriculum Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>6</td>
</tr>
<tr>
<td>Basic Mathematical Skill and Scientific Inquiry...</td>
<td>13–15</td>
</tr>
<tr>
<td>The Past and Its Traditions</td>
<td>3</td>
</tr>
<tr>
<td>Contemporary Society</td>
<td>3–4</td>
</tr>
<tr>
<td>Artistic Expression</td>
<td>3</td>
</tr>
<tr>
<td>The Individual in Society</td>
<td>4</td>
</tr>
<tr>
<td>American Culture</td>
<td>3</td>
</tr>
<tr>
<td>Western Culture</td>
<td>3</td>
</tr>
<tr>
<td>Non-Western Culture</td>
<td>3</td>
</tr>
<tr>
<td>Courses in the College</td>
<td>45</td>
</tr>
<tr>
<td>Restrictive Electives</td>
<td>6</td>
</tr>
<tr>
<td>Option Requirements and Electives</td>
<td>43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>136</strong></td>
</tr>
</tbody>
</table>
The three options within the agricultural and extension education major are agriculture teacher education; extension, leadership, and communications; and agricultural sciences. Descriptions of these options follow.

**Agriculture Teacher Education**

An effective agriculture teacher can assist in the economic and social development of a community. Middle school, high school, and adult classes strengthened by supervised agricultural experience programs are the methods whereby the agriculture teacher helps students become involved and established in production agriculture and off-farm occupations that require agricultural knowledge and skills.

Students completing this program will meet the requirements for certification by the West Virginia Department of Education. The program provides graduates with the opportunity to become qualified to teach in the broad field of agriculture as well as to become prepared to teach in such areas as production, agribusiness, conservation and forestry, agricultural mechanics, processing, horticulture, and natural resources. In addition to teaching, graduates have the opportunity for employment with governmental agencies and in private enterprise.

To be eligible for student teaching and subsequent certification to teach, the student must: possess a 2.5 grade point average on the total of all college credits, including hours earned in professional education and technical agriculture courses; must pass competency tests in reading, writing, mathematics (Praxis I), and the national teacher exam prior to student teaching (Praxis II); must pass the principles of teaching and learning test (Praxis II) for grades 7–12; and complete the required agriculture and professional education courses.

**Extension, Leadership, and Communications**

This option prepares students with a foundation for extension education, agribusiness positions related to human resource management, international and corporate training and development, agricultural literacy and public relations, political interests, and commodity service organizations.

Coursework in this option will focus on a core of agricultural courses along with emphasis in nonformal education, designing educational/training programs and professional presentations, leadership development, teaching/training methods, and interpersonal communications. A 12-credit, 12-week internship related to the student’s career objective is required.

**Agricultural Sciences**

Today agriculture faces a tremendous challenge to provide food, fiber, and industrial raw supplies for billions of people at a time when resources are becoming more limited. Agriculture, meanwhile, has become more technical and complex and qualified college graduates are needed to meet the future demands in this vital field.

The agricultural sciences option is an undergraduate studies program that allows students some measure of flexibility in meeting their own educational objectives, particularly when those objectives may not be fulfilled entirely by any other single college major. This option prepares students to enter into the broad field of production and technical agriculture. The curriculum combines a broad range of technical courses in animal science, crop and soil science, horticulture, biological systems, agricultural mechanics, and agricultural economics. Additional courses in interpersonal and group leadership and communications training give students a competitive edge in the job market.

Students who desire to become owners, managers, or employees in production and or technical agriculture realize that they need a broad-based preparation. Agriculture presents opportunities in the farming and ranching business and industry, research and development, education, communications, governmental employment, and conservation and recreation.
The experiences gained through coursework and internships prove invaluable. General agriculture internships in production and technical agriculture, agribusiness, and commodity organizations enable students to enhance their communications, problem-solving and technical abilities, and management and decision making abilities. A 12-credit, 12-week internship related to the student’s career objective is required.

**Agricultural courses required of all agricultural and extension education majors:**

**Courses required in the agricultural teacher education option:**

**Courses required in the extension, leadership, and communications option:**

**Courses required in the agricultural sciences option:**
AGEE 488, 12 hours of upper-level courses selected from the other divisions in the college in consultation with his/her advisor.

### Environmental and Natural Resource Economics Major

**Bachelor of Science**

The objective of this major is to provide students with the training necessary for the application of economic theory and analysis to environmental and natural resource policy. The flexibility of this major allows students, in consultation with their academic advisor, to design a program of study which focuses on environmental and natural resource issues tailored to individual interests (such as water use and quality, soil protection, waste management, or ecosystem management and land use). The curriculum reflects the breadth of training required to prepare students for careers in the private and government sectors dealing with environmental and natural resource management and policy analysis.

Students in this major can expect to find employment with state and federal government agencies or with private industry in environmental policy analysis and management of natural resources. Many students may find it desirable to obtain a graduate degree. Students completing this degree will be prepared for graduate study in environmental and natural resource economics and policy.

#### Course Requirements

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>6</td>
</tr>
<tr>
<td>Basic Math and Science (Must include two four-credit courses, each with a laboratory.)</td>
<td>14–15</td>
</tr>
<tr>
<td>The Past and Its Traditions</td>
<td>3</td>
</tr>
<tr>
<td>Contemporary Society</td>
<td>3–4</td>
</tr>
<tr>
<td>Artistic Expression</td>
<td>3</td>
</tr>
<tr>
<td>The Individual in Society</td>
<td>4</td>
</tr>
<tr>
<td>American Culture</td>
<td>3</td>
</tr>
<tr>
<td>Western Culture</td>
<td>3</td>
</tr>
<tr>
<td>Non-Western Culture</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>42–44</td>
</tr>
</tbody>
</table>

**Required Courses**

ARE 220, 382, 401, 410, 450, and 494; AGEE 110; ECON 201 and 202; and ECON 225 or STAT 211; MATH 150 or equivalent.

**Total** .................................................................................................................... 31

**Restricted Electives**

(Selected and approved in consultation with advisor; must include at least four courses from the college with at least one course in agronomy and one in plant sciences; capstone experience (ARE 491 or 496) is included.)

**Total** .................................................................................................................... 30

**Free Electives** ....................................................................................................... 23–25

**Total** .................................................................................................................... 128
Landscape Architecture  
**Bachelor of Science in Landscape Architecture**

Landscape architecture is the art of design, planning, and arranging natural and man-made elements on the land. It applies cultural and scientific knowledge with concern for the conservation and stewardship of natural and aesthetic amenities to create an environment that serves a useful and enjoyable purpose. This involves consideration of the quality of life in urban and natural settings, as well as the interaction of humans with nature. The landscape architecture program at West Virginia University strives to equip students with techniques and skills through problem-solving in design theory, site construction, land use planning, and planting design. It emphasizes a philosophy of responsibility and commitment to ethical standards regarding the natural environment, personal relationships, and professional practice.

The faculty represents a multi-disciplinary team with practical experience in creative and scientific research, design, consultation, and public service. This diversity is the nucleus of the program, allowing for a strong undergraduate curriculum supplemented by related courses in the arts, sciences, engineering, and planning, reflecting the needs of the Appalachian region and current trends within the profession.

Graduates of the program can assume traditional landscape architectural roles, e.g., positions with design consulting firms, governmental planning departments, construction firms, transportation planning agencies, etc. In addition, WVU graduates are prepared for design and planning positions meeting the needs common to West Virginia and other rural areas.

The landscape architecture program is fully accredited by the Landscape Architecture Accreditation Board of the American Society of Landscape Architects.

---

<table>
<thead>
<tr>
<th>Curriculum Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>6</td>
</tr>
<tr>
<td>Basic Mathematical Skill and Scientific Inquiry: (Including MATH 126, MATH 128, and PLSC 206)</td>
<td>16</td>
</tr>
<tr>
<td>The Past and Its Traditions</td>
<td>3</td>
</tr>
<tr>
<td>Contemporary Society</td>
<td>3</td>
</tr>
<tr>
<td>Artistic Expression</td>
<td>3</td>
</tr>
<tr>
<td>The Individual in Society</td>
<td>4</td>
</tr>
<tr>
<td>American Culture</td>
<td>3</td>
</tr>
<tr>
<td>Western Culture</td>
<td>3</td>
</tr>
<tr>
<td>Non-Western Culture</td>
<td>3</td>
</tr>
<tr>
<td>CE 200</td>
<td>3</td>
</tr>
<tr>
<td>Studio Art Courses</td>
<td>6</td>
</tr>
<tr>
<td>Courses in Landscape Architecture*</td>
<td>60</td>
</tr>
<tr>
<td>Electives</td>
<td>21–23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>136</td>
</tr>
</tbody>
</table>

* In addition, each student will be required to work for at least one summer in an approved landscape architecture office or equivalent.

To be eligible to advance in proper sequence in landscape architecture, a student must attain a C grade or better for each of the following courses: LARC 120, 121, 212, 223, 231, 250, 251, 261, 330, 331, 350, 351, 360, 450, 451, 465, 466, and 484 and HORT 260. Timely completion of MATH 126 and 128 and of CE 200 is also critical for advancement in the program of study.

Of the 60 hours required for a bachelor of science in landscape architecture, the following courses, or their equivalent, are required: LARC 120, 121, 212, 223, 231, 250, 251, 261, 330, 331, 350, 351, 360, 450, 451, 465, 466, and 484.

A portfolio review by the faculty will be required for all students at the end of the second year of the curriculum. Projects will be submitted by the student for formal review by the entire landscape architecture faculty. If the work is unsatisfactory, the student will not be allowed to proceed to the next level of coursework until his or her work meets satisfactory standards.
Eberly College of Arts and Sciences

Robert H. Jones, Ph.D., Dean
Joan S. Gorham, Ed.D., Associate Dean, Academic Affairs
Fred L. King, Ph.D., Associate Dean, Research and Graduate Studies
Katherine Karraker, Ph.D., Assistant Dean, Undergraduate Studies
Asuntina S. Levelle, J.D., Associate Dean, Financial Planning and Management

http://eberly.wvu.edu

Degrees Offered

Bachelor of Arts
Biochemistry
Biology
Chemistry
Communication Studies
Criminology and Investigations
Economics
English
Environmental Geoscience

Foreign Languages
Geography
History
Individualized Major
International Studies
Mathematics
Multidisciplinary Studies
Philosophy
Political Science

Psychology
Regents BA
Religious Studies
Slavic and East European Studies
Social Studies
Sociology and Anthropology
Women’s Studies

Bachelor of Science
Biochemistry
Chemistry
Computer Science

Forensic and Investigative Science
Geology
Industrial Mathematics and Statistics

Mathematics
Physics
Psychology

Bachelor of Multidisciplinary Studies
Bachelor of Social Work

The alphabetical listing of programs contains additional information about degree programs and interdepartmental major programs.

History of the College

Starting with the initial charter of WVU by the Legislature in 1867, the liberal arts and the sciences were important and central elements of the University. The College of Arts and Sciences was formally created in 1895, and 11 students received degrees from the college in 1896. In the 1911–12 academic years, the West Virginia Chapter of Phi Beta Kappa was established within the College of Arts and Sciences.

On July 1, 1993, the name of the college was changed to the Eberly College of Arts and Sciences to recognize and commemorate the generosity of the Eberly family, the Eberly Foundation, and the Eberly Family Charitable Trust.

Today, the Eberly College of Arts and Sciences awards degrees to around 2,000 students every year. It remains the heart of West Virginia University, providing students with a liberal education in the areas of literature and the humanities, mathematics and natural sciences, and social and behavioral sciences. In addition to teaching, the college’s 265 faculty members are actively engaged in research and scholarship, publishing approximately 400 articles and five or more books each year.
Mission

The primary mission of the Eberly College of Arts and Sciences is to promote the full development of the student as an individual and as a member of society. Students earning degrees in the college fulfill certain broad basic-education requirements and study at least one subject in some depth. The degree requirements are intended to carry forward what is usually termed “a general education,” thus providing a foundation for continued growth and development after graduation.

Clearly, one purpose of a college education is to help students acquire knowledge and skills both for self-fulfillment and in preparation for the roles they will subsequently play in society. A less obvious but equally important purpose is to impart certain attitudes to students. In the interest of fulfilling both purposes, the Eberly College of Arts and Sciences strives to help students acquire the specific attributes listed below.

Knowledge

• Knowledge of the main principles, facts, concepts, and theories in a major area of concentration.
• Knowledge of Western and non-Western civilizations: their distinctive characters (belief systems, languages, intellectual, and artistic contributions), and their origins, development, and present states.
• Knowledge and appreciation of the environment in which one operates (physical, biotic, social, technological, aesthetic), including knowledge of change processes (evolutionary, technological, social, intellectual) and knowledge of past adaptations as a basis for predicting the consequences of contemporary actions and changes.
• A knowledge and appreciation of the arts, of their humanizing and energizing effects, and of one’s connection with the arts through one’s impulses toward creativity.
• A familiarity with the various technical languages (statistics, linguistics, etc.) that are increasingly necessary to understand the major approaches in the sciences and humanities.

Skills

• Skills in the sophisticated techniques of a major area of concentration.
• Skills in communication using a variety of channels including writing, speaking, reading, listening, and viewing.
• Skills in analyzing and solving problems by recognizing ambiguities, using proper logic, marshalling pertinent facts and arguments, and using mathematical techniques where appropriate.
• Skills in the use of the imaginative and synthetic processes of the mind, including innovative thinking and recognition of the connections among a variety of intellectual frameworks and matrices.
• Skills involved in decision making, including the ability to recognize alternatives, project consequences, and assume the responsibility for making decisions.

Attitudes

• An attitude of dispassionate self-appraisal based upon an understanding of one’s own nature and characterized by an awareness of one’s own strengths and weaknesses.
• An attitude of open-mindedness, permitting one to see beyond the limits of one’s own occupation, economic status, language, and culture, and including a respect for opinions different from one’s own.
• A willingness to recognize and respect ethical obligations and the rights of others.
• A commitment to truth-seeking, characterized by objectivity, utilization of evidence, intellectual curiosity, and the search for wisdom.
Admission to Arts and Sciences Degree Programs

High school students and transfer students are admitted to major or pre-major programs.

Minimal college requirements for admission into most degree programs are a 2.0 overall average, and a defined minimum average in courses already completed in the discipline of the degree program. Specific requirements are described in departmental sections that follow.

Students planning to qualify for teacher certification and earn a degree from the Eberly College of Arts and Sciences should check with their advisors and the College of Human Resources and Education to determine the requirements for such certification.

Requirements for Degrees

B.A. Requirements

Students must complete WVU General Education Curriculum requirements, college B.A. requirements, major requirements, and electives to total 128 hours.

1. Foreign Language. Completion of level 204 (fourth semester). Students with no prior instruction in a language will satisfy this requirement by successful completion of courses 101, 102, 203, and 204 (or other approved courses) in that language. Students with prior instruction in a language must take the placement test in that language and begin at the level they are placed and complete 204. Students who place beyond the 204 level will satisfy the requirement by successful completion of one appropriate 300-level course in that language. (For information about placement and explanation of various options and other approved courses, see listings under Foreign Languages in the WVU Undergraduate Catalog, go to http://forlang.wvu.edu, or contact the department.) Courses used to fulfill this requirement are in addition to those used to fulfill any GEC requirement.

2. International Studies. Students must satisfactorily complete three semester hours of study of foreign countries or cultures other than those of modern western Europe or Canada, and/or their role and interaction within the contemporary international system. Completion of a course that meets GEC Objective 9 (non-western cultures) will fulfill this requirement.

3. Fine Arts. Students must satisfactorily complete a minimum of three semester hours focused on the fine arts. Completion of a course that meets GEC Objective 5 (artistic expression) will fulfill this requirement.

4. Grade Point Average. A cumulative GPA of 2.0 is required for graduation.

5. Individual department requirements may be more directive than the college’s core B.A. requirements, so long as those requirements are met.

B.S. Requirements

Students must complete WVU General Education Curriculum requirements, college B.S. requirements, major requirements, and electives to total 128 hours.

1. Foreign Language. Students completing an Eberly College bachelor of science program are encouraged (but not required) to complete two semesters of one foreign language beyond language taken at the high school level. Individual B.S. programs may require foreign language.

2. International Studies. Students must satisfactorily complete three semester hours of study of foreign countries or cultures other than those of modern western Europe or Canada, and/or their role and interaction within the contemporary international system. Completion of a course that meets GEC Objective 9 (non-western cultures) will fulfill this requirement.

3. Mathematics. Satisfactory completion of MATH 155 (or MATH 153 and 154) is required for students earning an Eberly College B.S. degree.

4. Science. Students must complete 24 hours of science coursework, with a minimum of two courses in each of three disciplines, selected from the following pairs of courses.

There are six disciplines: biology, chemistry, computer science, geology/geography, math/statistics, and physics. Courses used to fulfill this requirement may be used simultaneously to satisfy GEC requirements.
5. Courses satisfying the B.S. science requirement are the following:
   • Biology: BIOL 115 and BIOL 117
   • Chemistry: CHEM 111 and CHEM 112, or CHEM 115 and CHEM 116, or CHEM 117 and CHEM 118
   • Computer Science: CS 110 and CS 111
   • Geology/Geography: (GEOL 101/102 or GEOL/GEOG 110/111) and (GEOL 103/104 or GEOL 201* or GEOL 203* or GEOL 230*)
   • Math/Statistics: MATH 156 and (MATH 251 or STAT 211* or STAT 215*), or (STAT 211* or STAT 215*) and (STAT 312* or STAT 331* or STAT 421*)
   • Physics: PHYS 101 and PHYS 102, or PHYS 111 and PHYS 112

*Note: A three-credit-hour course. If completion of three pairs of courses—one pair from each of three disciplines, as grouped above—does not equal a total of 24 hours, students may elect any course(s) from the above list to complete the minimum of 24 hours, with the following exceptions: students may earn credit for only one set of PHYS courses (PHYS 101 and 102, or 111 and 112); students may earn credit for only one set of CHEM courses (CHEM 111 and 112, or 115 and 116, or 117 and 118); students may not earn credit for both STAT 211 and 215; students may not earn credit for both GEOL 103 and 230.

6. Grade Point Average. A cumulative GPA of 2.0 is required for graduation. Individual department requirements may be more directive than the college’s core B.S. requirements, so long as those requirements are met.

Credit Limitations
The following do not count toward the hours required for graduation:
   • Courses in which the grade received is other than A, B, C, D, P, or S. Credit by examination, however, is counted toward hours required for graduation unless it was granted for courses otherwise excluded in this list.
   • Any course passed more than once, unless a course is designated as repeatable in the catalog.
   • For all B.A. candidates more than 42 hours in one subject (e.g., BIOL, FRCH, POLS), with the following exceptions: (1) for English (ENGL), the maximum excludes credits in English 101, 102, 103; (2) for foreign languages, the maximum excludes the 6–12 hours used to fulfill the foreign language requirement of the Eberly College of Arts and Sciences; (3) for sociology and anthropology (SOCA) the maximum allows 42 hours in sociology and 42 hours in anthropology; (4) for all B.A. candidates in the college, one-credit orientation courses numbered 199, and professional field experience courses numbered 491 are not counted against the maximum hours in one subject.
   • More than 72 hours of transfer credit from accredited junior or community colleges.
   • More than 18 semester hours of credit for which only a grade of P is recorded. (See Pass/Fail Grading.)
   • Any course in which the final grade is F. The student must take the course again in residence at WVU if the student wishes to replace the F through the D/F repeat option.

Minimum and Maximum Load
A minimum of 12 hours in a semester is required for full-time status in the Eberly College of Arts and Sciences. No student enrolled in the college may enroll for more than 19 hours in a semester without permission from the Academic Standards Committee.

Credit by Examination
Credit by examination provides students the opportunity to receive credit in courses by demonstrating that they have acquired sufficient knowledge of a subject without formal enrollment in a course or study in the classroom. This opportunity is offered only to students enrolled full- or part-time at the University. The initiation of a credit-by-examination request does not entitle a student to special in-class instruction or tutoring by an instructor.
Students may petition to receive credit by examination for any course listed by a department in the college as a course for which credit by examination is appropriately awarded. Applications, course lists, and examination schedules are available each semester. A student may apply to challenge a course for credit by examination if:

- The student is at the time of examination registered in the University;
- The student’s official record does not show credit for the course (i.e., any grade of S, P, A, B, C, D, or I);
- The student is not officially enrolled in the course at the time of examination (a student who withdraws from a course after the end of the official registration period is officially enrolled in that course until the end of the semester, and not eligible to take the course by examination during that semester); and
- A grade of F has not been recorded on the student’s record for the course within two calendar years of the date of the examination. A student may challenge the same course by examination only two times.

Credit only (not a grade) will be awarded for the successful completion of the examination with a grade of C or higher. Because a comprehensive examination is used to establish credit, it is the policy of the college that a student should demonstrate at least an average (C) knowledge of course content to receive any credit. The criteria for earning a C are made known in advance to students who request the information from the department offering the course examination.

A non-refundable fee is charged for credit by examination and must be paid within the prescribed period prior to each examination period.

**Eberly College of Arts and Sciences Requirements**

**Degree Program Requirements**

- **Major Subject Requirements** are listed separately in the catalog by department or degree program. To qualify for graduation, the student must have spent at least two semesters and have accumulated a minimum of 30 semester hours and completed major requirements in a degree program.

- **Transfer Credit Except** with the approval of the department chair or degree program coordinator, no upper-division course (300 or 400 level) in the major taken at another institution will be counted toward meeting the requirements of the major.

- **Grade Point Average** All departments and degree programs in the college require at least a 2.0 (C) cumulative grade point average for admission; some departments or programs require a higher grade point average (overall or in the discipline) for admission or graduation. See specific departments for requirements.

**Academic Minors**

Most major programs in the Eberly College of Arts and Sciences also offer formal academic minors. In addition, minors are available in Africana studies, gerontology, leadership studies, Native American studies, and statistics. If a student successfully completes the requirements for a formal minor, this will be recorded on the student’s official record and will appear on transcripts.

Requirements for academic minors are set by the department offering the minor. A formal minor must include at least 15 hours of coursework with a minimum of nine hours at the upper-division level (course number of 300 or above). Specific courses may be required as well as a minimum grade or grade point average for courses in the minor. Courses in the minor may not be taken pass/fail. The minor field may not be the same as the student’s major field.

**Application for Graduation and Diploma**

All candidates for degrees in the Eberly College of Arts and Sciences must complete an application for graduation and diploma in 221 Armstrong Hall. The application should be completed during the semester prior to the candidate’s expected semester of graduation to allow the student’s records to be evaluated for completion of college and University requirements. If a student does not graduate on the date for which the student applied initially, the student must re-apply for a later date. No candidate can graduate without completing an application.
Africana Studies Program
Joseph M. Hodge, Coordinator
http://www.wvu.edu/~asp

Africana Studies Minor
The Africana Studies Program is an academic unit within the Eberly College of Arts and Sciences. It offers a multidisciplinary minor, which seeks to analyze the African world experience from the point of view of African peoples and those of African descent. The broad educational purpose of the program is to engender among all students an intellectual appreciation and understanding of the history and cultures of people of African descent throughout the world.

Requirements
The Africana studies minor requires: 15 credit hours, including ASP 220 and ASP 420 (six hours), and nine additional hours in two subject areas, six of them upper division (300 and above), selected from ENGL 139, 154, 254; FLIT 215, 266, 271; GEOG 243, 293, 443; HIST 427, 428, 429, 430, 433, 434, 451, 452; MUSIC 175, 477, 492B; POLS 335, 358; SOCA 235, 256 or any ASP offerings (e.g. ASP 293, 493). Grades of C or higher must be earned in all courses applied to the minor. Students are encouraged to work with the ASP coordinator to complete an individualized curriculum plan. Further information about the program may be obtained from the Department of History, 220 Woodburn Hall, P.O. Box 6303, Morgantown, WV 26506-6303, or visit us online at http://www.wvu.edu/~asp/.

Faculty Associates
Faculty members with interest in African and diaspora studies from across the University are affiliated with the Africana Studies Program through their teaching, research, and service.

Biochemistry
Richard B. Thomas, Biology Chair
Terry Gullion, Chemistry Chair
http://www.as.wvu.edu.biochem.html

Degree Offered
Bachelor of Arts

Nature of Program
The biochemistry curriculum prepares students for careers requiring a strong background in basic principles of the physical and life sciences. Students may earn either the bachelor of science (B.S.) in biochemistry through the Division of Animal and Veterinary Sciences in the Davis College of Agriculture, Forestry, and Consumer Sciences, or a bachelor of arts (B.A.) in biochemistry, with an area of emphasis in either molecular biology or in chemistry, through the interdepartmental bachelor of arts program in the Eberly College of Arts and Sciences.

Students completing a biochemistry major are prepared for professional employment in the expanding fields of agricultural and environmental sciences, chemical industry, health-related industries, and biotechnology-based industries. The curriculum provides students with the interdisciplinary background in biochemistry, biology, chemistry, mathematics, physics, and molecular biology necessary as preparation for professional schools of human and veterinary medicine, dentistry, optometry, and pharmacy. It also provides strong preparation for graduate study in fields such as animal and plant agriculture, biochemistry, biology, biotechnology, chemistry, food science, nutrition, and physiology.

Performance Requirements
To maintain biochemistry major status and to graduate, students must maintain at least a 2.0 overall GPA and a 2.0 cumulative GPA in coursework in biology, chemistry, and biochemistry.

Eberly College of Arts and Sciences
Degree Requirements

A total of 128 hours is required for graduation. The biochemistry core curriculum includes the following required courses (48 hours): AGBI 199; MATH 155 (or MATH 153 and 154) and 156; PHYS 101 and 102 or PHYS 111 and 112; BIOL 115, 117, 219, and 310; CHEM 115, 116, 233, 234, 235, 236.

Following completion of the biochemistry core curriculum, students choose to pursue either a molecular biology area of emphasis or a chemistry area of emphasis. Completion of the molecular biology area of emphasis requires 30 hours beyond the biochemistry core curriculum. The following courses are required (20 hours): BIOC 339 or AGBI 410; CHEM 215, 341 and 342; BIOL 313 or 410; Senior Seminar in Biochemistry; and a minimum of four hours of research (BIOL 386 or BIOL 486). The remaining ten hours may be selected from the following courses: BIOL 312, 313, 315, 324, 386, 410, 411, 412, 413, 436, 437, 486, 493; BIOC 492.

Completion of the chemistry area of emphasis requires 30 hours beyond the biochemistry core curriculum. The following courses are required (18 hours): AGBI 410/411; CHEM 215, 341, 342, 401, 403 (which serve as the capstone experience); BIOL 313 or 410; and Senior Seminar in Biochemistry. The remaining 12 hours may be selected from the following courses: BIOL 313, 436, 493; CHEM 310, 312, 313, 335, 339, 422, 491, 497, 514, 531, 547; BIOC 492. The student’s program of study must include at least one CHEM course numbered 310 or higher. CHEM 117 and 118 may be substituted for CHEM 115, 116, and 215.

Biochemistry Program Honors

The option of graduating with biochemistry program honors is available to students with a 3.5 overall grade point average and the approval of the faculty in the department of the student’s area of emphasis. Graduation with biochemistry program honors includes a senior thesis based upon an approved research project conducted under the supervision of a faculty mentor. For further information, and to apply for admission, qualified students should consult their advisors.

Biology

Richard B. Thomas, Chair
Clifton Bishop, Associate Chair
http://www.as.wvu.edu/biology

Degrees Offered

Bachelor of Arts
Bachelor of Science

Nature of Program

The Department of Biology offers two degree programs: the bachelor of science and the bachelor of arts in biology. Pre-medical and environmental biology tracks are available in either degree program. These two programs are structured to meet the foundational needs of all students who are interested in a career in the broad area of the life sciences.

The undergraduate programs in biology provide excellent preparation for students planning to apply to graduate programs in the biological sciences or to professional schools, including medical, osteopathic, dental, physical or occupational therapy, optometry, pharmacy, veterinary medicine, physicians assistant, and chiropractic schools and programs. A degree in biology prepares students for a wide range of careers in the biological sciences including medicine, biotechnology, genetics, forensics, ecology, environmental biology, and other biologically related technical fields in government and private industry. With appropriate electives, a student with a degree in biology may also choose to enter the fields of law, journalism, education, business, health care administration, pharmaceutical sales, or work for a variety of federal agencies.

After completing an initial four-semester core sequence in the biological sciences, students in the biology B.A. program may choose to specialize in courses from four major areas of biology: cellular and molecular biology, organismal biology, ecology and evolution,
or integrative biology. Those students pursuing the B.S. degree in biology are required to take at least one course from each of the major areas of biology to ensure an advanced broad-based knowledge of biology.

Irrespective of the degree program chosen, students will experience a wide variety of classroom environments from large lecture sections to small group discussions and intensive laboratory-oriented courses. Laboratory courses include topics such as comparative anatomy, recombinant DNA technology, plant ecology, plant physiology, and molecular endocrinology as well as many other laboratory experiences across the biological disciplines.

The two programs are similar during the first two years. They differ primarily in their mathematics requirements and in their biology requirements—the bachelor of science program requires more upper-division biology courses.

Admission Requirements
Requirements for admission to degree programs in biology include completion of BIOL 115, BIOL 117, and CHEM 115 with a minimum of C in each; a minimum GPA of 2.0; and a minimum GPA of 2.0 in all attempted biology courses.

Bachelor of Science Requirements in Biology
The B.S. in biology requires a minimum of 38 hours in biology or approved courses in the biological sciences with 128 hours total required for graduation. Required courses include:

- Biology: BIOL 115, 117, 219, 221, and 321. These must be taken in this sequence.
- Chemistry: CHEM 115 or 117 (which should be taken concurrently with BIOL 115 if possible); CHEM 116 or 118; CHEM 233, 234, 235, and 236.
- Mathematics: MATH 155 (or MATH 153 and 154), STAT 211, MATH 156 (optional).
- Physics: PHYS 101 or 111 and 102 or 112.

The inclusion of MATH 156 and PHYS 111 and 112 is strongly recommended. Bachelor of science candidates must take 21 hours of electives selected from any of the following four groups of courses. At least two of the selected courses must have a laboratory and at least one course must be selected from each of the four groups.

- Group I. Cell and Molecular Biology: BIOL 310, 311, 312, 313, 315, 316, 324, 325, 410, 411, 412, 413, 414, 415, and 432.
- Group IV. Integrative Biology: BIOL 302, PHYS 225, AGBI 410 or BIOC 339 or BIOC 531.

Only two of the non-BIOL courses listed above can be used to fulfill the 21-hour elective requirement. With permission from the department, students may enroll in BIOL 386 and 486 for credit; however, only six hours of BIOL 386 and 486 may be used towards the 21-hour elective requirement. Graduate (500-level) courses in biology may be taken if approved by the dean and department.

BIOL 235, 293, and 491 do not satisfy the required 21 hours of electives in biology. They can serve as general electives.

Bachelor of Arts Requirements in Biology
The B.A. with a major in biology requires a minimum of 32 hours to a maximum of 42 hours in biology, with 128 hours total required for graduation. Required courses include:

- Biology: BIOL 115, 117, 219, 221, and 321. They must be taken in this sequence.
- Chemistry: CHEM 115 or 117 (which should be taken concurrently with BIOL 115), CHEM 116 or 118, 233, 234, 235, and 236.
- Mathematics: MATH 155 (or MATH 153 and 154) and MATH 156 or MATH 150 and STAT 211.
- Physics: PHYS 101 or 111 and 102 or 112.
Fifteen hours of required biology electives, one of which must have a laboratory, may be selected from the following list: BIOL 386 (limited to four hours of credit), 486 (limited to four hours of credit), 301, 302, 310, 311, 312, 313, 315, 316, 324, 325, 336, 337, 338, 339, 340, 341, 350, 351, 352, 353, 361, 362, 363, 410, 411, 412, 413, 414, 415, 436, 437, 438, 439, 440, 441, 450, 461, 462, 463, 464, 493 (B and above), PHYS 225, AEM 341, AEM 401, GEOL 331, AGBI 410 or BIOC 339 or BIOC 531.

Only one approved non-BIOL course can be used to fulfill the 15-hour elective requirement. Permission of the department must be obtained to enroll in BIOL 293, 386, 486, 491, and 493A; however, only four credit hours of 386/486 may be used towards the 15-hour elective requirement. Graduate (500-level) courses in biology may be taken if approved by the dean and department.

BIOL 293, 235, and 491 do not satisfy the required 15 hours of electives in biology. They can serve as general electives.

Pre-Medical Bachelor of Science Requirements in Biology

Biology is the most popular major for students intending to enter medical school both at WVU and nationwide. A biology degree provides the student with all the preparation necessary for medical school and the medical school entrance exam—the MCAT. The courses included in this area of emphasis have been found to improve both performance and confidence of students attending medical school. Students with aspirations to attend top-rank medical schools should include at least three hours of independent research (BIOL 386 or BIOL 486) in their program of study if they are to be competitive.

Students intending to graduate with a B.S. in biology with a premedical emphasis must take a minimum of 21 hours of upper division courses. In addition to the introductory courses listed for the B.S., students must take the following courses:

- General requirement: BIOL 310, 436, and 440.
- Biochemistry requirement: one of AGBI 410, BIOC 339. Seniors with good GPAs may take a 550-level biochemistry course if they obtain departmental permission.
- Laboratory requirement: At least one of BIOL 315, 336, 441, AEM 341.
- Remaining hours must be chosen from: BIOL 302, 312, 313, 315, 316, 324, 325, 337, 348, 386, 410, 411, 412, 413, 438, 486, or PHYS 225.

Note: Students may only count one of AGBI 410, BIOC 339, AEM 341, or PHYS 225 towards their 21 hours.

Pre-Medical Bachelor of Arts Requirements in Biology

Students intending to graduate with a B.A. in biology with a premedical emphasis must take a minimum of 15 hours of upper division courses. In addition to the introductory courses listed for the B.A., students must take the following courses:

- General requirement: BIOL 310, 436, and 440.
- Biochemistry requirement: One of AGBI 410, BIOC 339. Seniors with good GPAs may take a 550-level biochemistry course if they obtain departmental permission.

Note: Students may only count one of AGBI 410, BIOC 339, AEM 341, or PHYS 293 towards their 21 hours.

Honors Program

A departmental honors program for qualified students provides the opportunity to do independent research. To be eligible, a student must have a 3.4 overall average and the approval of the departmental honors faculty. Qualified students should consult their advisors about admission.

Individual original research, a senior thesis, and a seminar are required parts of the honors program, which requires three semesters to complete.
Degrees Offered

Bachelor of Arts
Bachelor of Science

Nature of Program

The Bennett Department of Chemistry offers three degree programs: the bachelor of science with a major in chemistry, the bachelor of arts with a major in chemistry, and the bachelor of arts in biochemistry with an area of emphasis in chemistry. These programs meet the needs of all students who have an interest in the broad field of chemistry.

The Department of Chemistry is located in Clark Hall, a state-of-the-art teaching facility for chemistry. Clark Hall offers many new instruments, numerous safety features, excellent ventilation and ample hoods, and complete accessibility for the physically handicapped. The department also has modern research facilities in the adjacent Chemistry Research Laboratory building, where advanced undergraduates may participate in research projects.

The bachelor of science with a major in chemistry is approved by the American Chemical Society. This program is for students who desire to qualify for professional positions in industrial and governmental laboratories as well as those who plan to do graduate work in chemistry or allied areas in preparation for research careers in industry or academia.

The bachelor of arts with a major in chemistry is for students who pursue careers requiring a good background in the basic principles of chemistry. Areas such as medicine, dentistry, or other health-related sciences; secondary school teaching; chemical laboratory technical work; law; or business may be pursued with a proper choice of electives.

The two programs are similar during the first two years. Students in the B.S. program should complete the calculus requirement as soon as possible as a prerequisite for both the physics and physical chemistry sequences. The two degree programs differ primarily in the chemistry requirements. The B.S. program requires more upper-level chemistry courses than the B.A. program.

Chemistry Scholarships

In addition to financial aid offered by the University, the department maintains six scholarship programs specifically for chemistry majors. The John A. Moore Trust Scholarships, the Charles L. Lazzell Scholarship, the Carpenter Family Scholarship, the Robert L. and Patricia Miller Stultz Chemistry Scholarship, the Herbert and Hannah Seigel Chemistry Scholarship, and the Willard W. Hodge Scholarship are awarded to students in either the B.S. or B.A. programs with records of outstanding achievement and demonstrated financial need. Several of these scholarships are restricted to West Virginia residents. Scholarship recipients are expected to remain as chemistry majors and to maintain a 3.0 average in their degree programs in order to be eligible for continued support.

Admission Requirements

In addition to college requirements, admission to either program or continuance in each requires a cumulative average of 2.0 or higher for courses in chemistry taken in the WVU Department of Chemistry.

Degree Requirements

Bachelor of Science with a Major in Chemistry

A total of 128 hours is required, subject to the general course exclusions for all degrees. The following courses are required: CHEM 117 and 118 or CHEM 115, 116, and 215; CHEM 233, 234, 235, 236, 310, 313, 335, 346, 347, 348, 349, 401, 403, 422, 423, AGBI 410, plus six hours of approved chemistry electives: MATH 155 (or MATH 153 and 154), 156, 251; Physics (PHYS) 111, 112. The six hours of approved chemistry electives must be selected from the following courses: CHEM 312, 339, 440, 460, 463, 490, 493,
subject to the restriction that only three hours of CHEM 490, 493, 496 or 497, separately or combined, may be counted toward the six-hour requirement. The following courses in other areas are recommended for consideration as general electives: Computer Science (CS) 101; ENGL 305; MATH 261, 465; PHYS 314, 451; STAT 331. A 2.0 average must be maintained in all chemistry courses above CHEM 236 (excluding 490–497 courses). A C or better grade in all prerequisites for chemistry courses is required for chemistry majors; the courses involved are chemistry courses, PHYS 111 and 112; MATH 155 (or MATH 153 and 154), 156, and 251.

**Bachelor of Arts with a Major in Chemistry**

The following courses are required: CHEM 115, 116 and 215, or CHEM 117 and 118; CHEM 233, 234, 235, 236, 341, 342, 401, 403 plus seven hours of approved chemistry electives; MATH 155 (or MATH 153 and 154), 156; PHYS 101, 102. The seven hours of approved chemistry electives must be selected from the following courses: CHEM 310, 312, 313, 335, 339, 422, 423, 460, 463, 490, 493, 496, 497, 498, 514, 531, 532, 540, 547, subject to the restriction that only three hours of CHEM 490, 493, 496, or 497, separately or combined, may be counted toward the seven-hour elective requirement. A grade of C or better in all prerequisites for chemistry courses is required for chemistry majors; the courses involved are chemistry courses, PHYS 101 and 102; MATH 155 (or MATH 153 and 154) and 156. Also, a 2.0 average must be maintained in all chemistry courses above CHEM 236 (excluding 490–497 courses).

**Options**

Students in the B.A. program may use AGBI 410 to meet part of the seven-hour chemistry elective requirement; however, at least three hours must be selected from chemistry courses numbered 310 or higher. Students in the B.A. program may take CHEM 346, 347, and 348 in lieu of CHEM 341 and 342 and three hours of chemistry electives. CHEM 349 may be taken as two hours of chemistry elective.

Students in either degree program may seek admission to the departmental honors program. A student must have a 3.5 average in chemistry courses taken at WVU and must have the endorsement of the chemistry faculty. A student may apply for admission to the program at any time after the student’s first semester and no later than three semesters before graduation.

The program includes a written report based upon a research project performed under the supervision of a member of the chemistry faculty. For further information students should consult the associate chairperson.

**Communication Studies**

Matthew M. Martin, Chair
Andrea Weber, Undergraduate Coordinator
http://communicationstudies.wvu.edu/

**Degree Offered**

*Bachelor of Arts*

**Nature of Program**

The Department of Communication Studies offers a curriculum to meet the needs of liberal arts and pre-professional students oriented toward communication-related careers such as marketing, sales, recruiting, public relations, and market research among many others. The undergraduate curriculum focuses upon the application of theory and research in human communication to a variety of personal, social, and organizational settings. Majors may elect to follow either a data analysis specialty or an applied communication emphasis. All majors complete a capstone sequence that consists of two courses intended to integrate academic coursework and apply course material to real-world experience. For more information about this program, please go to http://communicationstudies.wvu.edu.
Data Analysis Track
This curriculum is designed for students who are interested in the study of communication strategies and/or who plan to enter graduate study in communication studies. Special emphasis is given to the design, collection, and analysis of human communication messages. In addition, students acquire a background in interpersonal, nonverbal, organizational, and mass communication.

Applied Communication Studies Track
This curriculum is designed for students who plan careers in business or government organizations. Along with a core of general communication coursework, it allows students to design a plan of study that will meet their varying interests and career goals.

Admission Requirements
Data Analysis Track
To be admitted to the data analysis track, students must have a cumulative grade point average (GPA) of 3.0; a cumulative 3.0 GPA in all communication studies classes; completed COMM 200 and 201 with a combined GPA of 3.0; and completed at least 30 hours of coursework.

Applied Communication Studies Track
To be admitted to the applied communication studies track, students must have a cumulative grade point average (GPA) of 2.5; a cumulative GPA in all communication studies classes of 2.5; completed COMM 200 and 201 with a combined GPA of 2.5; and completed at least 30 hours of coursework.

Degree Requirements
Data Analysis Track
The data analysis track requires 128 hours, within which students must complete a minimum of 36 hours in communication studies that includes COMM 200, 201, 401, 403, and 491. While students may take more than three credits of COMM 491 Field Experience, only three credits of 491 will count toward the necessary 36.

All students must complete a minimum of 30 hours of credit, 21 of which must be in communication studies, following the semester in which they were admitted to this program. Students must also complete 21 hours of coursework outside of the department. Within these 21 hours, students must complete CS 101, STAT 211 or ECON 225 (PR: MATH 124 or MATH 126), and PSYC 202. Additional decisions involving elective coursework to fulfill this 21-hour requirement will be made in consultation with a communication studies advisor.

Students must obtain a cumulative GPA of 2.5 in all courses in the department to be certified for graduation with a major in communication studies. Courses in communication studies that the student wishes to count toward the major must be completed with a grade of C or better. The minimum requirement for a major in communication studies is 36 hours. A maximum of 42 hours in communication studies may be counted toward the 128 credits needed for graduation.

Applied Communication Studies Track
The applied communication studies area of emphasis requires 128 hours, within which students must complete a minimum of 36 hours in communication studies that includes COMM 200, 201 (prior to admittance), 403, and 491 (following admission to the program). While students may take more than three credits of COMM 491 Field Experience, only three credits of 491 will count toward the necessary 36.

Additionally, within the 36 hours of communication studies courses, students must complete 15 hours from the following: Group A COMM 105, 202, 306, 307, 308, 309, 316, 317, 404, 405, 406, and 408.

An additional three hours are selected from the following: Group B COMM 212, 303, 304, 305, and 314.
All students must complete a minimum of 30 hours of credit, 21 in communication studies, following the semester in which they are admitted to this program. Students must also complete 21 hours of coursework outside of the department. Within these 21 hours, students must complete CS 101 and STAT 111. The department recommends that STAT 111 be taken prior to COMM 201. Additional decisions involving elective coursework to fulfill this 21-hour requirement will be made in consultation with a communication studies advisor.

Students must obtain a cumulative GPA of 2.5 in all courses in the department to be certified for graduation with a major in communication studies. Courses in communication studies that the student wishes to count toward the major must be completed with a grade of C or better. The minimum requirement for a major in communication studies is 36 hours. A maximum of 42 hours in communication studies may be counted toward the 128 credits needed for graduation.

**Minor in Communication Studies**

Students may elect to complete a 15-credit-hour minor in the field of communication studies. This minor is designed to provide a broad overview of the field. Requirements are: (a) COMM 100 and 102, or 104, or 112, or 122, or 303 (three hours); (b) COMM 105 and 306 and 308 (nine hours); (c) COMM 305, or 309, or 316 (three hours). A cumulative GPA of 2.0 across courses counted toward the minor is required.

**Computer Science**

Brian D. Woerner, Chair
Afzel Noore, Associate Chair for Academic Affairs
http://www.lcsee.cemr.wvu.edu/

**Degree Offered**

*Bachelor of Science*

Students interested in this field should refer to the Computer Science section under the College of Engineering and Mineral Resources for information on degree options, including the B.S. with a major in computer science through the Eberly College of Arts and Sciences.

**Economics**

Clifford B. Hawley, Chair
http://www.as.wvu.edu/econ.html

**Degree Offered**

*Bachelor of Arts*

**Nature of Program**

The Department of Economics offers two majors in economics: one through the College of Business and Economics and the other through the Eberly College of Arts and Sciences. The College of Business and Economics grants a bachelor of science in economics and the Eberly College of Arts and Sciences grants a bachelor of arts with a major in economics.

The program leading to the B.A. degree is designed for students who wish to combine fundamental training in economics with a liberal arts education. In addition to the general education and related requirements, students have in excess of 40 credit hours of unrestricted electives.

Economics students are taught to identify the costs and the benefits of a decision, which are sometimes not obvious. The economist has the skill to identify the real consequences of a decision. That skill is valued highly. Economics is a useful major for anyone interested in a career in politics, business, law, Foreign Service, government, banking, or any other field in which the ability to make or analyze policy decisions is important. The demand for people with degrees in economics, both at the graduate and undergraduate levels, is high.
Economics deals with some of today’s most pressing issues: global warming, poverty, international trade, unemployment, the income distribution, education, the deficit, the emerging economies, and national defense.

**Admission Requirements**
Students making application for initial admission to the major in economics must meet the following requirements:

- Completion of 58 or more credit hours with a cumulative grade point average of 2.5 or better.
- Completion of the following courses with a minimum grade of C in one and a minimum grade of B in the other: ECON 201 and 202.
- Completion of ECON 225 or STAT 211 with a grade of C or better.
- Completion of ENGL 101 and 102 with a passing grade.
- A semester of calculus, MATH 150 or 155 (can be replaced by MATH 153 and 154), with a grade of C or better.

**Degree Requirements**
ECON 201, 202, 225, 301, 302, and 481 are required. Any student planning to pursue graduate work in economics should take MATH 155 (or MATH 153 and 154) and 156. Additional recommended courses can be determined in consultation with an economics advisor. More calculus and linear algebra are typically recommended.

Majors are also required to take 15 additional hours of economics courses numbered 300 or above for a minimum of 24 semester hours of upper-division coursework in economics. Economics majors must maintain a grade point average of 2.0 for all economics courses (to be computed using the last grade earned in each economics course). Economics majors are required to have a grade of C or better in ECON 301 and 302.

Economics majors may take a maximum of nine of their 33 credit hours of economics courses out of residence. Transfer students must take a minimum of 15 credit hours of upper-division economics courses in residence. The undergraduate advisor can waive this requirement under special circumstances.

**Minor in Economics**
To earn a minor in economics, a student must complete the following courses with a grade point average of 2.0 or better: ECON 201, 202, 301, 302, and two upper-division economics electives.

**English Language and Literature**
Donald Hall, Chair
Timothy Sweet, Associate Chair
http://english.wvu.edu

**Degree Offered**
*Bachelor of Arts*

**Nature of Program**
The department offers programs for students who want to develop skills in writing, analytical reading, and critical thinking in order to prepare for any number of career paths. Specific coursework is also available for those who intend to pursue a graduate degree in English, attain secondary certification to teach English or language arts, concentrate in literature and language as preparation for entrance into professional schools, or concentrate in creative writing or professional writing and editing. Students interested in undergraduate creative writing should speak with the coordinator of creative writing to be sure an appropriate plan of study is developed. Because English majors have varying interests in literature, language, and writing, they are strongly urged to consult the department’s undergraduate advisors to plan their coursework.
Admission Requirements

Students may apply for admission to the degree program when they have completed 58 hours with an overall 2.0 grade point average, a minimum 2.0 average for English courses taken at WVU, and grades of C or better in ENGL 101 and 102 or 103 and all required English courses taken prior to admission (see list below). Majors must maintain at least a 2.0 cumulative average in all English courses taken at WVU to maintain their status. Pre-English majors are advised in the department on completion of 29 hours.

Degree Requirements

An English major requires a minimum of 36 hours in literature, language, and writing, exclusive of English 101 and 102 or 103. A maximum of 43 hours in English, exclusive of ENGL 101 and 102 or 103, may be included within the 128 hours required for graduation.

Required Courses

- ENGL 200;
- Three courses from ENGL 241, 242, 261, and 262;
- One course from ENGL 221, 321, or 423;
- One course from ENGL 226, 254, 255, 285, 354, 355, 356, 374, 385, 386, 387;
- One course from ENGL 263, 337, 361, 363, 365;
- One course from ENGL 301, 309, 318, 381, 382, 383, 384;
- At least nine additional hours of courses at the 200-level or above offered by the Department of English in literature, language, theory, or writing, at least six hours of which must be at the 300- or 400-level;
- A capstone course, ENGL 418, 491A, or 496.
- At least 12 hours of the student’s total coursework for the major must be at the 300 level or above.

Students pursuing English education should contact the college of Human Resources and Education for their list of required electives. Students must earn a grade of C or better in all courses that are counted toward the major plus English 101 and 102 or 103.

Concentration in Creative Writing

English majors may obtain a concentration in creative writing by fulfilling the requirements for a minor in creative writing.

Concentration in Professional Writing and Editing (PWE)

English majors may obtain a concentration in PWE by completing 15 hours of coursework that includes: ENGL 301, 302, 303; 304 or 305; and 491A. Students must earn a grade point average of 3.0 or higher across these five courses. Students must successfully complete at least nine concentration hours before being eligible to take ENGL 491A.

Minor in English

Any student admitted to a degree program other than English may take a minor in English. Such a minor consists of any 15 hours beyond ENGL 101 and 102 or 103 with a minimum of nine hours at the upper-divisional level. Students are advised to design their own English minor to complement the work in their major. Only courses in which the student earns a grade of C or better can be applied to the English minor.

Minor in Creative Writing

Any student admitted to a degree program other than English may take a minor in creative writing. Such a minor consists of 15 credit hours taken in the following sequence:

- One course, with a grade of B or better, from among ENGL 212, 213, or 214.
- One course from among ENGL 312 (prerequisite: grade of B or better in ENGL 212 or instructor permission), ENGL 313 (prerequisite: grade of B or better in ENGL 213 or instructor permission), or ENGL 314 (prerequisite: grade of B or better in ENGL 212 or 213 or 214 or instructor permission).
- With permission of the instructor, ENGL 318.
- With permission of the instructor, ENGL 418.
- One additional course from among ENGL 212, 213, 214, 312, 313, or 314.
Minor in Professional Writing and Editing (PWE)
Any student admitted to a degree program other than English may take a minor in PWE. Such a minor consists of 15 credit hours as follows: The minor requires at least 15 hours of coursework. Two courses are required of all PWE minors: ENGL 301 and 302. The remaining nine credits must be chosen from the following four options: ENGL 303, 304, 305; ENGL 221 or 321. To earn this minor, students must earn a grade point average of 3.0 or higher across five PWE courses.

Certificate in Professional Writing and Editing (PWE)
The PWE certificate is intended for non-traditional students who are not eligible to earn a PWE minor because they are not earning a WVU major or degree. WVU students who are eligible to complete a PWE minor are not eligible for the certificate.
The PWE certificate consists of 15 hours and is designed to provide both an overview of the field and experience in writing and editing. To earn this certificate, students must complete the following courses with a grade point average of 3.0 or better: ENGL 301, 302, 304, 305, and 491A. Students must successfully complete at least nine credit hours in this program before being eligible to take ENGL 491A (internship).

Publications
Victorian Poetry, a critical journal of Victorian literature, is edited by the Department of English. The journal was established at WVU in 1963 and has become internationally known, with subscribers in 27 countries.

Calliope, a publication of WVU student writing, is sponsored by the Department of English and the English Honorary and Club.

Foreign Languages
Ángel Tuninetti, Chair
Susan Braidi, Associate Chair
http://forlang.wvu.edu/

Degree Offered
Bachelor of Arts
   Majors: French, German, Spanish language; Chinese Studies, Russian Studies, Italian Studies

Nature of Program
Coursework is offered in foreign literatures and cultures, linguistics, and languages, including Arabic, Chinese, French, German, Italian, Japanese, Latin (Classics), Portuguese, Russian, and Spanish. Literature courses taught in English are designated as Foreign Literature in Translation (FLIT) courses. Culture and film courses taught in English are designated as Foreign Cultures (FCLT) courses. Other areas of instruction are Language Teaching Methods (LANG), dealing with second language acquisition and teaching methodology, Linguistics (LING), and English as a Second Language (ESL). The department houses the WVU Intensive English Program, which offers instruction in English as a second language for students seeking admission into the University, or to improve their command of the language.
The primary goal of the program in foreign languages is to provide students with a solid liberal arts education that is the foundation for personal and professional success and growth over a lifetime. The curriculum is designed to provide students with well-developed cognitive and communication skills and with a broad knowledge base that will enable them to pursue additional studies at the graduate level or to enter the job market in positions that will demand the ability to communicate in more than one language and in a variety of cultural contexts.
Career Goals for Graduates
In today’s rapidly increasing global economy, students may use foreign language study to add a valuable international dimension to myriad career opportunities such as teaching, business, economics, government work and Foreign Service, journalism, law, medicine, and computer, and other scientific research.

Placement Testing
Students who have studied French, German, or Spanish in high school and who wish to continue the study of these languages at WVU must take a computerized placement test before entering the program. Those who complete the course in which they are placed with a B or better will be eligible to apply for retroactive credit for all courses in the 101, 102, 203, and 204 sequences out of which they placed. Students who place at the 300-level must complete their first 300-level course with a B or better to be eligible for back credit. Fees for this back credit are waived. The placement test can be taken one time only and must be taken before completing any coursework in the languages at WVU. Students who have studied a language other than those listed above must see the appropriate language coordinator for course placement.

Admission Requirements
Any student in good standing may declare a major in foreign languages.

Degree Requirements
Students may select from five areas of emphasis (three language majors in French, German, and Spanish; and two language studies majors in Chinese studies and Russian studies) to complete a bachelor of arts in foreign languages. In each area of emphasis, the major requires 33 hours of coursework beyond the intermediate level (203–204 or the equivalent) in the language of study, including a three-credit capstone experience. The capstone may be taken anytime after completion of 21 hours beyond the intermediate level (204 or the equivalent).

The requirements for the language majors are:
- French: FRCH 301, 302, 303, 304, 331 or 332, 431 or 432, 496 (capstone), LING 311, and nine hours of electives (including no more than six hours at the 200-level and no more than three hours in an area other than French).
- German: GER 301, 302, 303, 304, 331 or 332, 341 or 441, 496 (capstone), LING 311, and nine hours of electives (including no more than six hours at the 200-level and no more than three hours in an area other than German).
- Spanish: SPAN 301, 302, 303, 304, 330 or 340, 331 or 332 or 341 or 342, 480 or 481 (capstone), LING 311, and nine hours of electives (including no more than six hours at the 200-level and no more than three hours in an area other than Spanish).

The 33 hours for the major may include up to six credit hours in the area of emphasis language at the 200-level, excluding FRCH/GER/SPAN 203–204 (or the equivalent). Students may, with consent of their department advisor, include three credit hours in an outside area of study, either within the Department of Foreign Languages or in another department; e.g., political science, history, geography, foreign cultures (FCLT), foreign literature in translation (FLIT). The outside course may be upper or lower division. No more than nine hours of lower-division coursework will be counted for the major.

The requirements for the language studies majors are:
- Chinese studies: Students must select 18 hours including the capstone course from the following courses: CHIN 301, 302, 303, 304, 461, 465, and 491 or 497, and upper-division study abroad courses. Students must select six hours of the following courses, one of which must be a writing course: FCLT 210, FLIT 216 or 217. Students must select nine hours of electives from: 1.) Alternate upper-division courses in Chinese language; or 2.) Alternate FLIT or FCLT courses in Chinese literature or culture; or 3.) Courses from another related field in or outside of the department, with approval of advisor.
• Russian studies: Students must select 18 hours including the capstone course from the following courses: RUSS 301, 302, 303, 304, 331, 332, 341, 342 or 451, and 496 (capstone). Students must select 15 hours of electives from: 1.) Six hours of FLIT or FCLT courses, selected from the following courses: FCLT 250, 280; FLIT 256, 257; and 2.) Nine hours of other electives, selected from the following courses: HIST 217, 218, 419, 420; LING 311; any alternate upper-division courses in Russian; additional FCLT, FLIT, or RUSS courses or upper-division study abroad courses with approval of advisor.

• Italian studies: Students must select 18 hours including the capstone course from the following courses: ITAL 301, 302, 303, 304, 331, 332, 431, 432, and 491 or 496 (Capstone). Note: For ITAL 431 and 432, suggested prerequisites are two 300-level ITAL courses. Students must select 15 hours of electives from: Restricted electives— no more than three courses chosen from ARHS 114, ARHS 120, ARHS 331, HIST 201, HIST 205, HIST 480 and HIST 481. Unrestricted electives—two to five courses chosen from ARHS 160, ARHS 354, ARHS 360, CLAS 231, CLAS 232, FCLT 240, FCLT 340, HIST 204, HIST 330, HIST 331, HIST 400, HUM 109, ITAL 300- or 400-level courses not taken for part A; also ITAL 371 (Italia dal vivo), LING 311. Special topics and/or study abroad courses in various fields will also qualify as electives, upon approval of the IS coordinator.

Residency Requirements
Students completing a major in foreign languages/foreign language studies at WVU must fulfill a residency requirement of 15 credit hours on campus in their language/area of study, excluding courses numbered 100, 101, 102, 200, 203, 204, 493, and courses obtained through credit by examination.

Grade Point Average
Foreign language majors must achieve a minimum grade point average of 2.25, both overall and in the major, to qualify for graduation. They must also satisfy University General Education Curriculum and Eberly College of Arts and Sciences requirements and earn a total of 128 hours of credit.

Other Coursework/Second Majors/Minors
Students are strongly encouraged to work closely with advisors and faculty in the department to select cognate courses, second majors, and/or minors (such as history, political science, humanities, geography, sociology, and/or business and economics) that will complement their work in foreign languages and lead to meaningful career options. Students wishing to teach should contact the College of Human Resources and Education to inquire about the requirements for teacher certification.

B.A./M.B.A. Degree Combination
Students seeking to enter the world of international business have the opportunity of completing, in just five years, a dual degree program: Bachelor of arts in foreign languages and a master of business administration offered by the College of Business and Economics.

The College of Business and Economics will admit undergraduate foreign language students into the 48 credit hour MBA program who:
• Graduate with a B.A. in foreign languages with an overall GPA of 3.0 or higher,
• Complete the GMAT exam by March 1st of the senior year with a score that falls within the range of other applicants for that admission year (generally 450 to 700);
• Complete the following courses below with no grades lower than a C and a GPA of 3.0 or higher:
  CS 101 Introductory Computer Science—GEC Objective 2C
  MATH 150 Calculus—GEC Objective 2A
  ACCT 201 Principles of Accounting
  ACCT 202 Principles of Accounting
  ECON 201 Principles of Microeconomics—GEC Objective 4, 8
ECON 202 Principles of Macroeconomics—GEC Objective 4, 8
ECON 225 Elementary Business/Economics Statistics or
STAT 211 Elementary Statistical Inference
BCOR 330 Information Systems/Technology
BCOR 340 Business Finance
BCOR 350 Principles of Marketing
BCOR 360 Operations/Quantitative Business Methods
BCOR 370 Managing Individuals and Team

For more information, contact Catharine Thieme at catharine.thieme@mail.wvu.edu or (304) 293-6514 or Bonnie Anderson at bonnie.anderson@mail.wvu.edu.

Programs Abroad
The Department of Foreign Languages regularly offers language courses abroad. Currently, summer courses are offered in Argentina, Brazil, China, France, Germany, Italy, Spain, and Taiwan. Students participating in a summer program normally register for six credit hours. Contingent upon funding and faculty availability, the department will offer similar programs in future years.

Minor
Students may complete an academic minor in Chinese studies, foreign cultures (FCLT)/foreign literature in translation (FLIT), French, German, Italian studies, Japanese, linguistics, Russian studies, Spanish, and teaching English as a second language (TESL).

Requirements for all minors in the Department of Foreign Language: Students must achieve a GPA of at least 2.25 in the coursework for the minor, and they must complete at least six of the upper-division hours on campus (exclusive of courses numbered 493 or courses obtained through credit by examination).

- Requirements for the minors in French, German, and Spanish consist of a total of 15 hours of coursework beyond the intermediate level (203–204, or the equivalent) with at least nine hours at the upper-division level. The minor must include two of the following courses in the target language: 301, 302, 303, or 304; and nine additional hours. Students may take up to six hours in the target language at the 200-level (exclusive of courses number 200, 203, and 204). LING 311 may also be used as three of the additional nine hours.
- The minor in foreign cultures/foreign literature in translation require a selection of 15 hours of FCLT/FLIT courses, nine of which must be at the upper-division level. At least two different national literatures must be represented in the selection.
- The minor in linguistics requires LING 311, 411, 412, 511, and 514.
- The minor in teaching English as a second language (TESL) requires LING 311, LANG 322, LANG 421, LING 511, and one of the following: LING 512, 514 or LANG 422.
- The minor in Chinese studies requires 15 hours of coursework, as follows: nine hours from the following Chinese language courses: CHIN 301, 302, 303, 304, 461, 465, and upper-division study abroad courses; three hours of Chinese civilization and culture: FCLT 210; and three hours of electives from: 1.) Alternate upper division courses in Chinese language; or 2.) Alternate FLIT or FCLT courses in Chinese literature or culture; or 3.) Courses from another related field in or outside of the department, with approval of advisor.
- The minor in Italian studies requires 15 credit hours beyond ITAL 204. The minor must include six hours from the following: ITAL 301, 302, 303, 304, 331, 332 (ITAL 204 is a prerequisite for these courses), and three other courses chosen from the following: 1) Restricted electives: no more than six credits chosen from ARHS 114, 120, 331, HIST 201, 205, 480, 481. 2) Unrestricted electives chosen from: ARHS 160, 354, 360; CLAS 231, 232; FCLT 240, 340; HIST 204, 330, 331, 400; HUM 109; ITAL 293, 371, 431, 432, 493, 496, or other 300-level ITAL classes; LING 311; occasional special topics courses in various fields (upon approval of coordinator). Of the 15 hours, at least nine must be at the upper-division (300-400) level.
• The minor in Russian studies requires 15 hours of coursework, as follows: 12 hours from the following upper-division Russian courses: RUSS 301, 302, 303, 304, 331, 332, 341, 342 or 451; and three hours from the following: 1.) Any alternate upper-division courses in Russian; 2.) FCLT/FLIT courses, selected from FCLT 250, 280; FLIT 256, 257; or 3.) other electives with approval of advisor.

• The minor in Japanese studies requires 15 hours of coursework, as follows: 1.) Nine hours from the following Japanese language courses: JAPN 301, 302, 303, 304, 441, or upper-division JAPN study abroad courses approved by memo by the Japanese studies coordinator; 2.) Three hours selected from: FCLT 206 or FCLT 306; and 3.) Three hours selected from: HIST 426, LING 311, POLS 338 or 350, RELG 231; or any FCLT or FLIT courses with Japanese or JAPN in the title; or another elective approved by memo by the Japanese studies coordinator.

Endorsement in English as a Second Language (ESL)

The ESL endorsement is an 18-credit program for students who already possess or will be working towards teaching certification. The ESL endorsement requires LANG 322, LANG 421, LANG 422, LING 511, LING 514, and LANG 491.

Additional Points of Information

• Foreign language courses are divided into elementary, intermediate, and advanced levels. The elementary level, courses 101 and 102, provides beginning work in understanding, speaking, reading, and writing the languages, with emphasis on communicative competence. The vocabulary is limited to words of high frequency.

• The intermediate level, courses 203 and 204, continues training in the four basic skills, with greater emphasis on reading. The vocabulary is greatly extended, especially the passive or recognition vocabulary.

• In the advanced-level courses, 301, 302, 303, and 304, the four basic skills are further developed. All classroom questions and discussions are in the foreign language. The work is based on reading assignments followed by classroom discussions, oral drills, and written exercises.

• Courses numbered 100 are intensive and equal to courses 101 and 102.

• Students may receive credit for either course 101 and 102 or 100 but not for both.

• Courses numbered 200 are the intensive equivalent of courses 203 and 204. Students may receive credit for courses 203 and 204 or 200 but not both.

• The Department of Foreign Languages offers a credit by examination program for elementary and intermediate classes in Arabic, Chinese, French, German, Italian, Japanese, Portuguese, Russian, and Spanish only. Information about the program is available in the Department of Foreign Languages.

Forensic and Investigative Science

Keith Morris, Director
http://forensicgateway.wvu.edu/

Degree Offered

Bachelor of Science

Areas of Emphasis

Forensic Biology, Forensic Chemistry, Forensic Examiner

Nature of Program

The Forensic and Investigative Science (FIS) program comprises three areas of emphasis (forensic examiner, forensic biology, and forensic chemistry.) Each provides a strong background in the physical and biological sciences associated with forensic science. The program is fully accredited by the Forensic Education Programs Accreditation Commission (FEPAC).
Because of the unique nature of the program and forensic science employment, strict policies and procedures apply related to issues that could affect a student's ability to obtain a background check. These policies are available from the program office and faculty.

Admission Requirements
Students interested in the FIS program will be admitted as pre-program majors as freshmen and sophomores. Outstanding freshman may be admitted as direct admits if they meet the requirements for admission to the Honors College. Strong high school preparation in biology, chemistry, physics, algebra, trigonometry, and pre-calculus is recommended. Computer literacy is essential. Students who wish to enter the program must apply for admission and must have completed or be enrolled in courses listed below under the pre-program requirements. Because of the individualized instruction in classrooms, laboratory courses, and internships, enrollment is limited. Applicants must have a minimum cumulative GPA of 2.75 in the pre-program requirements and no less than a C in any course. In addition to the program application, other requirements include a letter of recommendation focusing on personal integrity and character and an extensive written assignment. In accordance with the unique nature of the program, a statement related to a drug-free lifestyle and zero criminal history is required. Following the submission of all appropriate application materials, the Forensic Science Admissions Committee will interview qualified students. Admission to the limited number of places in the three FIS areas of emphasis will be on a competitive basis. Prior to applying for acceptance into the major (typically done at the end of the sophomore year), transfer students must have completed or be in the process of completing a one-year residency at the WVU Morgantown campus. Students must have completed or be enrolled in FIS 201 Introduction to Forensic Science. Additional information and criteria for selection are available from the program areas.

Degree Requirements
The first two years of study are virtually identical to that taken by biology, chemistry, and other majors allowing for easy transition to one of these majors should the student elect not to pursue a degree in forensic science. The final two years are composed of specific courses related to the chosen area of emphasis as well as courses taken by all FIS students. Courses taken by all students include FIS 314, 401, 404, 406, 410, and 480. A four-year plan of study for each area of emphasis is available from the academic advisor.

Required Pre-Program Coursework
Pre-program courses that must be taken prior to application to the program are: BIOL 115, 117, and 219; CHEM 115, 116, 233, 234, 235, 236; ENGL 101 and 102; MATH 155 (or MATH 153 and 154) and 156; PHYS 101 or PHYS 111 and PHYS 102 or PHYS 112; SPA 270; STAT 215; and FIS 201. Students interested in the forensic chemistry option are strongly encouraged to take the PHYS 111/112 series. They should also complete PHYS 102/112 by the end of the sophomore year. If students are interested in the forensic chemistry track, they are strongly encouraged to visit the program advisor in 208 Oglebay Hall during their freshman year.

Internship
Early in the semester following acceptance into the major, the student will submit an application for placement in an approved internship site. Few, if any, internships are available in Morgantown. The internship coordinator will submit the student’s internship application materials to the requested site(s) for review. The host agency reserves the right to reject any student’s application. The length of internships must be a minimum of 420 hours. Although some internships may be paid, most are not, and students must plan to have the resources necessary to support themselves during this experience. The internship course is graded on the P/F scale. Students will register for six credit hours during the summer semester in which they are completing their internship.
Performance Requirements
Students must maintain a minimum overall GPA of 2.75 and complete all required courses each term with a grade of at least a C (or P in courses offered only on a pass/fail grading basis); required courses offered for a letter grade that students have chosen to take on a pass/fail basis cannot be applied to the degree. A student who does not meet these requirements may be placed on probation, suspended, or dismissed from the program. The forensic and investigative science program reserves the right to suspend or dismiss any student who does not perform at an overall level considered satisfactory. WVU reserves the right to modify the program as needed. Students should work closely with the program’s advisor when registering for courses to assure that program requirements are being met.

Program Courses Required After Acceptance into Forensic and Investigative Science Program
Forensic Biology Area of Emphasis
BIOL 310, 324/325, 432, CHEM 215, STAT 316
Must also take two of the following elective biology courses: BIOL 410, 411, 441, or 464

Forensic Chemistry Area of Emphasis
CHEM 215, 310, 313, 335, 460, 463, and STAT 316

Forensic Examiner Area of Emphasis
FIS 301, 302, 304, 335, 402, 409, 480
Must also take one elective course from the following: BIOL 324, CHEM 215, CHEM 460

All Areas of Emphasis
AGBI 410, FIS 314, 386, 401, 404, 406, and 410

Geology and Geography
J. Steven Kite, Chair
Helen M. Lang, Associate Chair in Geology
Timothy A. Warner, Associate Chair in Geography

Degrees Offered
Bachelor of Arts
   Majors: Geography, Environmental Geoscience

Bachelor of Science
   Major: Geology

Geology
http://www.geo.wvu.edu/geology/undergrad

Nature of Program
The bachelor of science degree in geology is designed for students interested in geology positions within either the private or public sector, as well as for students who will pursue graduate work. Qualified students are encouraged to seek a graduate degree; however B.S. geologists who have developed solid technical and communication skills have excellent employment prospects in the energy industry and environmental and geotechnical firms.

Instructional facilities and equipment include laboratories for mineralogy, petrology, geochemistry, sedimentology, paleontology, hydrogeology, geophysics, geomorphology, structural geology, and excellent computer facilities. Field studies are stressed in upper-level classes, capped by a six-credit field course examining folded and faulted sedimentary rocks as well as igneous and metamorphic rocks in South Dakota, Wyoming, and Montana. A wide variety of resources are available to augment classroom learning, including cooperative research programs with the West Virginia Geological and Economic Survey, the National Energy Technology Laboratories of the U.S. Department of Energy, the West Virginia Department of Natural Resources, Monongahela National Forest, and numerous private geoscience firms. Internships are encouraged to broaden the learning experience and to enhance employment prospects.
Degree Requirements
Candidates for the bachelor of science in geology are required to take a total of 42 hours of geology courses (excluding GEOL 203 and 351). Students are urged to take supporting courses in such fields as geography, mining and petroleum engineering, hydrology, soil mechanics, soil science, biology, and computer science, depending on their primary interest within geology. Students planning to attend graduate school in geology or seek employment in the energy industry should complete a full year of calculus.

Required Courses for a B.S. with a major in geology: GEOL 101 and 102, or 110 and 111 (or GEOG 110 and 111), 103, 104, 284, 285, 311, 321, 331 or 454, 341, 404, 462 or 463, and six hours of upper-division geology electives; CHEM 111 and 112, or 115 and 116; PHYS 101 and 102, or 111 and 112; STAT 211; MATH 126 and 128; MATH 155 (or MATH 153 and 154) and GEOL 351, or MATH 155 (or MATH 153 and 154) and 156.

An average of at least 2.0 must be attained in required upper-division geology courses. Each student must successfully complete a W course in GEOL to fulfill the university writing course requirement.

Minor in Geology
Students interested in a geology minor are urged to contact the department.
Requirements for the minor: 16 hours of geology courses including GEOL 101 and 102, or GEOL 110 and 111, are required. Nine hours must be upper division. Students must achieve a grade point average of at least 2.0 in all geology courses. Courses graded pass/fail may not be applied toward the geology minor.

Environmental Geoscience
Bachelor of Arts
The B.A. in environmental geoscience is a joint program in the Department of Geology and Geography for students interested in geological and geographical approaches to environmental issues. Emphasis is placed on the physical, human, and spatial aspects of Earth and its environment. The broad and interdisciplinary nature of the degree program is designed to produce geoscientists who can identify environmental problems, apply a variety of approaches to their remediation, and be conversant among the wide range of disciplines for which the environment is of special concern.

The course requirements for the degree reflect the diversity of environmental problems that we face today from the atmosphere (air pollution), to the hydrosphere (water pollution), to the lithosphere (ground pollution), and how these problems affect our quality of life. The courses required for the degree also reflect the increased demands placed upon modern environmental scientists that include being able to recognize and understand the sources and impacts of various pollutants within the physical environment, being able to compile and analyze environmental data, understanding the regulatory aspects of environmental protection, and being able to effectively communicate issues of importance with other environmental scientists and with the general public.

Graduates of this program will find employment in a wide array of fields including the assessment and remediation of environmental problems, land-use planning, geographic information systems, involvement in the legislative process by which laws are formulated to protect the environment, the application of such laws as part of a federal or state regulatory agency, or as a member of the journalistic community using the various methods of mass communication to increase the public awareness of situations that adversely affect the environment.

Geology and Geography Courses
The program requires a total of 128 hours for graduation. A minimum of 38 hours must be taken from the following list of geology and geography courses including the 23 required hours plus a minimum of 15 hours at the 200, 300, or 400 level selected from the elective list. One of the geology/geography elective courses must be a designated methods course. No more than 50 hours of geology/geography courses can be used for the B.A.
The selection of courses from the following lists is designed to provide competence within four important areas of understanding required for an environmental geoscientist:
1) A firm understanding of the physical makeup of the environment including the atmosphere, the hydrosphere, and the lithosphere; 2) A familiarity with the tools with which the environment can be described and evaluated; 3) An understanding of how humans have impacted the environment, and 4) The steps that can be taken to protect the environment and, if already adversely affected, what can be done to ameliorate the problem.

**Required Courses** (23 hours): GEOL/GEOG 110, 111 (or GEOL 101, 102), 103, 104, 200, 400*; GEOG 106, 107, 307.

**Elective Geology and Geography Courses** (15 hours): GEOG 150, 205, 207, 300#, 305, 350#, 407#, 415, 453, GEOL/GEOG 321, 452, 455#. GEOL 203, 365, 463, 484, 488

**Required Courses Outside the Department** (14 hours): CHEM 111, 112, or 115, 116 or CHEM 111 and PHYS 105; MATH 126, 128.

*Used to fulfill the college writing course requirement.
#Methods courses.

**Electives Non-Geology/Geography** (12 hours): ARE 187, 220, 382; AGRN 202, 203, 455; BIOL 101, 102, 103, 104, (or 115, 117), 105, 106; CHEM 231; CS 101, 110; FMAN 212; HIST 284; MATH 150, 155; POLS 338; STAT 211, 312.

^Credit cannot be obtained for both MATH 150 and MATH 155. MATH 155 may be replaced by MATH 153 and 154.

**Geography**
http://www.geo.wvu.edu/geography

**Nature of Program**
The undergraduate major in geography provides students with the knowledge and skills needed to analyze the variation in human activity that exists among places, regions, and countries. This knowledge allows geographers, for example, to explain why some places are more or less developed than others, to suggest ways in which development can be planned, and to examine the relationship between the natural environment and human activities.

Geography students receive specialized training in one of the program’s four options: geographic information science (GISc), globalization and development, natural resources and the environment, and urban and regional planning. An individualized program of study is also available combining elements of the four options. Geography graduates are qualified for many careers in both the private and public sectors. In industry, geographers are hired as geographic information system analysts, business location researchers, environmental impact consultants, market analysts, and cartographers. In government, geographers work as local urban planners, regional and state economic development specialists, environmental and resource development analysts, land-use planners, international development agency advisors, teachers and trainers, researchers, cartographers, as well as geographic information system analysts. Some graduates may also use their training to pursue careers as environmental or community activists in non-profit organizations. Finally, many geography students go on to graduate school to obtain further training, most commonly in geography or planning, but also in fields as diverse as law, information science, and environmental studies.

**Admission and Degree Requirements**
- Admission to the geography program requires a cumulative grade point average of at least 2.0 and an average of at least 2.0 in geography courses. The geography major requires a total of 128 hours, including 33 hours of geography courses.
- Core requirements (14 hours): GEOG 102, 106, 107, 108, 150, and 199.
- Core elective requirements (choose three hours): 205, 209, 210, 240.
- Methods and applications (choose three or four hours): GEOG 350, 462, 455, 407.
- Capstone Course: 496.
Areas of Emphasis

Geographic Information Science (GISc)

This option provides a foundation in the theory and practice of geographic data handling, emphasizing the use of computer systems for storing, retrieving, analyzing, and displaying spatial information. Geographical analysis of human and natural environments generates information for decision-makers in business, government, and educational settings using contemporary technology such as geographic information systems (GIS), image processing of remotely sensed data, and geographical models. The GISc option provides instruction in the capture of data from field survey, aerial photography, satellite imagery, and other digital sources. The significance of spatial patterns and processes are understood through mapping, computer-oriented techniques, and statistical applications. The department has state-of-the-art laboratories and computer software for practical training and education in GIS and remote sensing.

Recommended Courses: GEOG 300, 350, 415, 452, 453, 455, and 462
Suggested courses in other disciplines: FOR 140, 326; MATH 155 (or MATH 153 and 154), 156, 251, 261; STAT 211, 215, 312, 331, 421, 445; CS 101, 110, 111, 220, 210, 330, 415, 440, 470; HIST 284; ART 111, 112, 223; CE 200, 205, 405; PHYS 108.

Natural Resources and Environment

A rapidly expanding interest in the environment and sustainable development has put geographers in a good position to analyze the destruction of, and measures to maintain environmental systems. This option emphasizes the interaction between natural resources, the physical environment, and economic development in developed and developing regions. It provides training for students interested in problems concerning the conservation of natural resources, environmental impact and economic development, and strategies for sustainable resource utilization. Geographical information science, remote sensing, and cartographic training is available for analyzing environmental problems resulting from the exploitation and management of energy, mineral, land, and water resources. Theoretical issues concerning political ecology are also provided.

Recommended Courses: GEOG 110 and 111, 300, 307, 321, 407, 411, 415, 455, 491. Suggested courses in other disciplines: GEOL 101, 102, 103, 104; BIOL 363; CHEM 111, 112; CE 200; ENGL 305; FOR 140, 326; HIST 284; MATH 128; POLS 336, 338; STAT 101; CS 101.

Globalization and Development

The globalization and development option emphasizes rural, urban, and regional development in the United States, Africa, and Europe. Theoretical and practical issues in the study of development and underdevelopment are raised within the suggested courses. The training provided in this track will equip students with a background for careers or advanced study in economic development, sustainable development and policy, third world planning, urban social planning, gender studies, and policy formation. Students are exposed to issues such as social equity vs. efficiency, community development, uneven development, and gender studies. In addition, students are strongly encouraged to participate in the internship program to gain practical experience in planning and regional development.

Recommended courses (include, but are not limited to): GEOG 209, 210, 411, 412, 425, 443, 491, and a regional course from 240, 241, 243, or 244. Suggested courses in other disciplines: ECON 461; 462; POLS 220; SOCA 322, 323, and 405.

Urban and Regional Planning

The planning focus within this option prepares students to participate in the social processes that influence contemporary urban and regional development. The training provided in this track will equip students with a background for careers or advanced study in urban and regional planning, economic development, sustainable development and policy, third world growth, urban social planning, gender studies, rural planning, and policy formation. More importantly, students are strongly encouraged to participate in the internship program to give them practical experience in planning and regional development.
Recommended Courses: GEOG 209, 210, 411, 412, 425, 443, 491, and a regional course from 240, 241, 243, or 244. Suggested courses in other disciplines: ECON 461; 462; POLS 220; SOCA 322, 323, and 405.

Individualized Program of Study
With the approval of the undergraduate coordinator, a student may design an individualized program of study consisting of a minimum of 33 hours of geography courses. The individualized program is arranged with the student’s advisor. It shall include no more than six hours of GEOG 491 and 492.

Internship
An internship is a field-based academic option that uses the workplace as an extended classroom/laboratory. As part of the internship, students usually spend summer months or a semester working at a public agency, private business, or non-profit organization where they are supervised by experts in such areas as GIS, planning, the physical environment, international affairs, or economic development. The professional learning experience is recommended for majors in geography with at least 45 total credit hours and 12 credit hours in geography. See the geography internship advisor for additional information.

Geography Minor
Any student admitted to a degree program at WVU may complete a minor in geography. The minor consists of 15 hours of coursework with a minimum of nine hours at upper-division level (course number 300 or above). The geography minor is available in five areas: geographic information science (GISc), urban and regional planning, natural resources and environment, and an individualized program. Students must achieve a GPA of at least 2.0 in the 15 hours taken for the geography minor. Requirements include GEOG 102 or 108, 107, and nine additional hours in courses related to the student’s specific area.

Honors Program
Qualified students in geography are encouraged to participate in the department’s honors program, which begins in the senior year and culminates in an individual senior thesis. Entry requires a 3.3 overall GPA.

History
Elizabeth Fones-Wolf, Chair
Joseph Hodge, Assoc. Chair
Matthew Vester, Director of Undergraduate Studies
James Siekmeier, Phi Alpha Theta Advisor
http://history.wvu.edu/

Degree Offered
Bachelor of Arts

Program Objectives and Goals
The Department of History offers courses focusing on a variety of world regions and time periods. Degree requirements insure that majors obtain an acquaintance with the history of several such regions and periods and develop skills in research and writing. Majors and non-majors may qualify for membership in Phi Alpha Theta, the national history honorary.

Admission Requirements
Students who meet University admission requirements and are in good standing may be directly admitted to the history major.
Major Requirements
1. History majors must complete a total of 33 hours in history courses.
   • They must choose 12 hours from the following introductory courses: HIST 101, 102, 104, 105, 106, 108, 152, 153, 179, 180, 271, and 272.
   • They must complete HIST 484.
   • Eighteen additional hours beyond the introductory courses with nine hours each from two of the following three areas: United States; Europe; Africa, Asia, and Latin America.
   • At least nine of the 18 hours must be at the 300 and 400 levels.
   • One course must be taken in African, Asian, or Latin American history.
2. Students must complete a concentration of at least 15 hours in a field outside of history.
   • Nine of these hours must be at the 300 or 400 levels. This may be a formal University minor or students may, with the approval of their advisor and the director of undergraduate studies, create a thematic concentration that is either interdisciplinary or composed of courses from a single discipline.
   • Only courses in which the student earns a grade of C or better can be applied to fulfill this requirement.
3. History majors must maintain a cumulative 2.2 GPA for all courses in the department to graduate with a major in history. Courses in history that the student wishes to count toward the major must be completed with a grade of C or better. The minimum requirement for a major in history is 33 hours. A maximum of 42 hours in history may be counted toward the 128 credits needed for graduation.

Minor in History
Any student may take a minor in history. A minor consists of any 15 hours of courses in history. Six hours should be chosen from the following introductory courses: HIST 101, 102, 104, 105, 106, 108, 152, 153, 179, 180, 271, and 272. A minimum of nine hours should be selected from other history courses at the 300– or 400–level. Students are advised to design their own history minor to complement studies in their major. Only course grades of C or better can be applied to this minor.

Career Prospects
The bachelor of arts with a major in history is designed to prepare students for careers in teaching, business, and government, and for graduate work in history, law, and related social sciences and humanities.

Program in the Humanities
Ralph Clark, Coordinator

No Degree Offered

Nature of Program
The study of the humanities is the study of our effort to understand ourselves through history, literature, religion, philosophy, and fine arts. It is also the study of our effort to comprehend the masterpieces of the past and present as we seek to deepen our understanding of ourselves and our culture: what we are, why we are, and what our options for significant life are.
Individualized Major Program
Katherine Karraker, Coordinator
http://eberly.wvu.edu/majors_minors/individualized_major

Degree Offered

Bachelor of Arts
Major: Interdepartmental Studies

The individualized major program provides highly motivated undergraduate students with an opportunity to complete an individually tailored program when their educational aims fall between established department or program boundaries. Students interested in this program should first explore the possibility that their aims can be met through a combination of established majors and minors, or through the Multidisciplinary Studies Program (http://mds.wvu.edu/). The Multidisciplinary Studies Program allows a student to combine three minors to create an interdisciplinary major.

An individualized major involves two or more academic areas, at least one of which must be in the Eberly College. The major program should be planned so that the academic depth and rigor meets or exceeds that of a traditional major. Since its approval in 1972, the individualized major program has attracted a number of interesting and challenging student proposals. Representative examples include a program in religious studies including courses in both religious studies and communication studies, a psychobiology program focused on the integration of knowledge about the physiological and psychological mechanisms involved in learning, and a European culture program which combined elements from the Departments of History, Foreign Languages, and Political Science.

The individualized major program is administered by Katherine Karraker, the assistant dean for undergraduate studies of the Eberly College of Arts and Sciences. Students interested in pursuing an individualized major should read the information at http://eberly.wvu.edu/majors_minors/individualized_major carefully and then make an appointment to meet with Dean Karraker (Katherine.Karraker@mail.wvu.edu or (304) 293-4611) to discuss their goals and the procedures they will need to follow to develop their program. Students should obtain approval for their major program no later than the end of their sophomore year as they are normally expected to embark on this program by the beginning of their junior year. This program may not be used to “patch together” courses already taken to create an individualized major. More information about this program and the application process is available at http://eberly.wvu.edu/majors_minors/individualized_major.

Industrial Mathematics and Statistics
Edgar Fuller, Mathematics Chair
E. James Harner, Statistics Chair
http://www.math.wvu.edu/mathstat/index.html

Degree Offered

Bachelor of Science
Major: Interdepartmental Studies

Nature of the Program

The curriculum in industrial mathematics and statistics (IMS) provides students with the critical skills and knowledge needed to apply both statistics and mathematics to industrial and scientific problems. IMS is concerned with the mathematical, statistical, and computer modeling of various physical, biological, and social processes. Graduates will be trained to work in business, industry, and government, or they will be able to pursue a graduate degree in any of the mathematical sciences. Industrial mathematics and statistics is vital to our economic competitiveness and is critical to the development of our increasingly scientific/technological society.
Industrial mathematics and statistics is built on a foundation of differential/integral calculus, differential equations, applied probability, and statistics.

The mathematical tools encompass linear algebra, numerical analysis, continuous models rooted in differential equations, and discrete models linked to finite mathematical structures and Markov processes. Scientific computing extends the rudiments of programming into data visualization, the development of algorithms, and selected topics using high-level languages. Statistical topics especially relevant to industrial and scientific applications include design and analysis of experiments, statistical models, sequential analysis, reliability models, and time series analysis. These statistical methodologies are grounded in fundamental concepts of statistics and probability such as discrete and continuous probability distributions, stochastic processes, estimation and hypothesis testing, and exponential family models.

**Performance Requirements**
To maintain major status and to graduate, students must maintain at least a 2.0 overall GPA and a 2.0 cumulative GPA in coursework in mathematics and statistics.

**Degree Requirements**
A total of 128 hours is required for graduation. The following background courses are required (19 hours): MATH 155 (or MATH 153 and 154), 156, 251, 261, and STAT 215. The IMS program has the following core courses (12 hours) that all students must take: MATH 441; STAT 312 and 461; MATH 464 Mathematical Modeling.

The student then has the option of selecting mathematics or a statistics emphasis (nine hours):

- **Mathematics Emphasis** MATH 420 plus one mathematics and one mathematics or statistics course from the list of recommended electives below, or other department-approved courses.
- **Statistics Emphasis** STAT 313 and STAT 445 or STAT 462 plus one mathematics or statistics course from the list of recommended electives below, or another department-approved course.

The required capstone experience for the IMS program requires the following courses:
one hour of STAT 482 or MATH/STAT 491 or MATH/STAT 495; one hour of MATH/STAT 494; one hour of MATH/STAT 496. These courses should be taken during the student's senior year.

Students must also satisfy all requirements of the college's bachelor of science. For IMS students interested in computer science, the following normally restricted courses are available to IMS majors: CS 110, 111, 210, 220, 250, 320, and 330.

**Recommended Electives**
The recommended electives in mathematics and statistics are: MATH 283, 364, 420, 456, and 465; MATH/STAT 222; STAT 217, 313, 316, 331, 421, 445, and 462.

**International Studies**
Joe D. Hagan, Director
http://internationalstudies.wvu.edu/

**Degree Offered**
*Bachelor of Arts*
*Major: International Studies*

**Nature of the Program**
The international studies major is composed of internationally oriented courses drawn from several disciplinary and interdisciplinary study areas. Students take courses from such departments as economics, foreign languages, geography, history, political science, and sociology.
Admission Requirements
Admission to the degree program may be requested upon completion of 58 hours with a cumulative grade point average (GPA) of at least 2.0.

Degree Requirements
Students majoring in international studies initially take a variety of general introductory core courses (including a foreign language) and then focus on a specific area of emphasis with more advanced courses.

Introductory Core Courses The introductory core is intended to introduce students to various perspectives on international affairs and prepare them for advanced study in the major. Required: ECON 201 and 202; INTS 199; Nine hours (three courses) from the following courses: ENGL 139; FLIT 113, 114, 115, 116, 117, 118; GEOG 102, 107, 108; HIST 102, 104, 105, 106, 108, 180; HUM 105, 120; MDS 126; POLS 103, 250, 260; SOCA 105.

Area of Emphasis Majors are required to select an area of emphasis for specialized advanced study. The international studies program offers two types of areas of emphasis: regional tracks and global affairs tracks. Although students typically choose a single area of emphasis among either the regional or international tracks, it is possible and often valuable to combine an international track with a track on a specific geographical region.

Regional Areas of Emphasis Offered in the program are Africa/Middle East, the Americas, Asia, and Europe. Students pursuing a regional area of emphasis are expected to pursue extensive language training at the advanced level and take courses dealing with the culture, politics, and history of the region as well as its social and economic problems. Foreign study is strongly encouraged as part of each area of emphasis and such coursework is typically counted towards the major's requirements. Each area of emphasis provides expertise necessary for government or private sector careers centered around a broad understanding of a particular geographical region.

The requirements for the regional area of emphasis are as follows:

- **Africa and the Middle East Required**: FRCH 301 and 302; or GER 301 and 302. Twelve hours (six courses) from the following courses: ECON 451, 454, 455; FRCH 303, 304; GEOG 215, 302, 310; GER 303, 304; HIST 464; POLS 360, 361, 362, 363, 364, 365, 368; SOCA 322; WMST 245. Eighteen hours (six courses) from the following courses: FLIT 239; GEOG 243, 411; HIST 427, 428, 429, 430, 433, 434; MUSC 477; POLS 356, 358; RELG 232; SOCA 256.

- **The Americas Required**: SPAN 301 and 302. Twelve hours (four courses) from the following courses: ECON 451, 454, 455; GEOG 215, 302, 310; HIST 463, 464; POLS 360, 361, 362, 364, 365, 368; SOCA 322; SPAN 303, 304; WMST 245. Eighteen hours (six courses) from the following courses: FLIT 251, 252, 239, 271; GEOG 240, 411, 466; HIST 241, 242, 409, 410; POLS 355, 367; SOCA 255; SPAN 330, 331, 332, 431, 461, 462.

- **East Asia Required**: CHIN 301, 302; or JAPN 301 and 302. Twelve hours (four courses) from the following courses: CHIN 301, 302; ECON 451, 454, 455; GEOG 302, 310; HIST 463, 464; JAPN 303, 304; POLS 361, 364, 368; WMST 245. Eighteen hours (six courses) from the following courses: FLIT 216, 217, 221, 222; GEOG 411; HIST 425, 426; PHIL 350; POLS 350, 354, 369; RELG 231.

- **Europe Required**: FRCH 301 and 302; or GER 301 and 302; or ITAL 303 and 304; or RUSS 301 and 302; or SPAN 301 and 302. Twelve hours (four courses) from the following courses: ECON 451, 454; FRCH 303, 304; GEOG 215, 302, 310; GER 303, 304; HIST 464; POLS 360, 361, 362, 364, 365, 368; RUSS 303, 304; SPAN 303, 304. Eighteen hours (six courses) from the following courses: FLIT 211, 212, 231, 232, 241, 242, 243, 261, 262, 263, 273, 274, 433, 434, 435; FRCH 331, 332, 432, 461, 462; GEOG 241, 411; GER 331, 332, 341, 361, 362, 433, 434, 435, 441; HIST 205, 207, 209, 217, 218, 221, 232, 410, 413, 414, 417, 418, 419, 420, 421, 422, 431, 432, 446; POLS 351, 352, 353, 366; RUSS 341, 342, 451; SPAN 340, 342, 441, 461, 462.
The global affairs areas of emphasis encompass five aspects of contemporary global affairs: international business, international development, international environment, and diplomacy and international security, and intelligence and national security. Coursework in these areas emphasize general international affairs courses as well as certain general skills courses that provide background into the more technical aspects of these issues areas. Along with appropriate study abroad programs, students in these areas are encouraged to pursue internships in the policy-making or business community in Washington, D.C., the United Nations, or in foreign countries. These five global affairs areas of emphasis are designed to provide the background for careers in government (e.g., the various national security bureaucracies as well as agencies dealing with development and the environment) and/or the private sector (e.g., multinational corporations as well as non-governmental agencies dealing with international policy issues).

The requirements for the global affairs tracks are as follows:

- **International Development Required:** GEOG 302; POLS 240, 300 or SOCA 311; STAT 211. Twelve hours (four courses) from the following courses: ACCT 201, 202; ECON 451, 454, 455; GEOG 215, 310; HIST 464; POLS 360, 361, 362, 363, 364, 365; SOCA 322; WMST 245. Eighteen hours (six courses) from the following courses: GEOG 243, 244, 411, 412, 466; HIST 242, 409, 411, 425, 428, 430, 433, 434; POLS 354, 355, 356, 358; SOCA 255, 256.

- **International Business Required:** ACCT 201, 202; ECON 225, 451, 454. Twelve hours (four courses) from the following courses: ECON 455; GEOG 215, 302, 310; HIST 464; POLS 360, 361, 364, 368; SOCA 322; WMST 245. Nine hours (three courses) from the following courses: FRCH 461, 462; GEOG 240, 241, 243, 244, 309, 411, 412, 466; GER 361, 362; HIST 209, 214, 218, 221, 242, 409, 410, 411, 414, 418, 420, 422, 425, 426, 428, 430, 433, 434; POLS 350, 351, 353, 354, 355, 356, 358, 369; SOCA 255, 256; SPAN 461, 462.

- **International Environment Required:** BIOL 105; GEOG/GEOL 110; POLS 361. Fifteen hours (five courses) from the following courses: ECON 451, 454, 455; ENVP 155; FOR 425; GEOG 205, 215, 302, 310, 415; POLS 338, 360, 361, 363, 364, 365, 368; WMAN 150; WMST 245. Twelve hours (four courses) from the following courses: GEOG 240, 241, 243, 309, 411, 412; HIST 209, 214, 218, 221, 242, 409, 410, 411, 414, 418, 420, 422, 425, 426, 428, 430, 433, 434; POLS 350, 351, 353, 354, 355, 356, 358, 367, 369; SOCA 255, 256.

- **Diplomacy and International Security Required:** GEOG 302; POLS 300 or SOCA 311, POLS 368; STAT 211. Twelve hours (four courses) from the following courses: ECON 451, 454, 455; HIST 463, 464; POLS 359, 360, 361, 362, 363, 364, 365, 366; SOCA 345; WMST 245. Twelve hours (four courses) from the following courses: FRCH 301, 302; GEOG 240, 241, 243, 244; HIST 209, 214, 218, 221, 242, 409, 410, 411, 414, 418, 420, 422, 425, 426, 428, 430, 433, 434; POLS 350, 351, 352, 353, 354, 355, 356, 358, 369; SOCA 255, 256.

- **Intelligence and National Security Required:** POLS 301; POLS 302, POLS 362, POLS 365; or ARBC 310, and 302; CHIN 301 and 302; FRCH 301 and 302; or GER 301 and 302; or ITAL 303 and 304; JAPN 301 and 302; or RUSS 301 and 302; or SPAN 301 and 302. Twelve hours (four courses) from the following courses: ECON 451, 454; GEOG 215, 302, 310; HIST 463, 464; POLS 310, 339, 359, 360, 361, 363, 364, 368, 461; SOCA 345; WMST 245. Twelve hours (four courses) from the following courses: GEOG 240, 241, 243, 244; HIST 209, 214, 218, 221, 242, 409, 410, 411, 418, 420, 422, 425, 426, 428, 430, 433, 434; POLS 350, 351, 353, 354, 355, 356, 358, 366, 367, 369; SOCA 255, 256.

**Academic Advising**

All international studies pre-majors and majors, including those enrolled in the University Honors Program, are advised by designated faculty in the international studies program.
Options: Internships and Study Abroad
Students are strongly encouraged to take advantage of opportunities for professional internships and study abroad, which may be undertaken for academic credit (often fulfilling specific course requirements for the major) with the approval of students’ designated international studies advisors. Through internships, students gain first-hand knowledge of private and business organizations engaged in international social, economic, and governmental affairs. To experience another society and in many cases to improve their foreign language capabilities, students may also study abroad for a summer, one semester, or an entire academic year. Interested students should consult their international studies advisor.

Minor in International Studies
Any student admitted to a major program other than international studies may complete a minor in international studies. Toward this minor, students must satisfy the following requirements:

- Completion of one upper-division course (three hours) outside the discipline of the major, selected from the advanced core cluster of courses in international studies: ECON 451, 454; GEOG 302, 310; HIST 463, 464; POLS 250, 260, 364, 368.
- Completion of four upper-division courses (12 hours) outside the discipline of the major, in one of the following areas in international studies. In each area of emphasis, courses must be taken in at least three departments. This requirement is intended to broaden students’ awareness of their areas of emphasis in the minor, beyond the perspectives of single academic disciplines. For the purposes of international studies, all FLIT and foreign language courses are considered to be in one department.
  - Africa and the Middle East: ECON 455; GEOG 243, 411; HIST 427, 428, 429, 430, 433, 434; MUSC 477; POLS 356, 368; RELG 232; SOCA 256; WMST 245.
  - The Americas: ECON 455; FLIT 251, 252, 266, 271; GEOG 240, 411, 466; HIST 241, 242, 409, 410; POLS 355, 367; SOCA 255; SPAN 330, 332, 431, 461, 462, 494; WMST 245.
  - East Asia: ECON 455; FLIT 221, 222; GEOG 411; HIST 425, 426; PHIL 350; POLS 350, 354, 369; RELG 230, 231; WMST 245.
- To complete the minor successfully, students must achieve a grade point average of 2.0 in approved international studies courses. Courses graded P/F may not be applied to the international studies minor.

Leadership Studies
Lisa DeFrank-Cole, Director
http://leadershipstudies.wvu.edu/

Nature of Program
The leadership studies minor complements a traditional academic major by exposing students to leadership history and theory as well as giving them practical experience through experiential learning.

Scholarships
The study of leadership is supported by several scholarships and awards. These funds support academic and extracurricular enrichment activities to enhance the student’s
study, practice, and understanding of “mobilizing others to bring about sustained positive change,” the definition of leadership for this minor. They include the Milan Puskar Leadership Scholars Program, the Emma G. Noe Scholarship, the Johnathan M. Holifield Annual Leadership Lecture, the annual West Virginia Roundtable Susan and David C. Hardesty Jr. Leadership Scholarship, and WV Roundtable Robert R. Simpson, Jr. Leadership Scholarship. For more information about the application process please contact the Leadership Studies Office or check the website.

Minor Requirements
The leadership studies academic minor is an 18-hour program, composed of three core courses and three upper-division electives. Students must take the three Leadership core courses in sequence: LDR 201 Principles of Leadership; LDR 301 Problems in Leadership; LDR 401 Leadership in Action (capstone). All of the electives may be taken from LDR designated upper-level courses list. If not, the electives must be from at least two different fields. No more than three elective credit hours may be counted towards both a student’s major and minor requirements. To receive credit for the minor, students must earn at least an overall 3.0 GPA in the core courses and at least an overall 2.5 GPA in the electives.

Leadership minors choose from the following elective options: LDR 382, LDR 393, LDR 493, LDR 495, BUSA 330, BUSA 320, COMM 303, COMM 306, COMM 308, COMM 316, COMM 406, ENTR 334, ENTR 410, PHIL 321, PHIL 325, PHIL 346, POLS 310, POLS 316, POLS 321, POLS 337, POLS 365, SOCA 304, SOCA 337, SOCA 457, MANG 422, MANG 430, MANG 438, MANG 480. The following electives may be available to count towards the minor, based on a student’s major: BCOR 350, BCOR 370, BCOR 380, IENG 417, IENG 423, IENG 473, USAF 371, USAF 372, USAF 481, or USAF 482

Other substitute electives may be approved by the director of leadership studies. Contact the Leadership Studies Program for more details. When substitutions are approved, a copy of the approved petition for elective credit will be forwarded to the student’s academic department.

Mathematics
Edgar Fuller, Chair
http://www.math.wvu.edu/

Degrees Offered
Bachelor of Arts
Bachelor of Science

Nature of Program
The Department of Mathematics provides a curriculum with programs for:
• An undergraduate major and minor in mathematics.
• The pre-service elementary and secondary teacher.
• Students interested in the applications of mathematics to the fields of computer science, statistics, engineering, physical, natural and social science, and business and economics.
• The non-science major, to explain the ideals and objectives of mathematics.

Admission Requirements
To be admitted to the mathematics degree program, students must have at least a 2.0 overall grade point average (GPA); must have completed MATH 155 (or MATH 153 and 154), 156, and 283 with at least a grade of C in each; and must have at least a 2.5 GPA in all of the required mathematics courses attempted prior to the request for admission. MATH 283 should be taken no later than the sophomore year, and if that course has not been completed with a grade of at least a C, a student may request admission on a provisional basis; the petition should be addressed to the Mathematics Academic Standards Committee.
Degree Requirements

Mathematics majors must complete at least 39 hours of approved courses in the mathematical sciences, plus a capstone requirement. For the bachelor of arts degree and the bachelor of science degree, the required courses are: MATH 155 (or MATH 153 and 154), 156, 251, 283, 343 or 441, 222 or 420, STAT 215 or 461, and two additional upper-division courses. These two courses may be selected from those numbered above 200 with the exclusion of MATH 231, 331, 332, and 455. It may be possible to substitute one of the two additional courses with an upper-division course offered by another department. The content of such a course must be at an advanced level mathematically and its acceptability will require prior departmental approval.

In addition, for the B.A. degree, students must take at least one of MATH 261 and 378 and at least two from MATH 341, 381, 451, 456. For the B.S. degree, students must complete MATH 261 and 451 and take at least one course from MATH 341, 381, 456.

Students completing the B.A. program must complete WVU GEC requirements, Eberly College of Arts and Sciences B.A. requirements, major requirements (above), and electives to total 128 hours.

Students completing the B.S. program must complete WVU GEC requirements, Eberly College of Arts and Sciences B.S. requirements, major requirements (above), and electives to total 128 hours.

Successful completion of the major requires that the student receive at least a grade of C in each of the required mathematics courses presented for the degree, or a cumulative grade point average of at least 2.25 in the courses numbered above 200. Students may repeat an upper-division mathematics course for which the grade is lower than C (including a grade of W) only once. In this case, the second grade is used to compute the mathematics grade point average and determine whether the 2.25 average is satisfied. A student with a valid medical or emergency reason for failing to receive an acceptable grade in two attempts may petition the Mathematics Academic Standards Committee for permission to register a third time.

Recommended Electives

Students should choose a computer science elective so that they can achieve programming proficiency. Programming skills are a prerequisite for MATH 420. Elective courses are selected in consultation with a departmental advisor; they should be based on interests and goals.

Minor in Mathematics

Students who wish to pursue mathematics as a secondary field, either to support another major or to obtain deeper insight into mathematics itself, can receive a minor by successful completion of 24–25 hours of approved courses.

Two tracks lead to the minor. The corresponding required courses are:

- **Track One**: MATH 155 (or MATH 153 and 154), 156, 251, 283; at least one course chosen from among MATH 341, 343, 381, 451; two additional courses chosen from those numbered above 300 with the exclusion of MATH 331, 332, and 493, and the inclusion of STAT 461.
- **Track Two**: MATH 155 (or MATH 153 and 154), 156, 251, 261; at least one course chosen from MATH 375, 420, 456, and 465; and two additional courses chosen from those numbered above 300 with the exclusion of MATH 331, 332, and 493, and the inclusion of STAT 461.

The student’s interests and goals will determine which plan is most appropriate as well as which electives best meet these interests and goals. The choice should be made in consultation with the student’s major advisor; additional information may be obtained from one of the advisors in the Department of Mathematics.

Successful completion of the minor requires that the student receive a grade of at least a C in each of the mathematics courses presented for the minor, or a cumulative grade point average of at least 2.25 in these courses.
Placement into Mathematics Courses
To enroll in a freshman-level mathematics course, a student must demonstrate a satisfactory understanding of background material, either in the prerequisite courses specified in this catalog or by satisfactory performance on the Quantitative Reasoning Assessment (QRA). The QRA is given during orientation for freshman and transfer students. It is also given before classes begin each semester. Students intending to take the QRA before classes begin must register for the exam prior to the day the test is given. Sign-up can be done by visiting the department website. There is no fee for the exam. The QRA may only be taken twice during a four-year period. Students who do not meet the prerequisites will be dropped from their math class during the first week of classes.

Math Learning Center
The Department of Mathematics offers help to students in mathematics courses through its Math Learning Center, located in room 301 Armstrong Hall. The Math Learning Center is a free, drop-in help center for students enrolled in undergraduate math classes through calculus. Hours are posted at the beginning of each semester and announced in mathematics classes. The phone number is (304) 293-7273.

Multidisciplinary Studies Degree Program
Evan Widders, Coordinator
http://mds.wvu.edu/

Degree Offered
Bachelor of Arts (B.A.)
Bachelor of Multidisciplinary Studies (B.MdS.)

The multidisciplinary studies degree program is comprised of three related minors. The program does not limit students to courses of study in a particular college or school, but rather stresses the importance of breadth of knowledge and cross-disciplinary communication. The program emphasizes flexibility and combines specialized knowledge from individual disciplines with a unique ability to approach problems from divergent perspectives. Students learn to apply their minors to real-world problems and to apply multidisciplinary techniques in communicating the strengths of their self-chosen course of study.

Each student chooses three minor areas and must demonstrate how these areas work together toward his/her educational and/or career goals. For example, a student may choose the areas of business administration, sport and exercise psychology, and advertising, with the goal of a career in sports and special events, marketing/coordinating. MDS students participate in a capstone during their final semester, as a means to incorporate all three disciplines into a senior project, presentation, and paper.

Curriculum
The bachelor of multidisciplinary studies (B.MdS.) degree program requirements include the following:
- Completion of the General Education Curriculum
- Completion of ENGL 101 and 102, or 103
- Completion of a writing (W) course in addition to ENGL 101 and 102, or 103
- Completion of a mathematics course in addition to any additional math requirements of the selected minors
- Completion of three minors in which none of the courses has been used to satisfy General Education Curriculum requirements
- A grade of C or better in all minor coursework
- Completion of at least 60 credit hours of 200-level or above coursework. Of the 60 hours, 30 must be 300–400 level coursework
- Completion of the MDS 199 orientation course with a grade of C or better
- Completion of the MDS 492 capstone course with a grade of C or better
- Achievement of a cumulative grade point average of at least 2.0
- Completion of at least 128 credit hours
Students also have the option of earning a bachelor of arts (B.A.) degree with a multidisciplinary studies major. This option encourages students who choose multidisciplinary studies to couple foreign language study with University and MDS program requirements. This essentially provides a fourth area of concentration for B.A. students and aligns with national and institutional goals of producing international citizens.

Requirements for the bachelor of arts degree with a multidisciplinary studies major are:

- Completion of all requirements for the multidisciplinary studies degree program, listed above.
- Completion of the Eberly College of Arts and Sciences bachelor of arts requirements.

**Admission**

Admission to the program is possible after completion of at least 58 credit hours with a cumulative grade point average of at least 2.0. Students may not declare the MDS degree before completion of 58 credit hours. Admission and completion of the degree program are the result of an academic program articulated by the student with assistance from the student's academic advisor. The student must enroll in MDS 199 and develop a plan identifying three areas of study and explaining how the student intends to integrate the knowledge and skills from each area to formulate an educational and/or career goal.

**Special Policies**

The required MDS capstone course must be taken in the student's semester of graduation. An MDS student who is graduating in the summer may take no more than 14 credit hours in summer.

**Native American Studies**

Bonnie M. Brown, Coordinator

http://www.wvu.edu/~nas/earnnasminor.html

**Minor Offered**

*Native American Studies*

**Nature of Program**

The minor in Native American Studies is an interdisciplinary program offered within the Eberly College of Arts and Sciences. The curriculum is designed to develop greater respect for and understanding of Native views by providing historical and contemporary information about the diverse heritage of Native Americans.

Students who complete the NAS minor enhance their ability to think in nontraditional ways and interact more effectively with diverse populations. NAS students learn about the diverse cultures, languages, histories, and traditions of indigenous Americans, as well as the challenges and successes of Native nations in the 21st century. Experiential and hands-on learning, regular guest lectures by highly-regarded Native American leaders, authors, activists, and artists, and immersion-style courses are at the heart of the NAS curriculum.

**Admission Requirements**

Any student admitted to an undergraduate degree program at WVU may complete a minor in Native American Studies. An area of emphasis in NAS is available to Regents' Bachelor of Arts majors. Students who choose the NAS minor come from a variety of academic majors as far-ranging as business, engineering, art, English, history, anthropology, and health sciences, to name a few. NAS graduates put their minor to use in practical ways, such as in cultural resource management, education, law, health care, and government.
Degree Requirements

- Students must complete a total of 18 hours (this includes nine lower-division and nine upper-division hours), earning a grade of C or better in all coursework for the minor.

- The following three lower-division courses, which ALL help satisfy WVU GEC requirements, are required for the NAS minor: NAS 200 Introduction to Native American Studies (GEC 4/9); ENGL 156 Literature of Native America (GEC 5/9); and HIST 264 American Indian History (GEC 3/7).

- Students may choose from the following to fulfill the remaining nine hours: any upper-division NAS course, including 491, 493, and 495; ENGL 356, POLS 355, and other courses the NAS coordinator may approve in writing via memo to the student's major advisor.

Note: Students may not count more than three hours of NAS 495 toward the minor.

Of the upper-division courses listed, English 356, NAS 491, NAS 493, and NAS 495 are wholly focused on Native Americans; the other courses have a partial focus on Native Americans. NAS 493 special topics courses include such titles as: Eastern Woodland Indians; Lakota Studies; Contemporary Native American Issues; Research with Indigenous Peoples; American Indian Health; Native American Women in Leadership; Native American Filmmakers; Culture, Tradition, and the Sacred; Native Hawaiian Culture and History; Introduction to Moundbuilder Cultures; Cherokee Culture and History; Yup'ik Culture and History; Native American Material Culture and Practices; Navajo, Apache and the Southwest; Native Voices: Sites and Stories; PowWow Highway: Music and Dance; 2012: Myths of the Maya; and so on. Students should consult with the NAS coordinator to learn about other courses of interest and opportunities for additional academic exploration of Native American topics, such as HIST 442, ENGL 387, ARHS 307, etc.

Philosophy

Ralph Clark, Chair
http://philosophy.wvu.edu/

Degree Offered

Bachelor of Arts

Nature of Program

The Department of Philosophy is a small, academically vibrant, student-centered, undergraduate program. Our mission is to provide an outstanding, liberal arts education with all the advantages of a large research University.

Philosophy students are trained to understand and to respond both critically and creatively to philosophical problems, theories, and arguments. Philosophy students investigate fundamental questions that have puzzled human beings for ages. Philosophy deals with questions such as: What do we know and how do we know it? What is morally right and how should we live? What is the nature of the human mind and self? Is there a God and how might human beings know about God? What is the ideal form of government? What is the ultimate nature of reality?

The areas in which students receive instruction include logic, ethics, social-political philosophy, philosophy of law, theory of knowledge, philosophy of science, continental philosophy, metaphysics, history of ancient and modern philosophy, and philosophy of religion.

Because of the vigorous critical thinking students enjoy in a philosophy class, the study of philosophy provides a strong preparation for a wide range of careers including law, business, medicine, and journalism. Those who desire a career teaching philosophy in college will need the Ph.D. degree.

Philosophy is an especially strong major for students going to law school. We offer a pre-law area of emphasis within the philosophy major.

For students without any definite career plans, philosophy is an excellent major in that it provides skills essential for any career that requires clear communication, problem solving, strong writing, evaluation and/or creation of policies and procedures, comfort with complexity and disagreement, and careful and creative thinking.
Admission Requirements
Students who meet general admission requirements for the University are eligible to become pre-philosophy majors. Upon completion of 58 college credit hours with a grade point average (GPA) of at least 2.0, as well as a GPA of at least 2.0 in all courses completed in philosophy, students are eligible for admission to the degree program in philosophy.

Major Requirements
A degree in philosophy requires 30 hours in philosophy, including 18 hours of work at the 300 level or above. The following courses are required: PHIL 244, 248, 260, 301 or 302, 321 or 346, and 494 or 496. A grade of C or higher must be earned in required courses, and majors must possess at least a 2.0 average in all philosophy courses in order to graduate.

Students who decide to take PHIL 496 Senior Thesis, instead of 494 Junior-Senior Seminar should make arrangements with a faculty member during the semester preceding the one in which they plan to write the thesis. Only students who have a 3.7 average or higher in philosophy courses are eligible to write the senior thesis. Ability to enroll in PHIL 496 will depend upon the availability of a faculty member who is able to work with the student, the student’s level of preparation for successful completion of a thesis, and the student’s submission of an appropriate proposal for the thesis.

Minor in Philosophy
Any student admitted to an undergraduate degree program at WVU may complete a minor in philosophy. The minor is designed to acquaint students with a broad range of philosophical topics and skills, and to introduce them to the fundamental issues in philosophy. The minor consists of 15 hours in philosophy, with at least nine hours at the upper level (300 level or above).

Pre-Law Area of Emphasis in Philosophy
Philosophy is an excellent preparation for law school. The course of study for the pre-law area of emphasis includes all of the requirements for the philosophy major as well as PHIL 130, 323, and 325.

Physics, Astronomy, and Physical Science
Earl E. Scime, Chair
http://physics.wvu.edu/

Degrees Offered
Bachelor of Arts
Bachelor of Science

Nature of Program
There are two degree options for students in physics. The bachelor of science degree is designed for students committed to a career in research and is typically followed by graduate work in physics, chemistry, materials science, optical sciences, astrophysics, engineering, or in other physical sciences such as meteorology, oceanography, etc. Some students accept positions in industry or in a government laboratory immediately after completing the B.S. This degree program provides a comprehensive grounding in the fundamentals of physics and is usually accompanied by participation in one of the active research programs within the department.

The bachelor of arts degree is more flexible. By allowing more free elective choices, it prepares a student for a career that combines a science background with subsequent professional training. Typical career paths for this degree program include secondary education, medical school, patent law, forensics, health, physics, environmental engineering, journalism, government policy, and business management.
The courses in physics provide a mix of theoretical concepts and practical examples. Each course within a degree plan builds upon the knowledge base acquired in previous courses and, together, these courses allow a student to acquire the combination of physical insight and mathematical skill needed for success in today's demanding job markets.

The department also offers introductory survey courses in physics and astronomy that are of interest to a broad range of students in the social sciences, fine arts, humanities, health sciences, and education. These courses use a minimum of mathematics to introduce the principles of physics and they provide many examples from the "real world" of the environment, energy, space, communications, transportation, and medicine.

Admission Requirements

Admission to the B.A. and to the B.S. in physics programs requires, in addition to college requirements, at least a 2.5 GPA in all required introductory physics and mathematics courses (which must include PHYS 111, 112, MATH 155 (or MATH 153 and 154), 156, 251, and 261 or their equivalents).

Degree Requirements

The B.A. degree requires a minimum of 128 hours. This includes: 31 hours of University requirements (GEC and capstone); 12 hours of Eberly College of Arts and Sciences requirements (foreign language); and 54 hours in physics department requirements (30 in physics, eight in science, 16 in mathematics). Continuance in the program requires that the student maintain at least a cumulative 2.2 GPA in all physics and mathematics courses. Students may repeat any physics or mathematics course for which the grade is lower than C (including a grade of W) only once. In this case, the second grade is used to compute the GPA and determine whether the 2.2 GPA is satisfied. Specific course requirements are, in physics: Orientation 199 (physics section), PHYS 111, 112, 211, 314, 331, 333, 341 (2 hrs.), and six hours of electives. In mathematics: MATH 155 (or MATH 153 and 154), 156, 251, 261. In science: eight hours from biology, chemistry, computer science and/or geology. In addition students have at least 31 hours of unrestricted free electives that can be used to prepare for entry into a professional program (teaching, law, medicine, other physical sciences, for example) or into the job market.

The B.S. degree requires a minimum of 128 hours. This includes: 31 hours of University requirements (GEC and capstone); and 71 hours in physics department requirements (44 in physics, eight in one other science, 19 in mathematics). The student must maintain at least a 2.2 cumulative GPA in all physics and mathematics courses in order to continue in the program. Students may repeat any physics or mathematics course for which the grade is lower than C (including a grade of W) only once. In this case, the second grade is used to compute the GPA and determine whether the 2.2 GPA is satisfied. Specific course requirements are, in physics: Orientation 199 (physics section), PHYS 111, 112, 211, 314, 331, 333, 332 or 334, 341 (two semesters), 451, 461, plus nine hours of electives. In mathematics: MATH 155 (or MATH 153 and 154), 156, 251, 261, plus one three-hour elective. In addition, students have at least 26 hours of unrestricted free electives.

The areas of emphasis (AOEs) described below encourage students to tailor and expand on the basic B.S. physics degree requirements to develop specialized competencies in selected interest areas that span more than two disciplines. The B.S. in physics in an AOE does not require the three physics electives, the math elective, and a second semester of PHYS 341, which are required for the basic B.S. in physics. Several of the AOE's require basic science courses in chemistry or computer science, which fulfill the college requirement of eight hours in a third science, so that these are not an extra requirement. Completion of an AOE is posted to the student's transcript and the courses in the AOE can be used to satisfy the physics elective requirements and the University capstone requirement. The AOE's emphasize research experience and each requires either a summer research experience (at WVU or another institution) or a capstone experience in the area of emphasis. Students wishing to complete more than one area of emphasis will need to complete a summer research or capstone experience in each AOE. The research experience must be approved by the student's undergraduate physics advisor. Examples of academic schedules for each AOE can be found at www.wvu.edu/~physics.
• The area of emphasis in **applied physics** is designed for those who are interested in employment or future study in applied physics or engineering. In addition to the 32 hours of physics, the other requirements are: EE 221, 223, 251, 252, and MAE 241, 242, 331, 423. Also required is a capstone experience or a summer research experience emphasizing an applied physics topic.

• The area of emphasis in **astro/space physics** is designed for those who are interested in future study in astronomy or astrophysics. In addition to the 30 hours of physics, the other requirements are: ASTR 367, PHYS 321, PHYS 481, GEOL 455, EE 221, 223, 465, MAE 331, and a second semester of PHYS 341 with an astrophysics emphasis. Also required is a capstone experience or a summer research experience emphasizing astro/space physics.

• The area of emphasis in **biophysics** is designed for those who are interested in future study in medicine with a strong physics preparation. In addition to the 32 hours of physics, the other requirements are: CHEM 115, 116, 233, 234, 235, 236, 346, 348, BIOL 115, 117, 219, 310, and BIOC 339, and PHYS 225. Also required is a capstone experience or a summer research experience focused on medical physics or biophysics.

• The area of emphasis in **computational physics** is ideal for those who are interested in computation. In addition to the 32 hours of physics, there are 24 hours of computer science requirements: CS 110, 111, 210, 470, one CS elective, and MATH 420. One additional three-hour elective must be chosen from either physics or computer science. All required physics or computer science electives must be from courses at or above the 200 level. Also required is a capstone experience or a summer research experience emphasizing computational physics.

• The area of emphasis in **materials science** is designed for those who are interested in employment or future study in materials science. In addition to the 32 hours of physics, the other requirements are: PHYS 471, 321, CHEM 115, 116, 341, CHE 366, CHE 466, EE 450, and a second semester of PHYS 341 with an emphasis on condensed matter. Also required is a capstone experience or a summer research experience emphasizing materials science.

• The area of emphasis in **medical physics** is designed for those who are interested in future study in medical physics. In addition to the 32 hours of physics, the other requirements are: CHEM 115, 116, 233, 234, 235, 236, BIO 115, 117, 310, EE 425, 465 and PHYS 225. Also required is a capstone experience or a summer research experience emphasizing medical physics.

Early departmental advising is recommended in setting up a well-planned program.

**Minor in Physics**

The minor is designed to introduce students to the basics of contemporary physics and to acquaint them with the rich diversity of current physics. Students who wish to pursue physics as a second field can receive a minor in physics by successful completion (2.0 average or higher in the physics courses) of PHYS 111, 112, and 314 as well as six credit hours from any PHYS course or courses numbered 300 or above.

**Minor in Astronomy**

The minor is designed to provide a broad overview of the field of astronomy. The astronomy minor consists of 21 credit hours of coursework. Required core courses: PHYS 111; PHYS 112; PHYS 314 (12 hrs.). Minors also complete nine credit hours from any ASTR courses numbered 300 and above. Physics majors may complete an astronomy minor, provided the ASTR courses counted toward the minor are not counted as electives toward the physics major. A minimum grade of C or better is required in each course counted toward the minor.
Political Science
Joe D. Hagan, Chair
John C. Kilwein, Associate Chair
Robert E. DiClerico, Director of Undergraduate Studies
http://polisci.wvu.edu/

Degree Offered
Bachelor of Arts

Nature of Program
The undergraduate curriculum in the Department of Political Science has five main objectives:

• To acquaint students with the nature and role of government in modern society, thus contributing to the general education of political science majors. In order to achieve this objective, the department offers the general political science emphasis. This emphasis is open to any student who has an interest in political science but who has not yet focused on a specific career goal.

• To impart a broad understanding of the American political system. Courses are offered on national institutions, political actors, and political behavior. Other courses focus on the policy making process and on various substantive policy issue-areas.

• Students who seek to work in politics and/or government should enroll in the American politics and policy area of emphasis.

• Students who wish to concentrate their coursework as preparation for careers in this area should enroll in the international relations, comparative politics, and national security area of emphasis.

• To provide pre-professional training for students who intend to pursue political science as a career. Those who intend to be teachers, researchers, or administrators should plan to enroll in graduate school after completing their bachelor’s degrees.

Admission Requirements
Students may apply for admission to the Department of Political Science after completing 58 credit hours with a cumulative grade point average (GPA) of 2.1 or better. In addition, students must maintain a cumulative GPA of 2.0 in order to remain a political science major. Freshman and sophomore students with a 2.0 GPA may apply as pre-political science majors. Upon admission, each student will be assigned a faculty advisor in the department. Pre-political science majors should enroll in the special class Orientation to Political Science, which introduces freshmen and sophomores to the political science faculty, academic requirements, and career opportunities in political science.

Degree Requirements
A cumulative and political science GPA of 2.0 is required for graduation. In addition, no major with an incomplete in a political science course will be certified for graduation.

1. Students majoring in political science must take POLS 102, 230 or 240, 250, 260, 270 or 271 and 300 and a minimum of 39 hours total in political science including the senior capstone course. Courses may be selected from the following fields.

   • American government and politics: POLS 210, 220, 310, 311, 312, 313, 314, 315, 316, 317, 318, 321.


2. Students may also arrange to take selected special courses dealing with a special topic or involving experiential learning. These courses are scheduled on a group or tutorial basis with individual faculty members. Courses available for this type of instruction are POLS 293, 388, 389, 491, 493, and 494. These courses also count toward the 39 hours required in political science. However, no more than six hours of POLS 491 Field Experience may count toward the 39-hour requirement. POLS 491 is graded on a pass/fail basis.

3. With the exception of the pre-law and legal studies and the government and business emphases, all political science majors must complete a formal minor in a related field. The choice of a minor field depends on the interest of the student and the particular emphasis in which the student is enrolled. Minor fields available include: Africana studies, economics, geography, history, philosophy, psychology, sociology and anthropology, statistics and/or computer science, business administration, English, communication studies, international studies, leadership studies, mathematics, Native American studies, religious studies, Slavic and Eastern European Studies, and the following foreign language minors (French, German, Spanish, Chinese studies, Italian studies, and Russian studies). No teaching practicum may be used to satisfy major or secondary field requirements.

4. All majors are required to take ECON 201 and 202.

Areas of Emphasis

Each political science major must enroll in a political science emphasis, depending on his or her academic or career interest. The areas of emphasis and the individual requirements of each are as follows:

General Political Science Emphasis (general liberal arts) Students selecting the general emphasis are expected to take courses that expose them to the full range of the discipline of political science and the other social sciences. Required: POLS 102, 230 or 240, 250,260, 270 or 271 and 300; ECON 201 and 202; 39 hours total in political science courses; six hours from PSYCH 101, SOCA 101, 105, GEOG 102, 108 and PHIL 170; and a formal minor in a related discipline (see above listing).

American Politics and Policy Emphasis (careers in politics and public service) Students enrolling in the American politics and policy emphasis take courses that prepare them for work in government, non-profit organizations, political parties, and selected private business. This area emphasizes training in American political institutions, political behavior, and selected policy areas (such as environment, civil rights, and national security) and statistical techniques. Required: POLS 102, 230 or 240, 250, 260, 270 or 271 and 300; ECON 201 and 202; nine hours (three courses) on American politics selected from POLS 310, 311, 316, 317, 318, 320, 337, 342; six hours (two courses) on public policy selected from POLS 315, 331, 333, 334, 335, 336, 337, 338, 339; and a formal minor in a related discipline (see above listing).

Pre-Law and Legal Studies Emphasis (careers in law or criminal justice) Students selecting the legal studies emphasis are required to take a variety of substantive and skills courses which are recognized as valuable background for the study of law. This specialized curriculum is drawn from several departments, including English, philosophy, statistics, accounting, sociology and anthropology, and psychology. Required: POLS 102, 230 or 240, 250, 260, 270 or 271 and 300; ECON 201 and 202; twelve hours (four courses) from the following law-related courses in political science POLS 210, 312, 313, 314, 315, 331, 344, 357, 363; 452, and 453; nine hours (three courses) from the following skills courses CS 101, ACCT 201 and 202, SPA 270, ENGL 304, STAT 211, PHIL 170, 260, ECON 225; and three hours (one course) from the following substantive courses in law-related disciplines SOCA 235, 331, PHIL 130, 325, ECON 301, 302, 331, PSYC 365.
Government and Business Emphasis (careers in government and/or business)

Students choosing to enroll in the government and business emphasis take courses that will enable them to develop extensive knowledge of government and politics, government as it relates to business, and introductory knowledge of business principles and practices. Students in this emphasis will target jobs in either the public or private sectors. Required: POLS 102, 230 or 240, 250, 260, 270 or 271 and 300, six hours (two courses) from POLS 310, 317, 318, 334; ECON 201 and 202; 12 hours (four courses) from ACCT 201 and 202, MATH 126, 129, 155, 156, 124, 150, ECON 225, STAT 211, and CS 101; nine hours (three courses) from BUSA 310, 320, 330, and 340; and three hours (one course) from SOCA 334, PSYCH 231, and ECON 441, 445, and 481.

International Relations, Comparative Politics, and National Security Emphasis (careers in international affairs)

Students choosing this area of emphasis specialize in several main subfields of the discipline, including international relations, foreign policy analysis, and foreign and comparative governments. This emphasis is one of two options available to students interested in international relations. The Department of Political Science, in cooperation with other departments, also offers the interdepartmental major in international studies, which is headed by a faculty member in the Department of Political Science. This major offers an extensive treatment of international affairs from the perspective of a variety of disciplines. The international relations, comparative politics, and national security area of emphasis, on the other hand, is offered exclusively by the department. Required: POLS 102, 230 or 240, 250, 260, 270 or 271, and 300; ECON 201 and 202; nine hours (three courses) from the following courses dealing with international relations POLS 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 453, 461; three hours (one course) which focuses on an industrialized country POLS 350, 351, 352, 353, 357, 452; three hours (one course) which deals with a developing country POLS 354, 355, 356, 358, 359; three hours (one course) from the following history courses HIST 209, 242, 425, 426, 430, 463, 464; and a formal minor in a related discipline (see above listing).

Minor in Political Science

Any student admitted to a major program other than political science may complete a formal academic minor in political science. In order to earn a formal minor, students must complete one of the following options.

General Political Science Required courses: six hours from POLS 102, 210, 220, 230 or 240, 250, 260. Any three additional courses from POLS 310–379, POLS 493 and 494 may be counted toward the minor with departmental approval.

American Politics and Policy Required courses: six hours from POLS 102, 210, 220, 230 or 240. Any three additional courses from 310–349, POLS 493 and 494 may be counted toward the minor with departmental approval.

International and Comparative Politics Required courses: POLS 250, 260. Any three additional courses from 350–369, POLS 493 and 494 may be counted toward the minor with departmental approval.

Law and Legal Studies Required courses: POLS 102, 210. Any three additional courses from 312, 313, 314, 331, 335, 363, POLS 493 and 494 may be counted toward the minor with departmental approval.

Political Theory Required courses: POLS 270, 271. Any three additional courses from 370–379, POLS 493 and 494 may be counted toward the minor with departmental approval. Students must achieve at least a 2.0 in the 15 hours taken in political science. Courses graded P/F may not be applied toward the minor.

Honors Program

The Department of Political Science, in cooperation with the University Honors College, offers courses that are open exclusively to honors students. These courses are listed in the University’s Schedule of Courses each semester. Students who meet the standards of the University Honors Program may enroll in these courses.
Psychology
Tracy Morris, Chair
http://www.wvu.edu/~psychology/

Degrees Offered
Bachelor of Arts
Bachelor of Science

Admission Requirements
Requirements for admission to the degree programs in psychology include completion of PSYC 101, PSYC 201, and STAT 211, with a minimum grade of C in each, a minimum cumulative GPA of 2.0, a minimum cumulative GPA of 2.0 in all attempted psychology courses, and completion of 58 credit hours.

Degree Requirements
• Required Courses PSYC 101, 201, 202, 301, 302; STAT 211; either PSYC 241 or 251; one course from PSYC 423, 424, 425, 426; three additional courses, with no more than one at the 200 level, from PSYC 232, 233, 241, 251, 281, 293, 331, 342, 343, 345, 351, 362, 363, 364, 365, 379, 382, 423, 424, 425, 426, 474, 493. Completion of the psychology capstone course (PSYC 401) and a three-credit capstone experience are required within the 12 months prior to graduation.
• An overall 2.0 average in all psychology courses attempted is required for graduation. In addition, a minimum grade of C is required in the following courses: PSYC 101, 201, 202, 241 or 251, 301, and 302, and STAT 211.
• Students seeking the B.S. degree in psychology must complete the same courses as required for a B.A. degree except they must complete: two courses from PSYC 423, 424, 425 or 426; only two additional courses, with no more than one at the 200 level, from PSYC 232, 233, 241, 251, 281, 293, 331, 342, 343, 345, 351, 362, 363, 364, 365, 379, 382, 423, 424, 425, 426, 474, 493; plus complete the college B.S. degree requirements.
• Recommended courses for students primarily interested in graduate work in psychology are: PSYC 331, 491, 495; additional courses from 423, 424, 425, 426, and 498.
• For students primarily interested in a career in mental health or applied psychology requiring a B.A., the following courses are recommended: PSYC 241, 251, 362, 474, 491, and appropriate courses from among PSYC 281, 363, 364, 365, 379, and 382. For students majoring in psychology as a liberal arts field, including students who plan to attend graduate or professional school in a field other than psychology and students planning to work in a field not directly related to psychology but who wish a broad exposure to the field of psychology, the following courses are recommended: PSYC 241, 251, 331, and at least one course from among PSYC 281, 363, 364, 379, 382, and 474.
• All psychology majors are encouraged to take upper-division courses that provide them an opportunity to apply basic principles of psychology. For this purpose, PSYC 490, 491, and 495 are recommended. Students must have instructor consent before enrolling in these courses.
• Common electives for psychology majors include biology, child development and family relations, computer science, mathematics, philosophy, political science, social work, sociology and anthropology, and statistics courses.

Minor in Psychology
Students enrolled in any non-psychology degree program within the University may elect to complete a minor in psychology. The minor is designed to provide a broad overview of the field of psychology. The minor consists of 18–19 credit hours of coursework. Required core courses (12–13 hours) include PSYC 101, 202 (Note: STAT 211 is a prerequisite for PSYC 202), one of PSYC 241, 251, 281; and one of either PSYC 301 or 302. Two electives (6–7 hours) must be taken from the following: PSYC 301 or 302 (in addition to previous requirement), 331, 342, 343, 345, 351, 363, 365, 382, 474, or selected
493. Students are encouraged to design their minor using courses from the above list to complement courses in their major. A minimum grade of C or better is required for each core course. A GPA of 2.0 across courses counted toward the minor is also required.

**Applied Psychology Emphasis**

Psychology majors interested in a career working in applied mental health or organizational settings following completion of their bachelor's degree may select the elective courses listed below. Students who complete these courses with a minimum grade of B in each may request a departmental certificate of completion and cover letter detailing the applicability of these courses to work in applied settings, which the student may then provide to potential employers. Students wishing to complete this emphasis should plan their curriculum carefully, and need to be aware that they will not be given special priority for gaining admission to the listed courses. The four elective psychology courses must include: PSYC 362 and 474; and two courses from PSYC 231, 363, 379, and 382. Students must also take at least 12 credits of PSYC 491.

**Honors Program**

The Department of Psychology honors program is designed to provide special enrichment, attention, and recognition for exceptional psychology majors. Admission to the program requires completion of nine hours of psychology, a psychology GPA of 3.5, and an overall GPA of 3.4. Graduation with departmental honors in psychology requires the same GPAs and completion of an honors thesis (three to six hours of PSYC 498). Information about the program is available in the department's student records office or from the director of undergraduate training.

**Regents Bachelor of Arts**

Carol Hando, Coordinator
rba@mail.wvu.edu
http://rba.wvu.edu

**Nature of Program**

Especially designed for the adult, the regents bachelor of arts degree offers the possibility of earning college-equivalent credit based on the assessment of life and/or work experiences. An initial assessment fee is charged, with an additional posting fee for credits posted to the transcript.

**Degree Requirements**

Total credits are 128, including 40 upper-division credits, and 36 credits in general education (at least six hours each in communication skills, humanities, social sciences, and natural or physical sciences, and three hours in mathematical science). This program has no major. Students may earn areas of emphasis.

**Admission**

Admission is open only to students who graduated from high school four or more years ago. For those passing a high school equivalency test, admission must be four years after their class graduated from high school. Students who possess a baccalaureate degree are not eligible, nor can the R.B.A. degree be awarded as a second bachelor's degree.

**Fees**

Tuition and fees are the same as for those in other undergraduate programs. For those seeking college equivalent credit there is an initial $300 assessment fee and an additional $10 per credit hour fee for credits posted to the transcript.

Additional information is available from the Coordinator, Regents B.A. Program, 221 Armstrong Hall, P.O. Box 6289, West Virginia University, Morgantown, WV 26506-6289. Phone: (304) 293-5441. E-mail: rba@mail.wvu.edu, Web: rba.wvu.edu.
Religious Studies
Aaron Gale, Coordinator
http://religiousstudies.wvu.edu/

Degree Offered
Bachelor of Arts

Nature of Program
The program for religious studies in the Eberly College of Arts and Sciences meets the needs of West Virginia University students by offering instruction in the history and practice of many world religions including Judaism, Christianity, Islam, Buddhism, and Near Eastern traditions. In addition, the program offers opportunities to explore many other interesting areas of study including Hebrew and Christian scriptures, ethics, and current topics of interest. The program for religious studies also seeks to address issues of interest within the WVU community by providing activities such as guest lectures and panel forums for students and the public.

In the program, students have the unique opportunity to study religious issues from a scholarly perspective. Hence, religion courses at West Virginia University are intended to stimulate interest in the academic discipline of religious studies, which involves studying world faiths objectively, without an agenda. Instructors utilize various methodologies that allow students to immerse themselves in, and learn about, many different traditions. Some of these methodologies include studying ancient texts, examining the history and traditions of various world cultures, the use of resource texts from reputable scholars, and the analysis of archaeological data.

The degree in religious studies offers a general liberal arts education for students entering such professions as law, medicine, and business, if electives are chosen carefully. This major is useful to anyone seeking a professional career in religion, such as the ministry, teaching, graduate study of theology, biblical studies, and religious journalism. For further information about this program, please go to http://religiousstudies.wvu.edu.

Admission Requirements
Admission to the degree program in religious studies requires a cumulative grade point average (GPA) of at least 2.0. Students must earn an overall GPA of 2.0 as well as a 2.0 in all religious studies courses counted toward the major in order to graduate with a religious studies major.

Degree Requirements
If admitted to the program for religious studies, the student will be required to complete satisfactorily 30 hours of coursework, including:
- One 100-level course (RELG 102 or 105)
- Three 200-level courses (RELG 210, 219, 222, 223, 230, 231, 232, 242, 255, or 293)
- Six 300–400-level courses (RELG 350 and 482 are required; choose remaining courses from RELG 301, 303, 304, 305, 306, 310, 493, 494, PHIL 308 or SOCA 336)

Minor in Religious Studies
Any student admitted to an undergraduate degree program at WVU may undertake a minor in religious studies. The minor consists of 15 hours of coursework in religious studies, with at least nine hours at the upper-level (300-level or above). A grade of at least C must be earned in all courses counted toward the minor.

It is the responsibility of students seeking a minor in religious studies to maintain close contact with the office of the program for religious studies concerning the scheduling of the above courses.
Slavic and East European Studies
Lisa Di Bartolomeo, Coordinator
http://www.sees.wvu.edu/

Degree Offered
Bachelor of Arts

Nature of Program
The Slavic and East European Studies (SEES) interdisciplinary major offers an integrated approach to the study of the languages, cultures, history, geography, politics, economies, religions, and societies of Eastern Europe. This region includes: Russia, Ukraine, Belarus, Latvia, Lithuania, Estonia, Poland, Czech Republic, Slovakia, Bulgaria, Macedonia, Serbia, Montenegro, Bosnia, Croatia, Albania, Romania, and Moldova. The demand of government and the private sector for individuals specializing in this resurgent area of Europe has renewed in recent years, even as economic, political, and cultural changes have served to make Eastern Europe more accessible. The program incorporates diverse disciplines, language study, and study abroad to provide students with a deep as well as broad grasp of the region’s past, present, and future.

Career Goals
In today’s increasingly global setting, business, diplomacy, and scholarship all benefit from a thorough knowledge of at least one foreign language and a familiarity with the culture, history, and economics of the region speaking that language. A major in SEES prepares students for further study in graduate or professional schools, as well as contributing background that may be applied to work in government, foreign service, non-governmental organizations (NGOs), and international business or law.

Admission, Residency, and Other Requirements
There are no special requirements for direct admission into the SEES major, but once admitted students must achieve a minimum grade point average of 2.25, both overall and in the major. They must also satisfy University General Education Curriculum (GEC) and Eberly College of Arts and Sciences requirements and earn a total of 128 hours credit in order to graduate. Although study abroad is strongly encouraged, a student completing a major in SEES must fulfill a residency requirement of 15 hours in the major on campus, excluding courses numbered 100, 101, 102, 200, 203, 204, and courses obtained through credit by examination.

Degree Requirements
Students majoring in SEES are required to complete a minimum of 36 hours of coursework, of which the following are required:
1. SEES 101 (three hours).
2. Language (six hours, either 300-level Russian, or another SEES-approved language at any level).
3. ECON 453 or 454 (PR is ECON 201 and 202) (three hours).
4. History (of which three hours must be HIST 417 or 418): HIST 217, 218, 220, 417, 418, 419, 420 (six hours).
5. FLIT/FCLT (of which three hours must be either FCLT 281, 380, 381, or 382): FLIT 256, 257, FCLT 250, 280, 281, 380, 381, 382 or other culture course (six hours).
6. SEES capstone: SEES 491, 492, 497 (three hours).

The remaining courses (six hours total credit) may be chosen from the following list: additional language courses other than Russian, ECON 453, ECON 454, HIST 220, HIST 417, HIST 418, POLS 351, POLS 366, or additional FLIT/FCLT courses from the list above. Credit may also be obtained through study abroad, credit by exam, or by successful completion of approved special topics courses.
Other Coursework/Second Majors/Minors
Students are strongly encouraged to work closely with the advisor and faculty in the SEES program to select related courses, second majors, and/or minors (such as international studies, Russian studies, foreign languages, history, political science, or economics) that will complement their work in SEES and lead to meaningful career options.

Minor in Slavic and East European Studies
The minor in Slavic and East European studies is an interdisciplinary program recognizing students' successful completion of coursework focusing on the languages, culture, history, politics, economies, and religions of Eastern Europe with award of an academic minor. Students must take 18 hours:
1. SEES 101 (three hours)
2. Six hours of one SEES-related language.
3. Nine hours of upper division coursework selected from the following: ECON 453, ECON 454, FCLT 380, FCLT 381, FCLT 382, HIST 417, HIST 418, either HIST 419 or HIST 420, POLS 351 or POLS 366, and approved special topics or study abroad courses.
4. A maximum of three hours of upper-division RUSS courses, in addition to the language hours under number 2, may be counted toward the minor. Students must earn a grade of C or higher in courses for them to be applied to the SEES minor.

Social Studies

Degree Offered
Bachelor of Arts
Major: Interdepartmental Studies

Nature of Program
The bachelor of arts in interdepartmental studies with an emphasis in social studies is designed specifically for students who intend to be certified to teach social studies in grades 5–12 and to complete a master’s degree in education in the College of Human Resources and Education following fulfillment of degree requirements for the bachelor of arts in the Eberly College of Arts and Sciences. The bachelor of arts and master of arts in education degrees will be granted simultaneously upon completion of both degree programs.

Admission Requirements
Admission to the degree program may be requested upon completion of EDUC 100, EDUC 200, and 59 hours with cumulative grade point average of at least 2.75. Applicants also must pass the PPST (or qualify for a waiver) and submit a prescribed portfolio.

Degree Requirements
The social studies major consists of courses drawn from several disciplinary areas to prepare teachers for the broad array of required social studies courses they will teach. In addition to completing WVU and college requirements, the degree program requires:
• Economics (9 hrs.)—ECON 201, 202, and either 451 or 454
• Geography (12 hrs.)—GEOG 102 or 108, 107, 209, and 240
• Geology (4 hrs.)—GEOL 101/102
• History (24 hrs.)—HIST 152, 153, 250, 179, 180, and three (3 hrs.) HIST electives (400-level is suggested)
• Political Science (9 hrs.)—POLS 101 or 220, 102 or 210, and 260
• Sociology and Anthropology (6 hrs.)—SOCA 101 or 107, and SOCA 105

Academic Advising
All social studies pre-majors and majors are advised in the College of Human Resources and Education.
School of Applied Social Sciences
Division of Social Work
Karen Harper-Dorton, Chair
Linda Ferrise, Program Director
Samuel Leizear, Field Instruction Coordinator
http://socialwork.wvu.edu/

Degree Offered
Bachelor of Social Work

Nature of Program
The Division of Social Work provides students with a comprehensive program of professional education in social work, including degree programs at the baccalaureate and master’s levels, and a range of part-time and continuing education opportunities.

Our programs are fully accredited by the Council on Social Work Education, which makes graduates eligible to seek licensure as social workers in West Virginia and other states, depending on individual state laws. The degree programs offered by the Division of Social Work allow students the opportunity to prepare for entry-level professional practice at the baccalaureate level and to specialize at the advanced (graduate) level of study. The baccalaureate program prepares social workers for generalist practice and is a recognized national leader in the development of baccalaureate-level curriculum to support this educational goal.

Social work, one of the oldest human-service professions, is based upon the social and behavioral sciences used to understand and to help individuals, groups, families, and communities. Social work is a profession concerned with helping people accomplish life goals and realize their full potential. Four major purposes of social work are:

- To enhance the problem-solving, coping, and developmental capacities of people.
- To promote the effective and humane operation of the systems that provides people with resources and services.
- To link people with systems that provides them with resources, services, and opportunities.
- To develop and improve social policy.

In carrying out these purposes, social workers seek to solve problems associated with financial need, social and cultural deprivation, racial injustice, gender inequalities, physical and mental health, disadvantaged children, troubled youth, disturbed family relationships, and aging. Therefore, social workers are needed in a variety of service agencies, both private and public: schools, hospitals, correctional institutions, residential treatment settings, adoption agencies, industry, community service organizations, prisons, the courts, veteran’s bureaus, nursing homes, children’s services, and public welfare agencies. Because the social work arena is so broad, students will find it easy to discover a career path in social work that meets their interests and career goals.

Job opportunities for B.S.W. graduates are expected to continue increasing in the coming years. Given the positive national reputation of our B.S.W. program, our graduates often find themselves actively sought by employers.

Undergraduate Program Objectives
The objectives of the B.S.W. program are derived from the philosophy and goals of the Division of Social Work and the mission of the University, the objectives of the social work profession, and the needs of people in our society.

B.S.W. Program Goals And Objectives
1. Prepare undergraduate students for competent entry-level generalist practice, with an emphasis on rural and small-town settings, through a curriculum including liberal arts, social work foundations, and professional social work knowledge and skills.
   a. Apply critical thinking skills within the context of professional social work practice.
   b. Understand and interpret the history of the social work profession and its contemporary structures and issues.
c. Apply the knowledge and skills of generalist social work practice with human and social systems of all sizes.
d. Use theoretical frameworks supported by empirical evidence to understand individual development and behavior across the life span and the interactions among individuals and between individuals and families, groups, organizations, and communities.
e. Analyze, formulate, and influence social policies.
f. Evaluate research studies, apply research findings to practice, and evaluate their own practice interventions.
g. Use communication skills differentially across client populations, colleagues, and communities.
h. Use supervision and consultation appropriate to social work practice.
i. Function within the structure of organizations and service delivery systems and seek necessary organizational change.
j. Acquire a working knowledge of service delivery to rural and small-town populations.

2. Prepare students to engage in effective, responsible, and creative practice within the value base and ethical standards of the social work profession;
   a. Understand the value base of the profession and its ethical standards and principles, and practice accordingly.
   b. Internalize the profession’s value base and gain skill in its application to resolving ethical dilemmas.
   c. Gain recognition of how one’s own personal values can impact service delivery and reconcile value conflicts that will prevent effective service provision.

3. Prepare students for practice with diverse and at-risk populations and to further social and economic justice;
   a. Practice without discrimination and with respect, knowledge, and skills related to clients’ age, class, color, culture, disability, ethnicity, family structure, gender, marital status, national origin, race, religion, sex, and sexual orientation.
   b. Understand the forms and mechanisms of oppression and discrimination and apply strategies of advocacy and social change that advance social and economic justice.

4. Enrich the liberal arts curriculum of West Virginia University by providing opportunities for the undergraduate student body in general to increase their sensitivity, knowledge, and understanding of human needs, social problems, social welfare issues, and approaches and alternatives toward resolving social problems;
   a. Provide undergraduate courses available to non-social work majors that contribute to student understanding of human diversity, social problems, social welfare programs, and alternatives for the resolution of problems.
   b. Provide extra-curricular programming available to the general student body that contributes to understanding of human diversity, social problems, social welfare programs, and alternatives for the resolution of problems.

5. Provide a foundation for continuing professional development.
   a. Recognize the need for and commit to participate in activities that foster ongoing, post-graduation professional growth and development.
   b. Provide a sound educational foundation for the student who may be appropriately interested in future graduate-level education within the Division of Social Work, in other graduate social work programs, or in other allied graduate programs of study.
   c. Encourage participation in continuing social work education to lay the foundation for a career-long learning and professional growth.

The 2 + 2 Program

WVU and several colleges have entered into a joint commitment to increase the college-going rate within the state of WV and throughout the country, as well as the number of social workers within the state, through a special 2+2 arrangement that will lead to a bachelor of social work degree from WVU. Current affiliation agreements for the 2 + 2 program include Pierpont Community and Technical College, WV Northern Community College, and Bermuda College. For students from these colleges to enjoy the benefits of the 2+2 program they must be ready to enter the major when they matriculate to WVU. Although historically students from these other colleges have always had the opportunity
to gain entrance to the B.S.W. program at WVU, the benefits of a more formalized linkage with these colleges are numerous. For example, brochures on the 2+2 program, The WVU-B.S.W. Connection, are available on students’ home campuses, and designated faculty on those campuses work closely with WVU’s B.S.W. program director to ensure a strong linkage between those campuses and WVU, which ensures students will have a smoother transition to WVU. Furthermore, expectations for entry and completion of the degree are now clearer to students, so the B.S.W. degree can be completed in a timelier manner. Students in the 2+2 program must meet the admissions standards for WVU and the B.S.W. program and must follow the B.S.W. program’s policies for transfer students.

Admissions

Students interested in pursuing a degree in social work are identified as pre-majors until they are admitted into the program through a formal admission process, at which time they become social work majors. Our pre-majors enjoy the benefits of advisement by an academic counselor in the Division of Social Work who provides information about careers in social work and assists in planning students’ academic program and registering students for their coursework every semester. Incoming freshmen become pre-majors in social work by indicating their interests in pursuing a degree in social work when they submit their initial application to WVU’s Office of Admissions.

In order for social work pre-majors at WVU, its branch campuses, or in the 2+2 program to enter the social work major, they must meet the B.S.W. program’s admission criteria, complete a formal application for admission, and have their application approved by the Division of Social Work B.S.W. Admission Committee. The admissions process is competitive and students are selectively admitted to the program for their final two years of education, which includes the upper-division courses in social work.

Social work requires the ability to establish positive, supportive, and nonjudgmental interpersonal relationships. The ultimate test of a student’s interpersonal skills is in relationship to clients. However, observed positive relationships with faculty and students serve as indicators of potential for future professional development and suitability for practice in the field. Social work is a profession whose members are expected to adhere to the National Association of Social Workers Code of Ethics and to conduct themselves in a professional manner. Therefore, the criteria for admission to the major, as well as for continuation in the program, include academic standards of a scholastic and cognitive nature, as well as of an affective and professional nature. To be eligible for admission to the major, students must meet the following minimum criteria:

- Have a 2.25 GPA on a four-point scale. (Note: the GPA will be calculated to include any substantial amount of coursework transferred to WVU from other institutions.)
- Complete 100 hours of appropriate human service activity (paid or volunteer) by the time of application for admission and receive a supportive or generally positive reference from the supervisor(s), as documented on the B.S.W. program’s form.
- Complete 58 credit hours by the conclusion of the semester during which application to the program is made.
- Earn a C or better in SOWK 147 and 151 by the time of application for admission. (Students applying to the program through the 2+2 arrangement or as transfers from another institution can replace the SOWK 147 course with another minority course approved by the B.S.W. program director.
- Successfully complete the General Education Curriculum Objectives by the conclusion of the semester during which application to the program is made.
- Demonstrate college-level writing skills.
- Show motivation to pursue a career in the field of social work.
- Show potential for commitment to the National Association of Social Workers (NASW) Code of Ethics.
- Possess a basic level of communication and interpersonal skills, which provide a sufficient foundation for building professional interactional skills.
- Show potential for professional development, such as responsiveness to feedback and willingness to address areas that might interfere with effectiveness as a future helper.
In general, be sensitive to and respect human diversity, with a basic capacity for non-judgmental behavior toward individuals whose values, beliefs, and lifestyles may be different from the student’s own.

Be reliable in carrying responsibilities as demonstrated in classes and volunteer experience (punctual, dependable, observes assignment deadlines, meets attendance expectations, etc.)

Show a basic level of self-awareness in assessing strengths and weaknesses as these might impact carrying out professional responsibilities.

Students who present an overall GPA of 3.0 or above and meet the other admission criteria are guaranteed admission to the program. A certain number of slots are set aside for students from each 2+2 program campus who meet the minimum 2.25 GPA. Other students who meet the minimum GPA and all other admission criteria are admitted on a space-available basis. Applications for admission are reviewed once a year. Beginning every January, applications are reviewed for entry to the major the following fall semester.

As part of the division and the B.S.W. program’s academic standards, students may be denied admission to the major or continuance in the program for conduct that violates the code of ethics of the National Association of Social Workers. Students shall be provided appropriate safeguards for appealing such decisions and shall be provided with an opportunity to demonstrate that the conduct in question has been modified to the point of being in compliance with the ethics code. Should the student not be able to make the necessary modifications in conduct, he or she shall be counseled out of the program in accordance with established University policy as set forth in WVU’s student handbook, The Mountie. Procedures for terminating a student from the program follow the school’s academic performance review policy.

Transfer Students

If you are a transfer student, including 2+2 students, and you wish to enter the social work pre-major or major, you must contact WVU’s Office of Admissions and the B.S.W. program director no later than the semester before you intend to matriculate to WVU. For entry to the B.S.W. program, you must meet all requirements that apply to pre-major status. If your plan is to matriculate to WVU in the fall semester as a social work major, you should contact WVU’s Office of Admissions the prior December and complete your application to the B.S.W. program for admission to the major in January.

Upper-division social work courses taken at other institutions do not automatically transfer to WVU and meet our program’s requirements. To gain approval for these courses you must have earned a B or better in the course(s) and you must submit course syllabi and other appropriate course materials to the B.S.W. program director. Courses that are not approved count as electives. The lower-division social work courses taught on 2+2 campuses have received approval via the formal agreement with the program.

Requirements for the Degree

The undergraduate social work program consists of a foundation in the liberal arts, a minimum of 38 upper-division hours and six lower-division hours in social work, a minimum of nine upper-division hours in required social and behavioral sciences courses, and an additional requirement of nine upper-division social science hours with at least three hours in each of the fields of sociology, psychology, and political science. All social work students are required to take three additional hours of coursework dealing with racial or other minority groups selected from a list of courses designated by the undergraduate social work program. A total of 128 hours is required for the degree. Of these, 58 credit hours must be in upper-division coursework. You are encouraged to consult with your advisor regarding the selection of electives appropriate for your career interest.

To establish a social work major and to qualify for graduation, you must have been enrolled for at least two semesters and have accumulated a minimum of 30 hours as an upper-division student in the social work program, or under its guidelines. Also, you must fulfill the following: complete all required social work courses—in their proper sequence—with grades of C or higher, maintain an overall GPA of 2.0 or above, and maintain a GPA of 2.0 or better in all upper-division social science courses specifically required of the social work major.
Students who are unable to meet the performance standards for social work courses are permitted to repeat a course one time. If the student is unsuccessful in the second attempt, he or she must leave the program. If a student is unsuccessful in either SOWK 494 or 491, both courses must be repeated and successfully completed to meet graduation requirements. The specific curriculum requirements for graduation are as follows.

In addition to University requirements, social work students are required to take the following courses: POLS 220 and SOCA 221. You must also take an additional nine hours (numbered 200 or above) of social and behavioral science requirements with three hours each in psychology, sociology, and economics or political science. You must also take an additional course with minority content.

**Required Social Work courses include:**
- Lower division: SOWK 151, 147
- Upper division: SOWK 300, 310, 319, 320, 322, 324, 330, 350, 360, 491 (12 hours), 493 (six hours of special topics electives), 494 (writing course).

**Typical Study Load**
Students with grade point averages under 3.0 are only rarely permitted to carry more than 18 credit hours. If your grade point average is 3.0 or above and you want to carry 19 to 21 hours, you must petition the chair of the Division of Social Work through your advisor. Students are not permitted to carry more than 21 credit hours in a semester.

**Field Instruction Requirements**
Field instruction, which occurs during your senior year, after all other coursework has been completed, is a key component of your total educational experience in the undergraduate social work program. During the field practicum (SOWK 491) you will have the opportunity to demonstrate through actual social work service-providing activities your ability to utilize and apply the knowledge, values, and skills you have acquired while at WVU or as a result of other life experiences.

To enter the field practicum, you must meet the following criteria:
- Senior rank (at least 89 hours completed).
- A 2.0 overall grade point average.
- Completion of all social work courses with grades of C or better.

Field placement activities are usually carried out for one semester as a modified block system, but part-time students may be interested in a two-semester placement called a concurrent system. The block system requires students to spend four full workdays in placement over the course of one complete semester (63 days). The concurrent system requires students to spend two full workdays in placement over the course of two semesters. A minimum of 441 clock hours of field placement work must be completed during the field practicum. While in field placement, students participate in SOWK 494 Social Work Senior Seminar, which provides educational support for the practicum.

After consultation with your advisor, and with the approval of the B.S.W. program director and field instruction coordinator, you will be assigned to an approved field placement setting. Field placement assignments are in social welfare organizations and agencies in Monongalia or surrounding counties. These organizations have met the criteria for participation in our field instruction program.

To successfully complete requirements for graduation, students must demonstrate, through educationally focused field experience activities, those competencies (i.e., combination of social work knowledge, values, and skills), which have been identified as suitable and necessary for entry into professional social work practice.

**Note:** Academic credit is not given for life experience. Previous work experience cannot be used in lieu of field experience or other course requirements.

**Advising**
All social work pre-majors and majors are advised in the Division of Social Work.
Non-Majors in Social Work Courses
If you are a candidate for a regents bachelor of arts (R.B.A.) degree with an interest in a career in social work, you will be permitted to take any of the undergraduate social work courses except the practicum on a space available basis or with instructor’s consent. R.B.A. candidates must meet the same requirements for sequencing and performance standards in social work courses as social work majors. Other non-majors are also permitted to take selected social work courses on a space-available basis, which do not include our methods, skills lab, and practice courses.

School of Applied Social Sciences
Division of Sociology and Anthropology

Degree Offered
Bachelor of Arts
Majors: Sociology and Anthropology, Criminology and Investigations

Sociology and Anthropology

Nature of Program
Sociology and anthropology courses constitute an important part of a liberal education. They foster an awareness of the structure of human societies and of the social processes that operate in all groups, organizations, and institutions. The student is exposed to the methods of inquiry and to the special knowledge and insights of sociology and anthropology. Courses in the division also are intended to facilitate the application of sociological and anthropological principles to the wide range of contemporary social problems. Sociology and anthropology constitute an important part of the undergraduate education for those pursuing careers in law, health professions, or business, and for engineers and scientists concerned with environmental and ecological problems. Majors in sociology and anthropology often find employment doing applied research with government agencies, assisting in community development and planning, or using knowledge of social organization and social process in a variety of settings within the United States or abroad. Majors are well-equipped for graduate training in the social sciences in pursuit of academic or applied research careers. For more information about this program, please go to: http://soca.wvu.edu/future_students/undergrad_programs.

Admission Requirements
Admission to the major requires:
• Completion of SOCA 199, 101, 105, and one 200-level sociology or anthropology course with a grade of C or higher in each course.
• Completion of STAT 211 (recommended) or STAT 111 with a grade of C or higher.
• A minimum GPA of 2.0 across all SOCA courses attempted prior to admission.
• Sophomore or higher standing (completion of 29 credit hours) with a minimum cumulative GPA of 2.0

Degree Requirements
General Requirements
All students in the division are required to take the following courses in addition to the required courses in their chosen area of emphasis: SOCA 101, 105, 199, 301, 311, 389, and 488, and STAT 211 (or STAT 111).

Emphasis Requirements
Each major must complete the requirements of an anthropology or sociology emphasis, depending on his or her academic or career interest. The areas of emphasis and the individual requirements of each are as follows:
Anthropology In addition to general degree requirements, students must take 15 hours of anthropology courses, selected from SOCA 252, 254, 258, 350, 351, 352, 353, 354, 355, 358, 450, 457, or 458, with at least nine hours at the 300-level or higher (three credit hours of field work may be substituted for three credit hours); three elective hours in sociology or criminology (200 or above); and three elective hours in either sociology, criminology, or anthropology (200 or above).

Sociology In addition to general degree requirements, students must take 15 hours selected from SOCA 207, 221, 223, 225, 235, 238, 302, 304, 318, 320, 322, 323, 331, 333, 337, 360, 405, 407, 415, 463, or 470, with at least nine hours at the 300 level or higher; three elective hours in anthropology (200 or above); and three elective hours in sociology, criminology, or anthropology (200 or above).

Special topic courses (SOCA 293 or 493) may be counted toward emphasis requirements. Consult the current student section of the division’s website to determine which SOCA 293 or SOCA 493 courses are anthropological, sociological, or criminological.

Students are encouraged to do independent study, fieldwork, or an internship in the senior year, combining experiential work with previously acquired skills in a project appropriate to their emphasis. Up to three credit hours of independent study (SOCA 495) or field experience (SOCA 491) may be counted toward fulfilling departmental elective requirements.

Graduation Requirements
In order to graduate majors must maintain an overall GPA of 2.0 and at least a 2.0 in SOCA courses counted toward the major.

Minor in Sociology and Anthropology
Students may acquire a minor in the Division of Sociology and Anthropology by fulfilling the requirements of one of the minors listed below.

Anthropology
Eighteen credit hours, including SOCA 105 (three hours) and 15 additional hours, nine of which must be 300-level or higher, in anthropology courses. Anthropology courses are SOCA courses numbered in the 50s (i.e., SOCA 250–259, 350–359, 450–459). Special topic courses (numbered SOCA 293 or 493) are also eligible. If the 293 or 493 course does not contain “anthropology” or “archaeology” in the title, consult the approved course list on the current students section of the division website to verify its status as an anthropology course. An overall GPA of at least 2.0 in courses counted toward the minor is required.

Sociology
Eighteen credit hours, including SOCA 101 (three hours) and 15 additional hours, nine of which must be 300-level or higher, in sociology and selected criminology courses. The following courses may be used to fulfill requirements: SOCA 207, 221, 223, 225, 235, 238, 302, 304, 318, 320, 322, 323, 331, 333, 337, 360, 405, 407, and 463. In addition, two of the following three courses may be counted toward minor requirements: SOCA 232, 233, and 234. Special topic courses (numbered SOCA 293 or 493) are also eligible. If a 293 or 493 course does not contain “sociology” in the title, consult the approved course list on the current students section of the division website to verify its status as a sociology course. An overall GPA of at least 2.0 in courses counted toward the minor is required.

Criminology and Investigations

Nature of Program
The criminology and investigations major is grounded in the discipline of sociology and supports the Forensic Science Initiative at WVU. The major has two primary foci. The criminology focus provides an understanding of society as a normative order with ever-changing definitions of conformity and deviance. Through an examination of the social foundations of law, the operation of the criminal justice system and such urgent problems as juvenile delinquency, corporate crime, hate crime, terrorism, and organized
crime, students develop a new understanding of the public order and public policy. The investigation focus explores the processes and procedures employed by those individuals and groups in the criminal justice system who seek to establish “truth” in the furtherance of justice. Students will examine both the formal and informal processes that affect the investigation, including the collection and presentation of evidence.

Students will also examine primary social relations that shape the fate of criminal and civil cases. In particular, students will consider how forensic experts and attorneys negotiate the often conflicting demands of disinterested science and legal advocacy in the course of jointly investigating, evaluating, and preparing legal cases. The subject of legal investigations is of particular sociological interest because it involves exchanges between scientific and legal professionals with distinctive languages, methods, standards, and goals. In the course of working together on the same side of legal disputes, experts and attorneys must balance their conflicting agendas, raising ethical questions as the core of their professional identities, and directly shaping the nature and outcome of the case they are putting together. The sociology of legal investigations traces the work-site social dynamics and contingencies of legal inquiry as a negotiated process spanning the work of police, scientists, and attorneys.

The criminology and investigation major gives students a thorough understanding of crime and investigation. Areas of study include poverty, discrimination, crime and violence, unemployment, and terrorism. Students will be prepared for graduate programs and a variety of careers in sociology, criminal justice, forensic investigation, public administration, government, and law. For more information about this program, please go to: http://soca.wvu.edu/future_students/undergrad_programs.

Admission Requirements
Students must apply for admission to the major as space is restricted. Students may apply once they have met the following requirements:
- Completion of SOCA 199, SOCA 101, SOCA 105, and one criminology foundation course (SOCA 232 or 233 or 234) with a grade of C or higher in each course
- Completion of STAT 211 or STAT 215 with a grade of C or higher
- A minimum GPA of 2.0 across all SOCA courses attempted prior to application
- Sophomore or higher standing with a minimum cumulative GPA of 2.0

Students must obtain and submit an application by February 15 for fall admission and September 15 for spring admission. Students with an overall GPA of 3.0 in SOCA courses who meet other application criteria are guaranteed admission to the program. Other students meeting minimum application requirements are accepted on a space-available basis according to overall GPA in SOCA courses.

Degree Requirements
General Requirements
All students in the Division of Sociology and Anthropology are required to take the following courses in addition to the required courses in their chosen major: SOCA 101, 105, 199, 301, 311, 389, and 488, and STAT 211 (or STAT 215).

Criminology and investigations majors complete a set of core courses designed to provide critical thinking and writing skills, and emphasize interests in crime and investigation:
- Foundation Courses (six hours) selected from: SOCA 232, 233, 234.
- Intermediate Courses (nine hours) selected from: SOCA 302, 318, 319, 321, 324, 331, 334, 339, 345, 346.

Special topics courses (numbered SOCA 293 or 493) may also be counted toward major requirements. Consult the approved criminology course list on the current student section of the division’s website.
Students are encouraged to do independent study, fieldwork, or an internship in their senior year. Up to three credit hours of independent study (SOCA 495) or field experience (SOCA 491) may be counted toward fulfilling departmental elective requirements.

**Graduation Requirements**

In order to graduate majors must maintain an overall GPA of 2.0 and at least a 2.0 in SOCA courses counted towards the major.

**Statistics**

E. James Harner, Chair  
http://www.stat.wvu.edu/Programs/minor.html

**Nature of Program**

Students interested in a major related to statistics should consider the interdepartmental bachelor of sciences in industrial mathematics and statistics. A minor is available to university students. An applied statistics track and a mathematical statistics track are available.

**Minor in Statistics**

Students may choose from two minor tracks. A grade of C or higher in each course counted toward the minor is required. MATH 156 is a prerequisite for STAT 215. MATH 251 is a prerequisite for STAT 461.

- **Mathematical Statistics Track:** STAT 215 and 461, and nine hours from STAT 217, 312, 313, 316, 331, 421, 445, or 462
- **Applied Statistics Track:** STAT 211 or 215, and 12 hours from STAT 217, 312, 313, 316, 331, 421, 445, 461, or 462

Completion of either track will be posted as a minor in statistics.

**Women’s Studies**

Ann M. Oberhauser, Director, Professor of Geography  
http://wmst.wvu.edu/

**Degree Offered**

*Bachelor of Arts*

The Center for Women’s Studies has a University-wide mission to coordinate interdisciplinary teaching and research on women and gender. The center offers a bachelor of arts degree in women’s studies, as well as a minor, and an area of emphasis for regents B.A. students. Many students in women’s studies double major in other fields such as history, psychology, communication studies, English, and other fields in the social sciences, humanities, and physical sciences. The center also sponsors lectures, films, colloquia, an annual residency, faculty and student development programs, and a scholarships and awards programs.

**Nature of Program**

Scholarship on women and gender has revolutionized most academic disciplines over the last several years. Women have been studied for a long time, but only recently have women significantly influenced the questions that have been asked, the methods that have been used, or the uses to which that knowledge has been put. Women’s and gender studies courses examine the contributions, perspectives, experiences, roles, and status of women within a multicultural and historical framework. Challenging the stereotypes of women and men, our students explore the relationships among gender, race, ethnicity, sexual identity, socioeconomic class, and age. Women’s studies is an interdisciplinary field which embraces the arts, humanities, social sciences, life sciences, and physical sciences.
Career Opportunities

Business, public administration, health care, communications, law, teaching, social work, counseling, creative arts, government, and journalism are all fields in which a major or minor in women's studies may be a valuable professional credential. A women's and gender studies background is helpful to both women and men entering professions that have traditionally been restricted to one sex. Women's studies is especially useful for employment in areas such as rape crisis centers, feminist publishing houses, campus women's centers, affirmative action offices, sex equity projects, advocacy and lobbying programs, domestic violence shelters, and displaced-homemaker programs, and as preparation for law school.

Academic Opportunities in Women's and Gender Studies

Women's and gender studies courses in a variety of areas throughout the University are available to interested students. Many of these courses fulfill General Education Curriculum distribution requirements. In addition to the women's studies courses listed in this catalog, many women's studies courses are offered through other departments. Updated lists of women's studies courses are available from the Center for Women's Studies each semester. Undergraduate students may earn a bachelor of arts in women's studies or a minor in women's studies.

Admission Requirements

If University admission requirements are met, a student may be accepted to WVU as a women's studies major. Students already enrolled at WVU will need an overall GPA of 2.0 to enter the major. They will be required to earn a minimum GPA of 2.5 in the nine required hours of the major (see below) and an overall 2.0 in all their major courses.

Degree Requirements

The women's studies major require 30 credit hours, including a minimum of 18 hours of upper-division classes. Most students will start their major with the required WMST 170 course. An honors section of this course is offered every year. Intermediate courses are designed to broaden students' perspectives on women's studies and to prepare them for the advanced required courses as well as for advanced upper-division electives. A maximum of nine credits of intermediate courses will be counted toward the minimum 30 credits required for the major. The required advanced core (six hours) includes two courses designed to prepare students for specialized study in the major: WMST 330 Feminist Theory and WMST 484 Seminar: Capstone. Women's studies majors may take no more than six hours of independent study (WMST 495) or field experience (WMST 491) credit, and these credits must be approved by the student's women's studies advisor before registration. Because the program draws on courses throughout the University, students should check with an advisor at the Center for Women's Studies in 218 Eiesland Hall or check the program's website at http://wmst.wvu.edu for the most current list of courses.

Coursework

Thirty hours in women's studies courses (not all with WMST prefix), including the following:

- Minimum of 12 hours of upper-division courses (300/400 level)
- WMST 170
- Maximum of nine hours of intermediate courses
- Required six hours of advanced core courses: WMST 330 and WMST 484
- No more than six hours of WMST 491 or 495
- Formal minor or second major
- Electives
- University and college requirements
- Total hours required for graduation 128
Minor in Women’s Studies

Any student admitted to an undergraduate degree program at WVU may earn a minor in women’s studies. Students are advised to design an individualized minor and may choose to focus on an area of concentration such as feminist thought or women’s health and sexuality. A grade point average of 2.75 in 15 hours of coursework is required for the minor. Students must take WMST 170, 484 or 330, and nine additional hours in women’s studies courses or approved departmental primary courses with at least nine hours in upper-division courses. The nine additional hours may include no more than six hours with any one prefix (WMST courses excepted), no more than one course in the student’s major, and no more than three hours of independent study or field experience. Students are required to register with the Center for Women’s Studies to enroll in the minor. Application forms and more information about the women’s and gender studies curriculum may be obtained from the Director, WVU Center for Women’s Studies, 218 Eiesland Hall, P.O. Box 6450, Morgantown, WV 26506-6450. Telephone (304) 293-2339, x1155.
Perley Isaac Reed School of Journalism
Maryanne Reed, M.S.J., Dean

http://journalism.wvu.edu

Degree Offered

Bachelor of Science in Journalism

Majors: Advertising, Journalism, Public Relations

(Students who entered the school prior to Fall 2009 may be enrolled in the broadcast news or news-editorial majors.)

The WVU Perley Isaac Reed School of Journalism is a student-centered journalism school that has been graduating mass communications specialists since 1939. While rooted in tradition, the school also offers an innovative, student-centered curriculum and real-world experiences that prepare students for careers in 21st century mass communications. Our students learn by doing, using state-of-the-art equipment and cutting-edge media technology. Our award-winning faculty work one-on-one with students to help launch their careers and dreams.

Accreditation

The Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) fully accredits the School of Journalism and its undergraduate programs: advertising, public relations, and journalism. More than 100 colleges and universities have earned ACEJMC approval. The school is also a member of the Association of Schools of Journalism and Mass Communications.

Equal Employment Opportunity and Affirmative Action Plan

West Virginia University is an equal opportunity/affirmative action institution. The University does not discriminate on the basis of race, sex, age, handicap, veteran status, religion, sexual orientation, color, or national origin in the administration of any of its educational programs or activities or with respect to admission and employment. The University neither affiliates with nor grants recognition to any individual, group, or organization having policies that discriminate on the basis of race, sex, age, handicap, veteran status, religion, sexual orientation, color, or national origin, as defined by the applicable laws and regulations. Faculty, staff, students, and applicants are protected from retaliation for filing complaints or for assisting in an investigation under the University's Equal Opportunity/ Affirmative Action Plan. Inquiries regarding the University’s non-discrimination policy may be directed to the Office of Social Justice, West Virginia University.

The School of Journalism endorses WVU's affirmative action plan and has historically applied the plan’s principles in all school initiatives and activities. Assurance of equal opportunity and affirmative action procedures are included in both the University and School of Journalism guidelines for faculty recruitment.

To recruit minority students, faculty and professionals visit state high schools and community colleges, periodically send representatives to recruitment events in urban areas with large minority populations, respond quickly to minorities seeking information about the school, initiate contacts with high school counselors, and give special attention to minority internship/placement opportunities. In 2010, the school established a chapter of the National Association of Black Journalists.

The school appreciates ethnic, racial, and cultural diversity among students, faculty, and staff. Professors often incorporate historical and contemporary issues within their teaching and learning experiences. The school has a full-time student services coordinator who has minority recruitment and retention as a major responsibility.

All students take the Journalism Qualifying Examination, and the school provides free tutoring and study packets through its in-house Advising Center. Students seeking more information should contact the school’s advising director.
Professional Relations

A close relationship is maintained with the mass media through the West Virginia Press Association, the West Virginia Broadcasters Association, the West Virginia Associated Press Broadcasters Association, Public Relations Society of America, American Advertising Federation, Business/Professional Advertising Association, National Press Photographers Association, and the Society of Professional Journalists. These groups have provided educational and financial support to the school, along with internships and job opportunities.

Every year, the school brings in professionals to give students advice on how to land their first job, write resumes, produce professional portfolios, and conduct themselves on job interviews. They also interview students for internships and permanent jobs.

Each spring, the school celebrates excellence in journalism and mass communications by hosting Journalism Week. Themes have included women in communications, diversity in the media, sports communications, the new media landscape and digital media, and the 2008 presidential election. The school also hosts a number of named lecture series, including the Ogden Newspapers Seminar Series, that have brought to campus renowned journalists, such as Pulitzer Prize-winning columnist Leonard Pitts, Newsweek investigative journalist Michael Isikoff, nationally syndicated columnist Kathleen Parker, Pulitzer Prize-winning editorial cartoonist Mike Luckovich, and John Harris, co-founder and editor of Politico.com.

Experiential Learning

Students gain real-world experience in their capstone courses, as well as with special projects. In the Multimedia Bureau Reporting class, students write, report, and produce multimedia content for newspapers and other media across the region and state. Students write spot news, feature stories, and sports for newspapers across the region. They are coached, edited, and mentored by experienced professionals. In the Advanced TV Reporting and Producing class, students produce newscasts that air statewide on West Virginia Public Broadcasting. In advertising and public relations, students produce campaigns for real clients that include healthcare and hospitals, non-profit organizations, and small businesses.

Faculty and students work together on high-profile journalism projects that impact the community and give students valuable hands-on experience. These have included an Emmy Award-winning documentary and published book chronicling the stories of cancer patients and their families; an oral history project documenting the stories of West Virginia's war veterans; a national award-winning multimedia website about Hurricane Katrina survivors who relocated to West Virginia; and “West Virginia Uncovered,” a training project funded by the Ford, Benedum, and McCormick Foundations, in which faculty and students work with small rural newspapers to help them transition to the digital age.

Students also develop their professional skills and portfolios through internships at news organizations and advertising and public relations agencies, as well as in the communications departments of companies and non-profit organizations. School of Journalism students have interned at such organizations as ABC's “Good Morning America,” the Associated Press, NBC News, ESPN, Fox News, USA Today, the White House, Foote Cone and Belding, Walt Disney World, and Ketchum Inc. The school offers the competitive “Mountaineer in D.C.” program, in which interns receive a $2,500 stipend and hourly pay to intern at the international public relations firm Golin Harris in Washington, D.C.

Journalism Organizations

Several organizations affiliated with the School of Journalism provide honor and recognition as well as fellowship and education. They are:

- Advertising Club, a professional advertising organization.
- Kappa Tau Alpha, a national scholastic honorary for students with exceptional academic records in journalism.
- Public Relations Student Society of America, a national public relations professional organization.
- The Society of Professional Journalists, a professional society for journalism majors.
• Ed on Campus: All Things Magazine, a community of young magazine editors and aspiring editors who want to learn more about the industry.
• Radio Television Digital News Association, the world’s largest organization exclusively serving the electronic news profession.
• National Association of Black Journalists, an organization dedicated to strengthening ties among African American journalists and promoting diversity in newsrooms.

Nature of Program
While rooted in tradition, the School of Journalism offers an innovative, student-centered curriculum and real-world experiences that prepare students for careers in 21st century mass communications. Our students learn by doing. Using the latest media technology, students produce real products — stories, broadcasts, campaigns, and projects — that are published and adopted by professional clients. In addition, community outreach and service learning are incorporated into our undergraduate programs, allowing students to connect with their communities and learn how to be compassionate and committed media professionals.

The School of Journalism offers three undergraduate majors in advertising, journalism, and public relations. Graduates earn a bachelor of science in journalism (B.S.J) degree, and their diplomas indicate their specific field of study. (Students who entered the school prior to Fall 2009 may have enrolled in the broadcast news or news-editorial majors.)

The most recent alumni survey shows that 85% of School of Journalism graduates were employed in their first professional position within six months of graduation. While they are still in school, our students get a foot in the door by interning at top regional and national newspapers, TV stations, public relations firms, and advertising agencies. Students also have the opportunity to work for campus media, including U-92 (the campus radio station) and The Daily Athenaeum (the daily student newspaper). While still in school, many students also build their skills by working part-time at local newspapers, broadcast stations, private firms, non-profit organizations, and for programs and departments across the WVU campus.

Admission to the School of Journalism
Students interested in majoring in journalism must first apply to West Virginia University and be accepted. To be eligible for direct admission into the School of Journalism, students must have at least a 2.75 un-weighted high school GPA and either a 23 ACT English score or a 530 SAT verbal score. Other students may declare a pre-journalism major. All students must take the Journalism Qualifying Exam (JQE). Direct admits will gain full admission into the School of Journalism upon earning a competitive score on the JQE and completing an application for major status. Pre-journalism majors will apply for admission into the school while enrolled in Journalism (JRL) 215.

To gain enrollment in Journalism 215, all students must earn a competitive score on the JQE and have a 2.0 cumulative WVU GPA. Students are allowed to take the JQE up to three times.

Priorities for Admission to Journalism 215 and Major Program Specific Courses
Students who meet the basic criteria for JRL 215 admission will be ranked by an index score derived from a combination of every individual’s cumulative GPA (minimum 2.0) and JQE score. Only 1030 (pre-journalism) and 4930 (direct admission journalism) majors may apply to be enrolled in JRL 215.

Priority for admission to JRL 215 will go to competitive students who complete a JRL 215 form on the school’s website. Students will be notified by e-mail when they are placed in the class.

Courses for Non-Majors
ADV 201, JRL 101, VISJ 220, JRL 261, ADV 215, TVJ 215, and PR 215 are open to all WVU students on a first-come, first-served basis. Those who attempt to enroll in other journalism-related courses but who lack the appropriate prerequisites will be removed from such classes.
The school offers several courses as a part of the University’s General Education Curriculum, including JRL 101 Introduction to Mass Communication; JRL 261 Documentary Film in America; ADV 201 Advertising and Society; and TVJ 215 Electronic Media and Society.

Scholarships

In addition to financial aid from West Virginia University, the School of Journalism offers a number of scholarships each year to eligible students. Students with a 3.0 or better cumulative GPA may apply during the spring selection period. All students applying for scholarships must file a FAFSA form by March 1, even if they are not eligible for need-based aid. Awards are generally based on academic performance and/or financial need. (Pre-journalism majors are not eligible for these awards.)

Choosing a Major

The School of Journalism offers three majors: advertising, journalism, and public relations. Students in the journalism major choose one of three areas of emphasis: print journalism, television journalism, or visual journalism. (Students who entered the school prior to Fall 2009 may be enrolled in the broadcast news or news-editorial majors rather than the journalism major.)

Direct admission students are admitted to the school upon admission to the University and declare their majors once they have successfully completed JRL 215. They still must meet all the regular pre-requisites for JRL 215 prior to enrolling in the course. Pre-journalism majors will apply for major status while they are enrolled in JRL 215.

Accelerated Bachelor's/Master's Program

In Fall 2011, the School of Journalism will launch its accelerated bachelor’s/master’s program, which will offer exceptional students (with at least a minimum 3.5 cumulative WVU GPA) an opportunity to earn both their bachelor’s and master’s degrees in a five-year period. Students should express an interest to the director of graduate studies during their sophomore year. Students will meet with the director of graduate studies during their sophomore and junior years and formally apply to the program near the end of their junior year. Graduate coursework will begin during the fourth year and continue through the following summer. During the fifth year, students will continue with their course graduate coursework, which will culminate with a thesis or professional project that will be defended by the end of their fifth year. Admission is competitive.

Graduation Requirements

School of Journalism graduates earn a bachelor of science in Journalism (B.S.J.) degree that requires a minimum of 128 credit hours. Of the 128 credit hours to graduate, School of Journalism students must take a minimum of 80 credit hours outside of the School of Journalism. At least 65 of the total credit hours taken outside of the School of Journalism must be liberal arts courses. Minimum credit hours to be taken within the School of Journalism are determined by specific programs.

Included in those 128 hours are a minimum 30 credit-hour major; a 15-hour-or-more minor; 34 hours of non-journalism requirements; a 42-hour General Education Curriculum; and general electives to bring the total number of credit hours to at least 128. The School of Journalism recommends many General Education Curriculum courses and specifies many non-major requirement courses. Some courses are available only once a year; it is the student’s responsibility to arrange his/her schedule accordingly. Please note that while some classes can count in more than one category, students still need to complete at least 128 credit hours. Students will take most of their major courses during their junior and senior years.

The School of Journalism will accept no more than 12 journalism/journalism-related courses from community colleges. Students may not double major within the School of Journalism, but they can pursue a dual-degree program with another academic unit on campus. To earn a second baccalaureate degree, students must complete at least 158 credit hours (30 hours beyond the first bachelor’s degree). Students must have their academic plan approved by the director of advising.
**Scholastic Requirements**

To be eligible for graduation, students must earn a minimum 2.0 cumulative grade point average; minor requirements are set by the offering colleges. Students also must earn a grade of C or better in all journalism, advertising, print journalism, public relations, television journalism, and visual journalism pre-requisite courses to advance in any discipline. Students who do not will be administratively deleted from courses without notification. Students must earn a grade of C or better in all major courses that are counted toward their graduation requirements.

To ensure they are progressing appropriately, students must see their advisor each semester to schedule classes. In addition, during the semester prior to applying for graduation, students should attend a graduation audit session.

**Academic Minors and Second Concentration Fields**

Students must complete either an officially sanctioned minor or an area of concentration outside at the School of Journalism. However, students may pursue the sport communication minor, which is offered jointly by the School of Journalism and the WVU College of Physical Activity and Sport Sciences. An area of concentration consists of 15 hours of coursework in a single discipline with at least nine of the hours at the 300-level or higher. Students may not take an area of concentration in a field where there is an existing minor available to them. Students must consult with their advisor before starting an area of concentration.

**Full-Time Load/Probation**

Students may not enroll for more than 19 hours in a single term or 13 hours in two summer sessions without permission from the associate dean.

If on probation, a student shall not take more than 12 hours of coursework in an academic term. Students enrolling in more than 12 hours will be notified by the school’s Advising Center.

**Withdrawal from Class or University**

All students enrolled in journalism courses may withdraw from a course with a W grade until the University’s withdrawal date (see the University calendar).

**Internship/Practicum Credit**

Students may choose any of the following options when taking an internship or practicum:

- Resume experience—no college credit or monetary compensation
- Experience—paid, but not for credit
- Experience—college credit plus monetary compensation
- Experience—college credit but no monetary compensation

Typically students choose to do an internship/practicum for credit because the employer requires it or the student needs the elective journalism credit(s). Students who wish to do an internship/practicum for credit must see the School of Journalism’s student services coordinator to be signed into JRL 441 (3 credits, typically done in the summer) or JRL 442 (1–2 credits) and complete a contract. Students cannot receive credit retroactively, per school policy. One hundred hours of work equals one credit hour.

**Job Placement**

The School of Journalism’s student services coordinator assists future graduates in finding desirable positions by acting as a placement clearinghouse for current students and alumni. School of Journalism faculty also advise and assist students in the preparation of resumes and portfolios. Representatives of newspapers, magazines, public relations, broadcasting, and advertising firms frequently request that School of Journalism faculty provide applicants for job openings and internships.
Major Programs’ Objectives

Advertising Program
Sang Lee, Ph.D., Chair

The advertising major teaches students how to develop and produce persuasive messages and advertising campaigns. Students build skills in writing, research, graphic design, direct marketing, media planning, and campaign management. Advertising students plan and produce advertising campaigns for actual businesses, gaining real-world experience that can lead to careers in advertising agencies, corporations, and public-sector fields.

The minor or second concentration field(s) is subject to approval by your advisor; business administration is a common minor choice.

Major requirements for the advertising program include: JRL 101, JRL 215, ADV 421, JRL 489, JRL 428, ADV 215, ADV 315, ADV 401/451, ADV 403, and ADV 459.

Required non-major classes include: BUSA 340 or ACCT 201 or ENTR 335, two semesters of the same foreign language, ULIB 101, POLS 102, POLS 220, PSYC 101, HIST 153, ECON 201, ECON 202, ENGL Lit (from approved list), and BUSA 320 or BUSA 330.

Within the University’s General Education Curriculum, the school requires that students complete the following: ENGL 101; ENGL 102 or ENGL 103; eight hours in same science, including at least one semester of lab science; the University math requirement — MATH 121/126 or equivalent; STAT 111 (or equivalent); HIST 152; JRL 115 or UNIV 101 (or equivalent); PHIL 100 or 130; JRL 101 (see major requirements); and one course each from the school’s approved list of objectives 4, 5, 7, and 9.

Suggested Four-Year Advertising Schedule

First Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take JQE</td>
<td>N/A</td>
</tr>
<tr>
<td>Obj. 1 ENGL 101</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 6 PHIL 100 or 130</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 2 Lab Science</td>
<td>4</td>
</tr>
<tr>
<td>Obj. 5 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 6 JRL 115/UNIV 101 (or equivalent)</td>
<td>1</td>
</tr>
<tr>
<td>Obj. 8 JRL 101</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 MATH 121 (or other MATH)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 4 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>HIST 153</td>
<td>3</td>
</tr>
<tr>
<td>ENGL Lit. from approved list</td>
<td>3</td>
</tr>
<tr>
<td>ADV 215</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 STAT 111 (or equivalent)</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>3</td>
</tr>
<tr>
<td>Same Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>POLS 102</td>
<td>3</td>
</tr>
<tr>
<td>JRL 489</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 9 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td>ADV 315</td>
<td>3</td>
</tr>
<tr>
<td>ADV 403</td>
<td>3</td>
</tr>
<tr>
<td>JRL 428</td>
<td>3</td>
</tr>
<tr>
<td>Minor/2nd Concentration</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 201/BUSA 340</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sixth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADV 401/451</td>
<td>3</td>
</tr>
<tr>
<td>ADV 421</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
</tr>
<tr>
<td>BUSA 320/330</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>
### Fourth Year

<table>
<thead>
<tr>
<th>Seventh Semester</th>
<th>Hrs.</th>
<th>Eighth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 7 course from approved list</td>
<td>3</td>
<td>ADV 459</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
<td>SOJ Electives</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
<td>Minor</td>
<td>6</td>
</tr>
<tr>
<td>POLS 220</td>
<td>3</td>
<td>General Elective</td>
<td>3</td>
</tr>
<tr>
<td>General Elective</td>
<td>1</td>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**Total** 13

Note: The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student's responsibility to arrange his/her schedule accordingly.

### Broadcast News Program

Gina Martino Dahlia, M.S.J., Chair

(The following information applies only to students who entered the School of Journalism prior to Fall 2009.)

In the broadcast news program, students learn how to report, write, and produce news stories and programs for electronic media. Broadcast students learn fundamental journalism skills, along with the principles and practices of audio and video production. Guided by faculty with extensive professional experience, broadcast news students learn by doing. Our students produce “WVU News,” a newscast that airs statewide on West Virginia Public Broadcasting and on the Internet. Students also cover stories in Morgantown as field reporters for Pittsburgh’s KDKA-TV, a top-30 TV market station.

Major requirements for the broadcast news program include: JRL 101, JRL 210, JRL 215, JRL 489, NE/JRL 426, NE/JRL 428, BN/TVJ 215, BN/TVJ 319, BN/TVJ 386, and BN/TVJ 487. In addition, broadcast news students must complete at least one of the following: BN/TVJ 486, JRL 431, or any 400-level JRL, BN/TVJ, PRNJ, or VISJ class.

Required non-major classes include: BUSA 340 or ACCT 201 or ENTR 335, two semesters of the same foreign language, ULIB 101, POLS 102, POLS 220, PSYC 101, HIST 153, ECON 201, ECON 202, ENGL Lit (from approved list), and a public speaking course (COMM 103, SPA 270, or THET 102).

Within the University’s General Education Curriculum, the school requires that students complete the following: ENGL 101; ENGL 102 or ENGL 103; eight hours in same science, including at least one semester of lab science; the University math requirement—MATH 121/124/126 or equivalent; STAT 111 (or equivalent); HIST 152; JRL 115 or UNIV 101 (or equivalent); PHIL 100 or 130; JRL 101 (see major requirements); and one course each from the school’s approved list of objectives 4, 5, 7, and 9.

### Suggested Four-Year Broadcast News Schedule

(For students who entered the school prior to Fall 2009.)

**First Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JQE</td>
<td>N/A</td>
<td>Obj. 1 ENGL 102</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 1 ENGL 101</td>
<td>3</td>
<td>Obj. 2 Same Science</td>
<td>4</td>
</tr>
<tr>
<td>Obj. 6 PHIL 100 or 130</td>
<td>3</td>
<td>Obj. 3 HIST 152</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 2 Lab Science</td>
<td>4</td>
<td>POLS 102</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 5 course from approved list</td>
<td>3</td>
<td>ULIB 101</td>
<td>1</td>
</tr>
<tr>
<td>Obj. 6 JRL 115/UNIV 101</td>
<td>3</td>
<td><strong>Total</strong></td>
<td>14</td>
</tr>
<tr>
<td>(or equivalent)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obj. 8 JRL 101</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Second Year**

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 MATH 121 (or other MATH)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 4 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>HIST 153</td>
<td>3</td>
</tr>
<tr>
<td>ENGL Literature from approved list</td>
<td>3</td>
</tr>
<tr>
<td>JRL 215</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 STAT 111 (or equivalent)</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 9 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>3</td>
</tr>
<tr>
<td>Same Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>JRL 210</td>
<td>3</td>
</tr>
<tr>
<td>BN/TVJ 215</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td>POLS 220</td>
<td>3</td>
</tr>
<tr>
<td>BN/TVJ 319</td>
<td>3</td>
</tr>
<tr>
<td>NE/JRL 428</td>
<td>3</td>
</tr>
<tr>
<td>Minor/2nd Concentration</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 201/BUSA 340</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sixth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 202</td>
<td>3</td>
</tr>
<tr>
<td>BN/TVJ 386</td>
<td>3</td>
</tr>
<tr>
<td>JRL 489</td>
<td>3</td>
</tr>
<tr>
<td>Approved 400-level JRL course</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
</tr>
<tr>
<td>COMM 103, SPA 270 or THET 102</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Seventh Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 7 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>JRL/NE 426</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eighth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN/TVJ 487</td>
<td>3</td>
</tr>
<tr>
<td>SOJ Electives</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>6</td>
</tr>
<tr>
<td>General Elective</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>

**Note:** The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student’s responsibility to arrange his/her schedule accordingly.

**News-Editorial Program**

John Temple, M.F.A., Chair

(The following information applies only to students who entered the School of Journalism prior to Fall 2009.)

School of Journalism news-editorial students learn by doing. The major’s capstone course requires students to write for state and regional publications as part of a special WVU student bureau. The program, which offers areas of emphasis in news and visual journalism, emphasizes hands-on learning and one-on-one instruction from experienced professionals.

Students intern at the nation’s top publications, in addition to regional and local news media. Students also work for The Daily Athenaeum, the independent campus newspaper. Because of the school’s hands-on curriculum and strong ties with alumni, newsroom managers, and publishers, students land jobs at publications throughout the state and nation.

News-editorial majors are required to publish at least 500 column inches of bylined writing or 30 bylined photographs in the news media. Other types of news media publications such as info-graphics, online multimedia, or blogs may be accepted as well. Students may also submit a combination of equivalent materials. Consult the associate dean if you have questions about this graduation requirement.

News-editorial students frequently earn a minor in political science, history, general English, creative writing English, sociology, or business administration.
Core requirements for the news-editorial major include: JRL 101, JRL 210, JRL 215, JRL 318, JRL 489, NE/JRL 428, and NE/JRL 459. Students taking the news area of emphasis are required to take NE/PRNJ 426; they must also complete at least two of the following courses: NE/PRNJ 418, NE/PRNJ 420, NE/PRNJ 427, NE/PRNJ 430, JRL/VISJ 220, JRL/VISJ 320, JRL/VISJ 431, JRL/VISJ 440. Other upper-division NE/PRNJ, JRL, VISJ or BN/TVJ courses may be included with approval of the news-editorial sequence head. Students taking the visual journalism area of emphasis are required to take JRL/VISJ 220 and JRL/VISJ 431; they must also complete at least one of the following courses: JRL/VISJ 320 and JRL/VISJ 440.

Required non-major classes include: BUSA 340 or ACCT 201 or ENTR 335, two semesters of the same foreign language, ULIB 101, POLS 102, POLS 220, PSYC 101, HIST 153, ECON 201, ECON 202, ENGL Lit (from approved list), and one additional GEC class from Objectives 4, 5, 7, or 9.

Within the University’s General Education Curriculum, the school requires that students complete the following: ENGL 101; ENGL 102 or ENGL 103; eight hours in same science, including at least one semester of lab science; the University math requirement—MATH 121/126 or equivalent; STAT 111 (or equivalent); HIST 152; JRL 115 or UNIV 101 (or equivalent); PHIL 100 or 130; JRL 101 (see major requirements); and one course each from the school’s approved list of objectives 4, 5, 7, and 9.

Suggested Four-Year News-Editorial Schedule
(For students who entered the school prior to Fall 2009.)

First Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take JOE ...</td>
<td>...</td>
<td>Obj. 1 ENGL 102</td>
<td>...</td>
</tr>
<tr>
<td>Obj. 1 ENGL 101</td>
<td>...</td>
<td>Obj. 2 Same Science</td>
<td>...</td>
</tr>
<tr>
<td>Obj. 6 PHIL 100 or 130</td>
<td>...</td>
<td>Obj. 3 HIST 152</td>
<td>...</td>
</tr>
<tr>
<td>Obj. 2 Lab Science</td>
<td>...</td>
<td>POLS 102</td>
<td>...</td>
</tr>
<tr>
<td>Obj. 5 course from approved list</td>
<td>...</td>
<td>ULIB 101</td>
<td>...</td>
</tr>
<tr>
<td>Obj. 6 JRL 115/UNIV 101</td>
<td>...</td>
<td>Total</td>
<td>...</td>
</tr>
<tr>
<td>(or equivalent)</td>
<td>...</td>
<td>...</td>
<td>14</td>
</tr>
<tr>
<td>Obj. 8 JRL 101</td>
<td>...</td>
<td>Total</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>...</td>
<td>...</td>
<td>17</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hrs.</th>
<th>Fourth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 MATH 121 (or other MATH)</td>
<td>...</td>
<td>Obj. 2 STAT 111 (or equivalent)</td>
<td>...</td>
</tr>
<tr>
<td>Obj. 4 course from approved list</td>
<td>...</td>
<td>Obj. 7 course from approved list</td>
<td>...</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>...</td>
<td>PSYC 101</td>
<td>...</td>
</tr>
<tr>
<td>HIST 153</td>
<td>...</td>
<td>Same Foreign Language</td>
<td>...</td>
</tr>
<tr>
<td>ENGL Literature from approved list</td>
<td>...</td>
<td>JRL 210</td>
<td>...</td>
</tr>
<tr>
<td>JRL 215</td>
<td>...</td>
<td>JRL 318</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>...</td>
<td>Total</td>
<td>...</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>18</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Hrs.</th>
<th>Sixth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201</td>
<td>...</td>
<td>ECON 202</td>
<td>...</td>
</tr>
<tr>
<td>JRL 319</td>
<td>...</td>
<td>NE/PRNJ Area of Emphasis course</td>
<td>...</td>
</tr>
<tr>
<td>NE/PRNJ Area of Emphasis course</td>
<td>...</td>
<td>JRL 489</td>
<td>...</td>
</tr>
<tr>
<td>POLS 220</td>
<td>...</td>
<td>Minor</td>
<td>...</td>
</tr>
<tr>
<td>Minor/2nd Concentration</td>
<td>...</td>
<td>Any unused course from</td>
<td>...</td>
</tr>
<tr>
<td>ACCT 201/BUSA 340</td>
<td>...</td>
<td>Obj. 4, 5, 7 or 9 lists</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>...</td>
<td>Total</td>
<td>...</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>18</td>
</tr>
</tbody>
</table>

...
Fourth Year

Seventh Semester  Hrs.  
Obj. 9 course from approved list...... 3  
NE Area of Emphasis course........... 3  
NE 428.................................... 3  
Minor .................................... 3  
Total .................................... 12

Eighth Semester  Hrs.  
NE 459.................................... 3  
SOJ Electives ............................. 3  
Minor .................................... 6  
General Elective.......................... 4  
Total .................................... 16

Note: The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student’s responsibility to arrange his/her schedule accordingly.

Public Relations Program
Diana Martinelli, Ph.D., Chair

Students in the public relations major learn how to create media campaigns and plan events for nonprofit organizations and private firms and businesses through practical, hands-on experience. Students plan regional conferences for nonprofit organizations and develop strategic communication plans, media kits, brochures, speeches, and press releases. Clients include industrial, medical, military, educational, and charitable organizations. While focusing on public relations, students also receive a solid education in writing, research, interviewing skills, and media and audience analysis.

Public relations majors are encouraged to select minors that will provide a deeper understanding of personal and interpersonal relationships (political science, sociology, anthropology, or business administration).

Major requirements for the public relations program include: JRL 101, JRL 215, JRL 318, JRL 489, JRL 428, PR 215, an editing/design course (PR 319, PR 333, JRL 319, or ADV 319), PR 324, PR 422, and PR 459.

Required non-major classes include: BUSA 340 or ACCT 201 or ENTR 335, two semesters of the same foreign language, ULIB 101, POLS 102, POLS 220, PSYC 101, HIST 153, ECON 201, ECON 202, ENGL Lit (from approved list), and a public speaking course (COMM 103, SPA 270, or THET 102).

Within the University’s General Education Curriculum, the school requires that students complete the following: ENGL 101; ENGL 102 or ENGL 103; eight hours in same science, including at least one semester of lab science; the University math requirement—MATH 121/126 or equivalent; STAT 111 (or equivalent); HIST 152; JRL 115 or UNIV 101 (or equivalent); PHIL 100 or 130; JRL 101 (see major requirements); and one course each from the school’s approved list of objectives 4, 5, 7, and 9.

Suggested Four-Year Public Relations Schedule
First Year

First Semester  Hrs.  
JQE............................................ N/A  
Obj. 1 ENGL 101......................... 3  
Obj. 6 PHIL 100 or 130.............. 3  
Obj. 2 Lab Science...................... 4  
Obj. 6 course from approved list... 3  
Obj. 6 JRL 115/UNIV 101............ 1  
Total .................................... 14

Second Semester  Hrs.  
ENGL 102................................. 3  
Obj. 2 Same Science.................... 4  
Obj. 3 HIST 152......................... 3  
JRL 215.................................... 3  
ULIB 101................................... 1  
Total .................................... 14

Second Year

Total .................................... 18

Fourth Semester  Hrs.  
Obj. 2 STAT 111 (or equivalent)...... 3  
Obj. 7 course from approved list...... 3  
PSYC 101................................... 3  
Same Foreign Language................ 3  
JRL 318.................................... 3  
POLS 102................................... 3  
Total .................................... 18

Note: The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student’s responsibility to arrange his/her schedule accordingly.

Public Relations Program
Diana Martinelli, Ph.D., Chair

Students in the public relations major learn how to create media campaigns and plan events for nonprofit organizations and private firms and businesses through practical, hands-on experience. Students plan regional conferences for nonprofit organizations and develop strategic communication plans, media kits, brochures, speeches, and press releases. Clients include industrial, medical, military, educational, and charitable organizations. While focusing on public relations, students also receive a solid education in writing, research, interviewing skills, and media and audience analysis.

Public relations majors are encouraged to select minors that will provide a deeper understanding of personal and interpersonal relationships (political science, sociology, anthropology, or business administration).

Major requirements for the public relations program include: JRL 101, JRL 215, JRL 318, JRL 489, JRL 428, PR 215, an editing/design course (PR 319, PR 333, JRL 319, or ADV 319), PR 324, PR 422, and PR 459.

Required non-major classes include: BUSA 340 or ACCT 201 or ENTR 335, two semesters of the same foreign language, ULIB 101, POLS 102, POLS 220, PSYC 101, HIST 153, ECON 201, ECON 202, ENGL Lit (from approved list), and a public speaking course (COMM 103, SPA 270, or THET 102).

Within the University’s General Education Curriculum, the school requires that students complete the following: ENGL 101; ENGL 102 or ENGL 103; eight hours in same science, including at least one semester of lab science; the University math requirement—MATH 121/126 or equivalent; STAT 111 (or equivalent); HIST 152; JRL 115 or UNIV 101 (or equivalent); PHIL 100 or 130; JRL 101 (see major requirements); and one course each from the school’s approved list of objectives 4, 5, 7, and 9.

Suggested Four-Year Public Relations Schedule
First Year

First Semester  Hrs.  
JQE............................................ N/A  
Obj. 1 ENGL 101......................... 3  
Obj. 6 PHIL 100 or 130.............. 3  
Obj. 2 Lab Science...................... 4  
Obj. 6 course from approved list... 3  
Obj. 6 JRL 115/UNIV 101............ 1  
Total .................................... 14

Second Semester  Hrs.  
ENGL 102................................. 3  
Obj. 2 Same Science.................... 4  
Obj. 3 HIST 152......................... 3  
JRL 215.................................... 3  
ULIB 101................................... 1  
Total .................................... 14

Second Year

Total .................................... 18

Fourth Semester  Hrs.  
Obj. 2 STAT 111 (or equivalent)...... 3  
Obj. 7 course from approved list...... 3  
PSYC 101................................... 3  
Same Foreign Language................ 3  
JRL 318.................................... 3  
POLS 102................................... 3  
Total .................................... 18
Third Year
Fifth Semester Hrs.  Sixth Semester Hrs.
ECON 201 ........................................ 3  ECON 202 ........................................ 3
POL 220 ......................................... 3  PR 324 ........................................... 3
PR 319 or approved equivalent ...... 3  JRL 489 ........................................... 3
JRL 428 ......................................... 3  Minor ............................................. 3
Minor/2nd Concentration .......... 3  COMM 103, SPA 270 or THET 102...3
ACCT 201/BUSA 340 ............... 3  Total ................................................ 15

Fourth Year
Seventh Semester Hrs.  Eighth Semester Hrs.
Obj. 9 course from approved list.... 3  PR 459 ........................................... 3
PR 422 ......................................... 3  SOJ Electives ................................... 3
Minor .......................................... 3  Minor ............................................. 6
Minor .......................................... 3  General Elective ................................. 3
Total ........................................... 12  Total ............................................ 15

Note: The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student's responsibility to arrange his/her schedule accordingly.

Journalism Program
Print Journalism area of emphasis: John Temple, M.F.A., Chair
Television Journalism area of emphasis: Gina Martino Dahlia, M.S.J., Chair
Visual Journalism area of emphasis: Joel Beeson, M.F.A., Chair

(This major is available to students who entered the School of Journalism during or after Fall 2009.)

The journalism major prepares students for careers as multimedia journalists working in the fields of television, Internet, newspaper, or magazine journalism. All students in the journalism major must complete a series of shared core requirements and a shared capstone experience. Core requirements for the journalism major include: JRL 101, JRL 210, JRL 215, JRL 489, JRL 428, and JRL 459.

In addition, students entering this major will choose one of three areas of emphasis: print journalism (PRNJ), television journalism (TVJ), or visual journalism (VISJ).

- Print journalism (PRNJ) students learn news and feature writing, beat reporting, copyediting and design, immersion reporting, online research and writing, public affairs reporting, and editorial writing. PRNJ majors are required to publish at least 500 column inches of bylined writing or 30 bylined photographs in the news media. Other types of news media publications — such as info-graphics, online multimedia, or blogs—may be accepted as well. Students may also submit a combination of equivalent materials. Consult the associate dean if you have questions about this graduation requirement. PRNJ students are required to take JRL 318 and JRL 426; they must also complete at least two of the following courses: PRNJ 418, PRNJ 420, PRNJ 427, PRNJ 430, VISJ 220, VISJ 320, VISJ 431, VISJ 440. Other upper-division PRNJ, JRL, VISJ, or TVJ courses may be included with approval of the PRNJ program chair.

- Television journalism (TVJ) students produce news stories and programs in a state-of-the-art television studio and in digital editing suites. Students learn broadcast news writing, television field reporting, and newscast production. Students showcase their work on a student-produced newscast, “WVU News,” which airs on West Virginia Public Broadcasting and is available online at http://www.youtube.com/westvirginiau. Required courses for TVJ students include: TVJ 319, TVJ 386, JRL 426 and TVJ 487, JRL 459. In addition, TVJ students must complete at least one of the following: TVJ 486, JRL 431, or any 400-level JRL, TVJ, PRNJ, or VISJ class. TVJ students must also complete a public speaking course (COMM 103, SPA 270, or THET 102).
• Visual journalism (VISJ) students learn photojournalism, videography, design, and how to edit various forms of media into compelling multimedia journalism projects. VISJ majors are required to publish at least 500 column inches of bylined writing or 30 bylined photographs in the news media. Other types of news media publications—such as info-graphics, online multimedia, or blogs—may be accepted as well. Students may also submit a combination of equivalent materials. Consult the associate dean if you have questions about this graduation requirement. They are required to take JRL 318, VISJ 220 and VISJ 431; they must also complete at least one of the following courses: VISJ 320 and VISJ 440.

For all students in the journalism major program, required non-major classes include: BUSA 340 or ACCT 201 or ENTR 335, two semesters of the same foreign language, ULIB 101, POLS 102, POLS 220, PSYC 101, HIST 153, ECON 201, ECON 202, ENGL Lit and (from approved list).

Within the University’s General Education Curriculum, the school requires that students complete the following: ENGL 101; ENGL 102 or ENGL 103; eight hours in same science, including at least one semester of lab science; the University math requirement—MATH 121/124/126 or equivalent; STAT 111 (or equivalent); HIST 152; JRL 115 or UNIV 101 (or equivalent); PHIL 100 or 130; JRL 101 (see major requirements); and one course each from the school’s approved list of objectives 4, 5, 7, and 9.

Suggested Four-Year Journalism Schedule
(For students who entered the school during or after Fall 2009.)

Print Journalism Area of Emphasis

First Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take JOE</td>
<td>N/A</td>
</tr>
<tr>
<td>Obj. 1 ENGL 101</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 6 PHIL 100 or 130</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 2 Lab Science</td>
<td>4</td>
</tr>
<tr>
<td>Obj. 5 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 6 JRL 115/UNIV 101 (or equivalent)</td>
<td>1</td>
</tr>
<tr>
<td>Obj. 8 JRL 101</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Hrs.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 1 ENGL 102</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 2 Same Science</td>
<td>4</td>
</tr>
<tr>
<td>Obj. 3 HIST 152</td>
<td>3</td>
</tr>
<tr>
<td>JRL 215</td>
<td>3</td>
</tr>
<tr>
<td>ULIB 101</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 MATH 121 (or other MATH)</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 4 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>HIST 153</td>
<td>3</td>
</tr>
<tr>
<td>ENGL Literature from approved list</td>
<td>3</td>
</tr>
<tr>
<td>VISJ 210</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Fourth Semester

<table>
<thead>
<tr>
<th>Hrs.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 STAT 111 (or equivalent)</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 7 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>3</td>
</tr>
<tr>
<td>Same Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>POLS 102</td>
<td>3</td>
</tr>
<tr>
<td>JRL 318</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td>JRL 319</td>
<td>3</td>
</tr>
<tr>
<td>PRNJ AoE requirement</td>
<td>3</td>
</tr>
<tr>
<td>POLS 220</td>
<td>3</td>
</tr>
<tr>
<td>Minor/2nd Concentration</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 201/BUWA 340</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Sixth Semester

<table>
<thead>
<tr>
<th>Hrs.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 202</td>
<td>3</td>
</tr>
<tr>
<td>PRNJ AoE requirement</td>
<td>3</td>
</tr>
<tr>
<td>JRL 489</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
</tr>
<tr>
<td>Any unused course from</td>
<td></td>
</tr>
<tr>
<td>Obj. 4, 5, 7 or 9 lists</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>
### Fourth Year

<table>
<thead>
<tr>
<th>Seventh Semester</th>
<th>Hrs.</th>
<th>Eighth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 9 course from approved list</td>
<td>3</td>
<td>JRL 459</td>
<td>3</td>
</tr>
<tr>
<td>PRNJ AoE requirement</td>
<td>3</td>
<td>Minor</td>
<td>6</td>
</tr>
<tr>
<td>JRL 428</td>
<td>3</td>
<td>General Elective</td>
<td>3</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
<tr>
<td>General Elective</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student's responsibility to arrange his/her schedule accordingly.

### Television Journalism Area of Emphasis

#### First Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JQE</td>
<td>N/A</td>
<td>Obj. 1 ENGL 102</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 1 ENGL 101</td>
<td>3</td>
<td>Obj. 2 Same Science</td>
<td>4</td>
</tr>
<tr>
<td>Obj. 6 PHIL 100 or 130</td>
<td>3</td>
<td>Obj. 3 HIST 152</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 2 Lab Science</td>
<td>4</td>
<td>JRL 215</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 5 course from approved list</td>
<td>3</td>
<td>ULIB 101</td>
<td>1</td>
</tr>
<tr>
<td>Obj. 6 JRL 115/UNIV 101 (or equivalent)</td>
<td>1</td>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
<tr>
<td>Obj. 8 JRL 101</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Hrs.</th>
<th>Fourth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 2 MATH 121 (or other MATH)</td>
<td>3</td>
<td>Obj. 2 STAT 111 (or equivalent)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3</td>
<td>Obj. 9 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td>Obj. 4 course from approved list</td>
<td>3</td>
<td>PSYC 101</td>
<td>3</td>
</tr>
<tr>
<td>HIST 153</td>
<td>3</td>
<td>Same Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>ENGL Literature from approved list</td>
<td>3</td>
<td>POLS 102</td>
<td>3</td>
</tr>
<tr>
<td>VISJ 210</td>
<td>3</td>
<td>TVJ 319</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Hrs.</th>
<th>Sixth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 201</td>
<td>3</td>
<td>ECON 202</td>
<td>3</td>
</tr>
<tr>
<td>POLS 220</td>
<td>3</td>
<td>TVJ 487</td>
<td>3</td>
</tr>
<tr>
<td>TVJ 386</td>
<td>3</td>
<td>JRL 489</td>
<td>3</td>
</tr>
<tr>
<td>JRL 428</td>
<td>3</td>
<td>Minor</td>
<td>3</td>
</tr>
<tr>
<td>Minor/2nd Concentration</td>
<td>3</td>
<td>COMM 103, SPA 270 or THET 102</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 201/BUSA 340</td>
<td>3</td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Seventh Semester</th>
<th>Hrs.</th>
<th>Eighth Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obj. 7 course from approved list</td>
<td>3</td>
<td>JRL 459</td>
<td>3</td>
</tr>
<tr>
<td>JRL 426</td>
<td>3</td>
<td>SOJ Electives</td>
<td>3</td>
</tr>
<tr>
<td>Approved 400-level JRL course</td>
<td>3</td>
<td>Minor</td>
<td>6</td>
</tr>
<tr>
<td>Minor</td>
<td>3</td>
<td>General Elective</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

**Note:** The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student's responsibility to arrange his/her schedule accordingly.
### Visual Journalism Area of Emphasis

#### First Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
<td>Take JQE</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obj. 1 ENGL 101</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obj. 6 PHIL 100 or 130</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obj. 2 Lab Science</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obj. 5 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obj. 6 JRL 115/UNIV 101 (or equivalent)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obj. 8 JRL 101</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third Semester</td>
<td></td>
<td>Obj. 2 MATH 121 (or other MATH)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obj. 4 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIST 153</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENGL Literature from approved list</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VISJ 210</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fifth Semester</td>
<td></td>
<td>ECON 201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reqd. VISJ design class</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VISJ AoE requirement</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POLS 220</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minor/2nd Concentration</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACCT 201/BUSA 340</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seventh Semester</td>
<td></td>
<td>Obj. 9 course from approved list</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VISJ AoE requirement</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JRL 428</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minor</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>General Elective</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Semester</th>
<th>Hrs.</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eighth Semester</td>
<td></td>
<td>JRL 459</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minor</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>General Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**Note:** The School of Journalism specifies many General Education Curriculum and non-major requirement courses. Some courses are available only once a year; it is the student's responsibility to arrange his/her schedule accordingly.
## Minors and Special Programs

### Advertising Minor

Students in colleges and units outside of the School of Journalism may earn a minor in advertising during the school year and summer sessions by completing the following courses and meeting the requirements as stated below. The advertising minor is not available to any student enrolled in the P.I. Reed School of Journalism.

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Prerequisites and Schedule</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JRL 101 Introduction to Mass Comm</td>
<td>May be taken any term, in classroom or online</td>
<td>3</td>
</tr>
<tr>
<td>ADV 201 Advertising and Society</td>
<td>May be taken any term, in classroom during fall/spring, or summer online</td>
<td>3</td>
</tr>
<tr>
<td>ADV 215 Principles of Advertising</td>
<td>May be taken any term, in classroom, or online</td>
<td>3</td>
</tr>
<tr>
<td>ADV 309 Advertising and Creativity</td>
<td>Prerequisites: JRL 101, ADV 201 or ADV 215. Offered online in fall and summer sessions.</td>
<td>3</td>
</tr>
<tr>
<td>ADV 409 Advertising Research and</td>
<td>Prerequisites: JRL 101, ADV 201 or ADV 215. Offered online in fall and summer sessions.</td>
<td>3</td>
</tr>
<tr>
<td>Media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADV 419 Advertising Strategy</td>
<td>Prerequisites: JRL 101, ADV 201 or ADV 215. Offered online in spring and summer sessions.</td>
<td>3</td>
</tr>
</tbody>
</table>

*To earn a minor in advertising a student must earn a grade of C or better in each of the five courses. Students completing the entire minor online can expect to complete it in one year.

**Students who double-minor in advertising and public relations may only take JRL 101 once and must replace the second offering with one of the School of Journalism’s 200-level or higher open-enrollment courses. Students who double-minor in sport communication and advertising must also take PR 215 Introduction to Public Relations. Students who double-minor in advertising and health promotion must complete PR 215 Introduction to Public Relations.

***Students who triple-minor in advertising, public relations, and sport communication must complete all listed courses. However, JRL 101 and PR 410 IMC for Public Relations can be taken only once; each must be replaced with one of the School of Journalism’s online 200-level or higher open-enrollment courses. Students who triple-minor in advertising, public relations, and health promotion must complete all listed courses. However, JRL 101 can be taken only once and must be replaced with two of the School of Journalism’s online 200-level or higher open-enrollment courses.
### Public Relations Minor

Students in colleges and units outside of the School of Journalism may earn a minor in public relations during the school year and summer sessions by completing the following courses and meeting the requirements as stated below. The public relations minor is not available to any student enrolled in the P.I. Reed School of Journalism.

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Prerequisites and Schedule</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JRL 101 Introduction to Mass Comm</td>
<td>May be taken any term, in classroom, or online</td>
<td>3</td>
</tr>
<tr>
<td>PR 215 Intro. to Public Relations</td>
<td>May be taken any term, in classroom, or online</td>
<td>3</td>
</tr>
<tr>
<td>PR 301 Writing for Public Relations</td>
<td>Prequisites: JRL 101, PR 215 Offered online in fall and summer sessions.</td>
<td>3</td>
</tr>
<tr>
<td>PR 401 Applied Public Relations</td>
<td>Prerequisites: JRL 101, PR 215 Offered online in fall and summer sessions.</td>
<td>3</td>
</tr>
<tr>
<td>PR 410 IMC for Public Relations</td>
<td>Prerequisites: JRL 101, PR 215 Offered online in spring and summer sessions.</td>
<td>3</td>
</tr>
</tbody>
</table>

*To earn a minor in public relations a student must earn a grade of C or better in each of the five courses. Students completing the entire minor online can expect to complete it in one year.

**Students who double-minor in advertising and public relations may only take JRL 101 once and must replace the second offering with one of the School of Journalism’s online 200-level or higher open-enrollment courses. Students who double minor in sport communication and public relations must also take either ADV 215 Principles of Advertising or ADV 201 Advertising & Society, as well as one of the School of Journalism’s online 200-level or higher open-enrollment courses in place of PR 410. Students who double-minor in public relations and health promotion must complete ADV 215 Principles of Advertising.

***Students who triple-minor in advertising, public relations, and sport communication must complete all listed courses. However, JRL 101 and PR 410 can be taken only once; each must be replaced with one of the School of Journalism’s online 200-level or higher open-enrollment courses. Students who triple minor in advertising, public relations, and health promotion must complete all listed courses. However, JRL 101 can be taken only once and must be replaced with two of the School of Journalism’s online 200-level or higher open-enrollment courses.

### Sports Communication Minor

The sport communication minor requires 18 hours—nine of which are offered by the WVU College of Physical Activity and Sport Sciences, and nine of which are offered by the School of Journalism. This blended minor includes both on-campus and online courses.

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Prerequisites and Schedule</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADV 201 Advertising &amp; Society</td>
<td>May be taken any term, in classroom during fall/spring, or summer online</td>
<td>3</td>
</tr>
<tr>
<td>ADV 215 Principles of Advertising</td>
<td>May be taken any term, in classroom, or online</td>
<td>3</td>
</tr>
<tr>
<td>PR 215 Introduction to Public Relations</td>
<td>May be taken any term, in classroom, or online</td>
<td>3</td>
</tr>
</tbody>
</table>

The following are required courses:

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Prerequisites and Schedule</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JRL 361 Media Relations in Sport</td>
<td>Prerequisites: ADV 201, ADV 215 or PR 215 Offered online in fall or summer sessions.</td>
<td>3</td>
</tr>
<tr>
<td>PR 412 IMC for Sport Public Relations</td>
<td>Prerequisites: ADV 201, ADV 215 or PR 215 Offered online in spring or summer sessions.</td>
<td>3</td>
</tr>
</tbody>
</table>
SEP 271 Sport in American Society  May be taken any term, in classroom, or online ...................................................... 3

Two of the following offered by the College of Physical Activity and Sports Sciences:
SM 426 Liability in Sport (Law)  Must be taken on campus during summer. 3
SM 485 Sport Management  Must be taken on campus during summer. 3
SM 486 Sport Marketing  Must be taken on campus during summer. 3

*To earn a minor in sport communication a student must earn a grade of C or better in each course.
**Students who double-minor in sport communication and advertising must also take PR 215 Introduction to Public Relations. Students who double-minor in sport communication and public relations must also take either ADV 215 Principles of Advertising or ADV 201 Advertising & Society, as well as one of the School of Journalism’s online 200-level or higher open-enrollment courses in place of PR 410.
***Students who triple-minor in advertising, public relations, and sport communication must complete all listed courses. However, JRL 101 Introduction to Mass Communication and PR 410 can be taken only once; each must be replaced with one of the School of Journalism’s online 200-level or higher open-enrollment courses.
****School of Journalism majors who wish to minor in sport communication must complete the same SOJ courses as noted for the minor (nine credits total), as well as all 12 credits from College of Physical Activity and Sport Sciences: SEP 271 Sport in society, SM 426 Sport Law, SM 485 Sport Management, and SM 486 Sport Marketing.

**Health Promotion Minor**

Students in colleges and units outside of the School of Journalism may earn a minor in health promotion online during the school year and summer sessions by completing the following courses and meeting the requirements as stated below. School of Journalism students may complete the health promotion as an area of emphasis and should consult their advisor for details.

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Prerequisites and Schedule</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JRL 101 Introduction to Mass Comm</td>
<td>May be taken any term, in classroom or online ......................................................</td>
<td>3</td>
</tr>
<tr>
<td>PR 215 Intro. to Public Relations</td>
<td>May be taken any term, in classroom, or online ......................................................</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADV 215 Principles of Advertising</td>
<td>May be taken any term, in classroom or online ......................................................</td>
<td>3</td>
</tr>
<tr>
<td>JRL 450 Writing for Health Promotion</td>
<td>Prerequisites: JRL 101, PR 215 or ADV 215..................</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Offered online in fall and summer sessions.</td>
<td></td>
</tr>
<tr>
<td>JRL 452 Applied Health Promotion</td>
<td>Prerequisites: JRL 101, PR 215 or ADV 215.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Offered online in fall and summer sessions.</td>
<td></td>
</tr>
<tr>
<td>JRL 454 Health Promotion Campaigns</td>
<td>Prerequisites: JRL 101, PR 215 or ADV 215...............</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Offered online in spring and summer sessions.</td>
<td></td>
</tr>
</tbody>
</table>

*To earn a minor in health promotion a student must earn a grade of C or better in each of the five courses. Students completing the entire minor online can expect to complete it in one year.
**Students who double-minor in advertising and health promotion or public relations and health promotion may only take JRL 101, ADV 215, and PR 215 once and must replace the duplicated offering with one of the School of Journalism’s online 200-level or higher open-enrollment courses.
***Students who triple-minor in advertising, public relations, and health promotion must complete all listed courses. However, JRL 101 can be taken only once and must be replaced with two of the School of Journalism’s online 200-level or higher open-enrollment courses.
School of Dentistry
Louise T. Veselicky, D.D.S., M.D.S., M.Ed., Interim Dean
Christina B. DeBiase, Ed.D., Associate Dean
Richard J. Crout, D.M.D., Associate Dean
Jack S. Yorty, D.D.S., Interim Associate Dean
Shelia S. Price, D.D.S., Associate Dean
Robert L. Wanker, D.D.S., Assistant Dean
Amy D. Funk, M.S.D.H., Interim Director, Division of Dental Hygiene

http://www.hsc.wvu.edu/sod

Degree Offered
Bachelor of Science in Dental Hygiene

The Profession
Dental hygiene is an exciting profession with many rewarding and challenging career opportunities which include clinical/patient care, administration, education, research, and sales/marketing. Dental hygienists are employed in diverse settings such as private dental practices, clinics, hospitals, geriatric and special needs facilities, correctional facilities, public health departments, school systems, allied dental education programs, national, state, and local government agencies, and private/business industry. As a licensed health professional and oral health educator, the dental hygienist has an important role in the overall health and welfare of the public. The dental hygienist is an integral part of the dental team, providing direct patient care based on the prevention of disease. The duties and responsibilities of dental hygienists vary from state to state, but may include oral prophylaxis (removing stains and deposits from teeth), root debridement, exposing radiographs, application of preventive and therapeutic agents, local delivery of antimicrobial agents, nutritional counseling, oral, head, and neck cancer screenings, monitoring nitrous oxide sedation, and administration of local anesthesia. The educational background of a dental hygienist provides the knowledge, attitudes, and skill necessary to be successful in a wide variety of careers. From providing clinical care to research to public administration, dental hygiene opens the door to many successful career options.

Nature of the Program
The establishment of the integrated baccalaureate degree in dental hygiene program at West Virginia University in September 1961 was a milestone in dental hygiene education. The program stands out as one of the top dental hygiene programs nationally as shown by the students’ commitment to excellence. With the addition of the degree completion program in 1987 and the master of science program in 1989, the Division of Dental Hygiene provides graduates the opportunity to further their education. The integrated curriculum in dental hygiene combines the advantages of both liberal arts and the professional aspects of education. Graduates from the program are awarded a bachelor of science degree in dental hygiene, with the option to obtain a master of science degree with the completion of a minimum of one additional year. The curriculum is structured to permit students to begin graduate courses during their senior year, if they choose to pursue a master of science degree.

The dental hygiene curriculum is rigorous and provides excellent preparation for the practice of dental hygiene in numerous practice settings. The curriculum requires successful completion of a total of 136 hours and was constructed in accordance with the standards specified for a school of dental hygiene by the American Dental Association Commission on Dental Accreditation. The program has been fully accredited by this organization since 1965.

The dental hygiene program has a strong commitment to providing care and educational programs to residents of West Virginia, which is demonstrated by the required 100 hours of service learning and clinical care courses. To provide students in dental hygiene program with the necessary clinical experience that is required, the School of Dentistry maintains and operates dental clinics in the Robert C. Byrd Health Sciences Center School
of Dentistry. Through the West Virginia Rural Health Education Program (WVRHEP), students are required to provide direct patient care for the citizens of West Virginia at a rural site during the summer session between their junior and senior year.

The dental hygiene program has an excellent reputation for producing outstanding clinicians, and many faculty members as well as graduates are recognized as leaders in dental education and organized dentistry.

**Admission**

To apply to the program, go to [http://adm.wvu.edu/home/health_sciences_students](http://adm.wvu.edu/home/health_sciences_students) and follow the “On-line Application” link at the bottom of the page. You may also get an application by contacting the Division of Dental Hygiene, West Virginia University, P.O. Box 9425, Morgantown, WV 26506, or the Office of Admissions, Health Sciences Center, P.O. Box 9815, Morgantown, WV 26506. Applications for the fall semester should be received by March 1st of the preceding spring semester. To be considered for the program, you need to complete the entire dental hygiene application, including the one-page essay, shadowing form, and shadowing essay.

The Dental Hygiene Admissions Committee pays particular attention to scholastic achievement in science courses as well as overall grade point average and involvement in community service activities. Physical strength with the ability to sit and stand as required, fine precision bilateral manipulative hand/motor skills, adequate visual acuity, eye/hand/foot coordination, and emotional stability are essential characteristics for individuals who wish to enter and continue in the dental hygiene program. They must meet other medical qualifications as required. Reasonable accommodation will be considered for students with special needs.

The Dental Hygiene Admissions Committee reviews all applications. If you are among the most qualified, you may be invited to come to the campus for a personal interview. Competition for admission is intense. Preference is given to residents of West Virginia.

**Direct Admission (Freshman Entry)**

Applicants are eligible to enter the program as freshmen. Admission is based on the above mentioned criteria plus a minimum high school grade point average of 3.6 and a composite score on ACT 25 of or total SAT (reading and math) of 1140. Additionally, applicants must meet all the University admission requirements which include successful completion of the following high school requirements:

- 4 units of English (including grammar, composition, and literature)
- 4 units of college preparatory mathematics (Three units must be Algebra I and II and Plane Geometry)
- 3 units of social studies (including U.S. history)
- 3 units of science (ALL units must be laboratory science. Recommended units include: Biology, chemistry, physics, anatomy, and environmental science)
- 2 units of a foreign language, must be the same language (American Sign Language is acceptable for this requirement)
- 1 unit of fine arts (recommended units include: Music, band, art, theater, dance, drama, and performance)

Additional science courses on the high school level are recommended. To be eligible for enrollment, the applicant must be a graduate of an accredited high school or preparatory school that is acceptable for college entrance. Please visit the West Virginia University website for more information: [http://adm.wvu.edu/freshman/university_admissions_requirements](http://adm.wvu.edu/freshman/university_admissions_requirements).
Advanced Standing Admission (Sophomore Entry)

Students may apply to the program with a minimum college overall grade point average of 3.0 and completion of the following pre-requisite college courses with a grade of C or better:

18 Hours of Required Math and Science Courses:  

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 102</td>
<td>3</td>
</tr>
<tr>
<td>Biology 104</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry 111</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 112</td>
<td>4</td>
</tr>
<tr>
<td>Human Nutrition and Foods 171</td>
<td>3</td>
</tr>
<tr>
<td>Math 126</td>
<td>3</td>
</tr>
<tr>
<td>Neurobiology and Anatomy 107</td>
<td>4</td>
</tr>
</tbody>
</table>

Minimum of 18 credit hours from the following courses  

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Hygiene 100</td>
<td>1</td>
</tr>
<tr>
<td>Dental Hygiene 101</td>
<td>1</td>
</tr>
<tr>
<td>Communication 100</td>
<td>1</td>
</tr>
<tr>
<td>Communication 102 or 104</td>
<td>2</td>
</tr>
<tr>
<td>English 101</td>
<td>3</td>
</tr>
<tr>
<td>English 102</td>
<td>3</td>
</tr>
<tr>
<td>Sociology 101</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 101</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 241</td>
<td>3</td>
</tr>
<tr>
<td>GEC #3, 5, 8 &amp; 9</td>
<td>12</td>
</tr>
</tbody>
</table>

Degree Completion Program

If you are a registered dental hygienist, you can be admitted directly to the Division of Dental Hygiene as a full-time or a part-time student. To be eligible for the degree completion program, you must have a certificate or associate’s degree from an accredited dental hygiene program. You can transfer lower-division credits (see “Suggested Dental Hygiene Curriculum”). Your acceptance and placement in the program depend upon your academic record and upon the number of spaces available.

When you apply, we ask you to include complete records of previous study. An official transcript needs to be mailed to us by the registrar of your previous school. Include catalog descriptions of the courses taken. If you are currently enrolled in a certificate or associate’s degree program, include your program of study. You are responsible for the submission of a complete record package. You can enter the degree completion program twice a year. Applications can be obtained after September 1st of the year preceding application to the program. The WVU Health Sciences Center Catalog contains complete information about this program in dental hygiene.

Note: To complete the four-year prescribed curriculum on time, it is required that the general education courses be taken during the specified terms. All dental hygiene students must maintain 12 credit hours per semester to remain in the program.

Dental Hygiene Curriculum
Freshmen/Pre-Requisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
<td></td>
</tr>
<tr>
<td>Chemistry 111</td>
<td>4</td>
</tr>
<tr>
<td>*Communication 100/102 or 104</td>
<td>3</td>
</tr>
<tr>
<td>*DTHY 101 Intro to Dental Hygiene</td>
<td>1</td>
</tr>
<tr>
<td>*English 101</td>
<td>3</td>
</tr>
<tr>
<td>Math 126</td>
<td>3</td>
</tr>
<tr>
<td>University 101</td>
<td>(1)</td>
</tr>
<tr>
<td>*GEC Req (#3,5,8, or 9)</td>
<td>3</td>
</tr>
<tr>
<td>**Total</td>
<td>17–18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Semester</td>
<td></td>
</tr>
<tr>
<td>Biology 102</td>
<td>3</td>
</tr>
<tr>
<td>Biology 104</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry 112</td>
<td>4</td>
</tr>
<tr>
<td>*DTHY 100 Health Care Term</td>
<td>1</td>
</tr>
<tr>
<td>NBAN 107 Anat. &amp; Phys.</td>
<td>4</td>
</tr>
<tr>
<td>HN&amp;F Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>*Psychology 101</td>
<td>3</td>
</tr>
<tr>
<td>**Total</td>
<td>19</td>
</tr>
<tr>
<td>Semester</td>
<td>Course Title</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td><strong>Summer Semester</strong></td>
<td><em>GEC Req (#3,5,8, or 9)</em></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td>DTHY 185 Head &amp; Neck Anatomy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 205 Theory/Prevention</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 210 Dental Radiology</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>NBAN 207 Anat. &amp; Phys.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Microbiology 200</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>*Psychology 241</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Second Semester</strong></td>
<td>DTHY 186 Dental Anatomy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 211 Dental Radiology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY 220 DH Nursing Tech</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 225 DH Tech</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>*English 102</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>*Sociology 101</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>NBAN 309 Histology</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summer Semester</strong></td>
<td>DTHY 226 Clinical Dental Hygiene</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Pharmacology 260 (Web)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

**Junior Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td>DTHY 350 Public Health</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 360 Dental Materials</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DTHY 363 Periodontics</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY 366 Dental Literature</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY 370 Clinical Methods</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 372 Clinic – DH</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Pathology 300</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>*GEC Req (#3,5,8, or 9)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>14–17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Second Semester</strong></td>
<td>DTHY 300 Anesthesiology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY 351 Dental Health Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DTHY 361 Expanded Functions</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 354 Periodontics</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 374 Clinic – DH</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DTHY 378 Didactic Teach. Meth.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Pathology 302</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Summer Semester</strong></td>
<td>DTHY 491 Rural Health Rotation</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

**Senior Year**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td>DTHY 402 (Prac. Mang./Ethics)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY 405 (Clinic – DH)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>DTHY 445 (Applied Pharm.)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY 450 (Dental Health Ed. 2)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 478 (Clinic Teaching Meth.)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY Elective (490, 495)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>*GEC Req (#3,5,8, or 9)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Second Semester</strong></td>
<td>DTHY 406 (Clinic – DH)</td>
<td>3–4</td>
</tr>
<tr>
<td></td>
<td>DTHY 407 (Clinical Methods)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY 440 (Sr. Integration Seminar)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DTHY 451 (Dental Health Ed. 3)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>DTHY Elective (490, 492, 495)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>*GEC Req (#3,5,8, or 9)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>13–14</td>
</tr>
</tbody>
</table>

*Courses subject to varied sequencing
Human Performance and Applied Exercise Science

Three divisions make up the Department of Human Performance and Applied Exercise Science:

- **Division of Exercise Physiology** Includes undergraduate (B.S.), master’s (M.S.—clinical track and thesis track) and doctorate (Ph.D.) programs.
- **Division of Occupational Therapy** Includes an entry-level master’s program.
- **Division of Physical Therapy** Includes an entry-level doctoral program.

**Exercise Physiology**

Stephen E. Alway, Ph.D., Professor and Chair
Randall W. Bryner, Ed.D., Director of Undergraduate Education and Vice Chair

**Degree Offered**

*Bachelor of Science*

**Introduction**

The WVU exercise physiology program was established in the Robert C. Byrd Health Sciences Center’s School of Medicine in July 1993. The program offers a four-year curriculum leading to a bachelor of science degree in exercise physiology with the option of an emphasis area in aquatic therapy or health professions.

Students pursuing health and fitness or clinical exercise professions in the Division of Exercise Physiology will study in one of the select programs now endorsed by the American College of Sports Medicine, the gold standard in health and fitness certifications and professional memberships. Following review of more than 40 programs in the first year, ACSM endorsed West Virginia University’s curriculum as meeting the academic standards needed to prepare students for health, fitness, and/or clinical exercise training positions. The Division of Exercise Physiology’s curriculum covers the knowledge, skills, and abilities to prepare students for the ACSM Health/Fitness Instructor certification examination and the certification for the National Strength and Conditioning Association (NSCA) Certified Strength and Conditioning Specialist (CSCS) and NSCA-Certified Personal Trainer (NSCA-CPT). The program is also an excellent preparatory program for those who want to further their education with graduate (master’s or Ph.D.) or professional degrees in exercise physiology, physical therapy, occupational therapy, medicine, dentistry, pharmacy, chiropractic, or other health-related careers.

**The Profession**

Exercise physiologists are trained to evaluate people in the areas of cardiovascular fitness, muscular strength and endurance, flexibility, neuromuscular integration, and body composition. They are also trained to provide and evaluate exercise programs based on the results of these evaluations, which are designed to increase the functional capacity of the participants. Exercise physiologists work with athletes, patients, children, elderly, or healthy young adult participants in the areas of disease prevention in wellness programs, rehabilitation in hospital settings, or research. Students will obtain considerable experience working with patients having insulin resistance, diabetes, and cardiovascular diseases. Graduates may be employed in a wide variety of private, community, state, and national agencies. Exercise physiology is an evolving field that is becoming increasingly important with the integration of preventive medicine into the health-care system. Employment opportunities are expanding and increase with experience and level of education.
**Bachelor of Science**  
**Admission**  
Students must meet the minimum requirements for WVU for admission to the program. Any student wishing to transfer into the program must have a minimum overall GPA of 2.75 and a minimum grade of C in all required courses.

**Program Requirements for General Exercise Physiology**  
Students must complete the University requirements for the General Education Curriculum (GEC) that provide students with broad liberal knowledge and experience and complete the following courses or course equivalents in theory and foundation to meet the exercise physiology program requirements:

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHPR 172 First Aid and Emergency Care</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 241 Life Span Developmental Psych</td>
<td>3</td>
</tr>
<tr>
<td>ATTR 121 Sport Injury Control and Management</td>
<td>3</td>
</tr>
<tr>
<td>ATTR 219 Gross Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 240 Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>EXPH 100 Introduction to Exercise Physiology I</td>
<td>1</td>
</tr>
<tr>
<td>EXPH 101 Introduction to Exercise Physiology II</td>
<td>1</td>
</tr>
<tr>
<td>EXPH 364 Kinesiology</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 365 Exercise Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 368 Laboratory Techniques and Methods I</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 370 Scientific writing for EXPH</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 369 Strength and Conditioning Methods</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 491 Professional Field Experience</td>
<td>6</td>
</tr>
<tr>
<td>EXPH 475 Industry Organization in EXPH</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 496 Senior Thesis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 126 College Algebra*</td>
<td>3</td>
</tr>
<tr>
<td>MATH 128 Plane Trigonometry*</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 101 Introductory Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 102 Introductory Physics</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 115 Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 116 Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 231 Organic Brief Course</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 234 &amp; 236 Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 101 &amp; 103 General Biology and Lab**</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 102 &amp; 104 General Biology and Lab**</td>
<td>4</td>
</tr>
<tr>
<td>PSIO 241 or 441 Elementary Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 219 The Living Cell</td>
<td>4</td>
</tr>
<tr>
<td>and Biochemistry 339</td>
<td>3</td>
</tr>
</tbody>
</table>

Total .................................................................................. 97

*Students may take MATH 129, 150, or 155 in place of MATH 126 and 128.

**Students may take BIOL 115 and 117 in place of BIOL 101–104. BIOL 115 can also be taken with any other four-credit biology class that is for science majors and also contains a laboratory.

- Students must have a grade of C or better in all required courses. Science courses must be taken at WVU.
- Students must have a minimum of 128 hours to graduate. Students must maintain a cumulative GPA of 2.5 or better to remain in the program.
# Exercise Physiology Curriculum Plan

## Freshman Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>3</td>
<td>MATH 128 Trig.</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 101 Intro. to Psychology</td>
<td>3</td>
<td>BIOL 102 &amp; 104</td>
<td>4</td>
</tr>
<tr>
<td>MATH 126 Algebra</td>
<td>3</td>
<td>GEC courses</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 101 &amp; 103</td>
<td>4</td>
<td>ATTR 121 Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 100 Intro. to EXPH I</td>
<td>1</td>
<td>EXPH 101 Intro. to EXPH II</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

## Sophomore Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115</td>
<td>4</td>
<td>CHEM 116</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 101</td>
<td>4</td>
<td>PHYS 102</td>
<td>4</td>
</tr>
<tr>
<td>GEC course</td>
<td>3</td>
<td>PHYS 241 Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>EXPH 364 Kinesiology</td>
<td>3</td>
<td>CHPR 172 First Aid &amp; Em. Care</td>
<td>2</td>
</tr>
<tr>
<td>ENGL 102</td>
<td>3</td>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Junior Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPH 365 Exercise Physiology I</td>
<td>3</td>
<td>CHEM 231 Organic Chem. Brief</td>
<td>4</td>
</tr>
<tr>
<td>EXPH 368 Lab Tech. &amp; Methods I</td>
<td>3</td>
<td>EXPH 369 Strength/Cond. Meth.</td>
<td>3</td>
</tr>
<tr>
<td>ATTR 219 Anatomy</td>
<td>3</td>
<td>HN&amp;F 171 Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 241 Human Growth &amp; Dev.</td>
<td>6</td>
<td>EXPH 370 Scientific Writing</td>
<td>3</td>
</tr>
<tr>
<td>GEC course</td>
<td>3</td>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Senior Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPH 491 Prof. Field Exp.</td>
<td>3</td>
<td>EXPH 491 Prof. Field Exp.</td>
<td>3</td>
</tr>
<tr>
<td>EXPH 496 Senior Thesis</td>
<td>3</td>
<td>EXPH 475 Industry Organization</td>
<td>3</td>
</tr>
<tr>
<td>STAT 211</td>
<td>3</td>
<td>GEC course</td>
<td>3</td>
</tr>
<tr>
<td>Electives (e.g., Rsch. methods)</td>
<td>3</td>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Suggested Electives

- BIOL 219 The Living Cell (4 hrs.)
- 339 Biochemistry (3 hrs.)

*MATH 129, 150, or 155 can be substituted for MATH 126 and 128.

**BIOL 115 and 117 can be substituted for BIOL 101–104. BIOL 115 can also be taken with any other four-credit biology class that is for science majors and also contains a laboratory. Students may also choose an emphasis in health professions. This program prepares the student to continue their education in graduate or professional schools. An aquatic therapy emphasis is also available for students who wish to pursue a clinical career.*
Occupational Therapy
Randy P. McCombie, Ph.D., OTR/L, Chair

Degree Offered
Master of Occupational Therapy

Introduction
In fall 1993, the Board of Trustees approved the establishment of a new master’s degree program at WVU, leading to an entry-level master’s degree in occupational therapy. The program accepted its first students into the professional program in the fall semester of 1996. The academic and fieldwork program requires three years to complete. Prior to application, students are required to complete 58 hours of prerequisite courses, which in most instances will take approximately two years to fulfill.

The Profession
Occupational therapy is a health profession whose services are provided to people of all ages with physical, mental, or developmental disabilities. The purpose of occupational therapy is to help individuals achieve a maximum level of independence. The focus is on developing the capacity to function in all activities (occupations) of daily life, including self care, work, and leisure; hence the name occupational therapy.

Occupational therapy is a health and rehabilitation profession designed to help people regain and build skills that are important for health, well-being, security, and happiness. Occupational therapists work with people of all ages who, because of physical, developmental, social, or emotional deficits, need specialized assistance in learning skills to enable them to lead independent, productive, and satisfying lives.

Occupational therapists work in schools, hospitals, rehabilitation centers, home health agencies, skilled nursing homes, and private practice.

Accreditation Status
WVU’s Division of Occupational Therapy has been awarded accreditation status by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. AOTA’s phone number is (301) 652-AOTA. The next on-site visit by ACOTE will be 2013. Graduates of the program are able to sit for the National Certification Examination for the Occupational Therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). For more information, NBCOT can be contacted at (301) 990-7979. After successful completion of this exam, the individual will be an occupational therapist, registered (OTR). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT certification examination.

Note: A felony conviction may impact a graduate’s ability to take the NBCOT (National Board for Certification in Occupational Therapy, Inc.) examination and/or obtaining a state license. For further information on NBCOT’s Character Review Program, interested parties can obtain information from that Board on their website at www.nbcot.org.

Admissions Process
This includes obtaining an application packet available November 15 from the Admissions Office, (304) 293-3521, and completing that packet by February 15. A personal interview may be required.
College Prerequisite Courses—Traditional Track  Hrs.
ENGL 101 .................................................................................................................... 3
ENGL 102 .................................................................................................................... 3
PSYC 101 .................................................................................................................... 3
PSYC 241 .................................................................................................................... 3
PSYC 281 .................................................................................................................... 3
SOCA 101or SOCA 105 ............................................................................................ 3
BIOL 101 and BIOL 103 ............................................................................................ 4
BIOL 102 and BIOL 104 ............................................................................................ 4
PHYS 101 .................................................................................................................... 4
STAT 211 .................................................................................................................... 3
COMM 100 .................................................................................................................... 1
COMM 102 .................................................................................................................... 2
PSIO 241 .................................................................................................................... 4
Total ............................................................................................................................ 40

Recomended Courses  Hrs.
CHEM 115 .................................................................................................................... 4

Note: Students must complete the WVU General Education Curriculum (GEC) requirements. Students should contact their advisor for specifics on these requirements.

Note: Occupational therapy assistants and/or those holding a four-year degree in any field who are interested in the distance learning track should contact the Division of Occupational Therapy for specifics on program prerequisites and other program requirements.

WVU students must consult with their academic advisor prior to enrolling in pre-requisite courses. These courses may be taken at any institution which offers equivalent courses. Any questions regarding prerequisite courses may be directed to the Undergraduate Advising Services Center, (304) 293-5805. Equivalence may be determined by contacting the transfer desk, Office of Admissions, West Virginia University, P.O. Box 6009, Morgantown, WV 26506-6009.

Admission Standards
Normally, students apply to the program during their second year of college. They must have a minimum of 48 hours of college credit that includes the prerequisites listed above. Students who already have a degree in another field are also eligible to apply. All applicants must meet the following criteria:
• Minimum GPA of 3.0, overall and prerequisites
• Minimum of 60 hours of volunteer or work experience with people with disabilities is required. A minimum of 45 of those hours must be with a licensed occupational therapist (OTR/L). Verification forms can be found at www.hsc.wvu.edu/som/ot.
• Two recommendation forms are also required, one from an occupational therapist who supervised the volunteer/work experiences and the other from a professor who has recently taught the applicant. Forms are included in application packet.
• Completion of all prerequisite courses by the end of the semester of application (normally, second semester of sophomore year) is required.

What to Expect
Like many professional programs, the curriculum in the master’s entry-level occupational therapy program is fairly fixed and intense. The first professional year will include courses in basic sciences and introductory professional courses. The second and third professional years will deal more specifically with training in occupational therapy theory and practice as administered across a wide variety of settings. The professional curriculum includes two full-time off-campus clinical experiences known as fieldwork. Students are financially responsible for transportation, housing, and meal expenses related to clinical assignments.
Program Timeframe
Students must complete all didactic coursework and Level II Fieldwork within a period of five years after commencing the occupational therapy program. Furthermore, all Level II Fieldwork must be completed within 18 months following completion of academic coursework while remaining within the five-year time frame.

Occupational Therapy Curriculum Plan

Junior Year
Summer Session II  Hrs.
OTH 300........................................... 4
OTH 480........................................... 2
Total ........................................... 6

First Semester  Hrs.  Second Semester  Hrs.
OTH 301........................................... 3  OTH.307.............................. 4
OTH 360........................................... 3  OTH.308.............................. 3
OTH 303........................................... 2  OTH.321.............................. 3
OTH 304........................................... 4  OTH.310.............................. 3
OTH 306........................................... 4               OTH 384.............................. 2
OTH 435........................................... 3               OTH 493A..........................
Total ........................................... 19

Senior Year
First Semester  Hrs.  Second Semester  Hrs.
OTH 385........................................... 2
OTH 401........................................... 4
OTH 417........................................... 3
OTH 430........................................... 3
OTH 440........................................... 2
OTH 403........................................... 2
OTH 497........................................... 1
Total ........................................... 17

Graduate Year
Summer 1-2  Hrs.
OTH 540........................................... 6
Total ........................................... 6

First Semester  Hrs.  Second Semester  Hrs.
Weeks 1–4
OTH 500........................................... 3
OTH 503........................................... 3
OTH 570........................................... 3
OTH 520........................................... 3
OTH 551........................................... 3
OTH 697........................................... 2
Total ........................................... 17

Weeks 5–16
OTH 480........................................... 1
OTH 501........................................... 4
OTH 550........................................... 3
OTH 697........................................... 2
OTH 640........................................... 6
Total ........................................... 16
Medical Laboratory Science
Martha J. Lake, Ed.D. MT (ASCP), Professor and Medical Laboratory Science Division Director
Kimberly Feaster B.S., HTL (ASCP) QIHC, Histotechnology Program Director
Peter L. Perrotta, M.D., Associate Professor and Medical Director
http://www.hsc.wvu.edu/medsci/

Degree Offered
Bachelor of Science in Medical Laboratory Science

The Degree Program
The B.S. in medical laboratory science has two areas of emphasis: Clinical laboratory science and histotechnology. Clinical laboratory scientists are healthcare professionals educated in all aspects of clinical laboratory analysis including test development, performance, and evaluation. Clinical laboratory scientists may work in many areas, including clinical chemistry, hematology, immunohematology, immunology, clinical microbiology, and molecular diagnostics.

Histotechnologists are healthcare professionals who are qualified through academic and applied science education and training to provide service, research, and management in histotechnology and areas related to anatomic pathology. Histotechnologists are integral to the success of the anatomic pathology department by performing routine and complex procedures to preserve and process tissue specimens for examination and diagnosis by a pathologist.

Practice settings for clinical laboratory scientists and histotechnologists include hospital, clinic, public health, or private clinical laboratories; research, cytogenetic, pharmaceutical, or in-vitro fertilization laboratories; technical or sales representatives for medical manufacturers and suppliers; biotechnology, food, and cosmetic industries; and state or federal crime laboratories.

Nature of Program
Students are admitted into either the clinical laboratory science area of emphasis or the histotechnology area of emphasis of the medical laboratory science bachelor of science program after completing two years of pre-requisite courses in an accredited college or university. The undergraduate curriculum includes 61 semester hours of pre-requisite courses (pre-medical laboratory science curriculum), and may be completed at any regionally accredited institution of higher education. As the students complete the pre-requisite courses they apply to the medical laboratory science area(s) of emphasis.

Since the last two years are professional in nature, students must be enrolled in the WVU School of Medicine for the entire period. The junior year (the first year of the professional curriculum) includes core and area-specific courses to introduce the student to the medical sciences and to prepare for the senior year curriculum. During the senior year (the second year of the professional curriculum), the student receives both didactic instruction and practical experience. Students receive practical experience at one of the affiliated hospital laboratories including Ruby Memorial Hospital, Morgantown, WV; Monongalia County General Hospital, Morgantown, WV; West Penn Allegheny Health System, Pittsburgh, PA; and the WVU Eastern Division which includes City Hospital, Martinsburg, WV; Jefferson Memorial Hospital, Ranson, WV; Veterans Affairs Medical Center, Martinsburg, WV; Excela Health which includes Westmoreland Hospital in Greensburg, PA and Latrobe Hospital in Latrobe, PA; Charleston Area Medical Center, Charleston, WV; United Hospital Center, Clarksburg, WV; and Thomas Memorial Hospital, Charleston, WV. Students must provide their own transportation and housing during the clinical rotations. Students may be required to complete a two-, three- or four-week rural rotation at an approved site in West Virginia.
The WVU medical laboratory science area of emphasis in clinical laboratory science program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018, and (773) 714-8880. Graduates are eligible for certification by the Board of Certification of the American Society for Clinical Pathology (ASCP). The medical laboratory science area of emphasis in histotechnology is a new program to WVU and is currently applying to NAACLS for accreditation.

Other Programs
An articulation program is available for certified medical laboratory technicians (clinical laboratory technicians) who want to complete the requirements for a degree in medical laboratory science. Further information may be obtained by contacting the Medical Laboratory Science Division Office.

A part-time curriculum is available. Part-time students must meet the same admission requirements and application deadlines as full-time students. For further information, contact the Medical Laboratory Science Division Office.

Admission to the Pre-Medical Laboratory Science major
Students in the pre-medical laboratory science major and direct admit students must meet the admission criteria of WVU. Pre-medical laboratory science students are advised by the Undergraduate Academic Services Center. Medical laboratory science faculty advises direct admit students. Prospective students should take mathematics, chemistry, and biology in high school.

Qualified applicants may enter the pre-medical laboratory science major at the beginning of any semester, but the professional curriculum begins the fall semester after the student is admitted to either the clinical laboratory science or histotechnology area of emphasis. Admission to the pre-medical laboratory science major does not assure admission to the medical laboratory science areas of emphasis in clinical laboratory science or histotechnology.

Admission to the Medical Laboratory Science Area of Emphasis in Clinical Laboratory Science or Histotechnology

Direct Admit
Students may be admitted directly into the medical laboratory science major as freshmen with a minimum high school grade point average of 3.75 and a minimum math component ACT score of 26 or a minimum math component SAT score of 600. They are advised by the medical laboratory science academic advisor and are automatically admitted to the professional program as long as they meet all admission requirements listed below. MTEC 100, 101, 200, and 201 are required courses for direct admit students.

Traditional
Pre-medical laboratory science students apply for admission into the junior year (first year in the MLS area of emphasis) before the second semester of the sophomore year in college. Fulfillment of the pre-medical laboratory science curriculum does not assure admission to either the clinical laboratory science or the histotechnology area of emphasis. A competitive admission process is used to select students for the professional programs. Requirements for admission to the areas of emphasis in clinical laboratory science and histotechnology include course requirements, grade point average, a personal interview, and letters of recommendation.

The course requirements (pre-requisites) are:
- English: six credits of composition and rhetoric (ENGL 101 and 102).
- Biology: eight credits of general biology (BIOL 101, 102, 103, and 104).
- Chemistry: eight credits of inorganic (CHEM 115 and 116), and four credits of organic (CHEM 231)*.
- Mathematics: three credits of college algebra (MATH 126).
- Statistics: three credits of introductory statistics (STAT 211).
- GEC: 22–23 credits to satisfy objectives three through nine.
Students who do not complete CHEM 231 must complete organic chemistry courses (eight hours) that include aliphatic and aromatic compounds with laboratory.

Although not required for admission to the medical laboratory science areas of emphasis in clinical laboratory science and histotechnology, eight credits of organic chemistry and eight credits of physics are suggested electives for those students interested in applying to medical, dental, or other graduate programs. In addition, a foreign language is recommended for students who plan to do graduate work.

Admission decisions are based upon the applicant’s grade point average; recommendations; interview; and documented ability to successfully complete full-time academic work. Applicants should have a minimum grade point average of 2.5 (cumulative and science). Applicants may be admitted on probation if their GPA (cumulative or science) is less than 2.5. Applicants with less than a 2.0 GPA, either cumulative or science, will not be admitted. A GPA of 2.5 or above does not necessarily assure admission. Two letters of recommendation are required; at least one must be from a college science professor. A personal interview with the Medical Laboratory Science Admissions Committee is required.

Admission of international students is in compliance with WVU regulations. At least one science course (chemistry or biology) must be completed at a regionally accredited institution of higher education in the United States.

**Application Procedure**

Each year the Division of Medical Laboratory Science selects a limited number of students from the applications received for admission to the area of emphasis in clinical laboratory science and the area of emphasis in histotechnology. Application forms for admission to the Division of Medical Laboratory Science’s areas of emphasis are available after December 1 from the Office of the Assistant Director of Admissions, WVU Health Sciences Center, P.O. Box 9815, Morgantown, WV 26506-9815 or from the WVU Office of Admissions website: [http://adm.wvu.edu/home/health_sciences_students](http://adm.wvu.edu/home/health_sciences_students). The application fee is $25 for residents and $40 for non-residents. The priority date for returning complete application packets is February 15. The deadline is March 1 if the student expects to enter the program the following fall semester. If the class is not filled by those applications, the deadline may be extended until as late as the first business day in August.

**Curriculum Plan**

**Pre-Medical Laboratory Science**

**First Year**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 115 Fund. of Chemistry</td>
<td>4</td>
<td>CHEM 116 Fund. of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Elective*</td>
<td>3</td>
<td>ENGL 101 Comp. and Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>MATH 126 College Algebra</td>
<td>3</td>
<td>Elective*</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 101 and 103</td>
<td>4</td>
<td>BIOL 102 and 104</td>
<td>4</td>
</tr>
<tr>
<td>MTEC 100 Medical Technology**</td>
<td>1</td>
<td>MTEC 101 Medical Technology**</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives*</td>
<td>9</td>
<td>CHEM 231 Organic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 102 Comp. and Rhetoric</td>
<td>3</td>
<td>Electives*</td>
<td>7</td>
</tr>
<tr>
<td>MTEC 200 Med. Tec. Termi.***</td>
<td>1</td>
<td>WVU Writing Requirement</td>
<td>3</td>
</tr>
<tr>
<td>STAT 211</td>
<td>3</td>
<td>MTEC 201 Basic Med. Tech.***</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

* General Education Curriculum courses to satisfy objectives three through nine.
**MTEC 100 and 101 are required for direct admit students and highly recommended for pre-medical laboratory science students.
***MTEC 200 and 201 are required courses for direct admit students and optional for pre-medical laboratory science students.
**Required Core Curriculum for Medical Laboratory Science Major**

<table>
<thead>
<tr>
<th>Course Code/Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATH 300 Introduction to Pathology</td>
<td>3</td>
</tr>
<tr>
<td>PATH 320 Basic Clinical Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>PSIO 441 Mechanisms of Body Function</td>
<td>4</td>
</tr>
<tr>
<td>PATH 380 Introduction to Immunology</td>
<td>1</td>
</tr>
<tr>
<td>PATH 303 Laboratory Applications</td>
<td>2</td>
</tr>
<tr>
<td>MTEC 323 Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>MTEC 381 Research, Educational Methodology</td>
<td>2</td>
</tr>
<tr>
<td>MTEC 465 Laboratory Management*</td>
<td>2</td>
</tr>
<tr>
<td>MTEC 403 Community Service Practicum</td>
<td>1</td>
</tr>
<tr>
<td>MTEC 475 Medical Relevance</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

**Required Courses for Clinical Laboratory Science Area of Emphasis**

<table>
<thead>
<tr>
<th>Course Code/Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATH 340 Intro to Hematology</td>
<td>3</td>
</tr>
<tr>
<td>MICB 327 Microbial Parasitology</td>
<td>2</td>
</tr>
<tr>
<td>MTEC 310 Clin Lab. Mycology</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 329 Basic Clinical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 402 Rural Health Practicum</td>
<td>1</td>
</tr>
<tr>
<td>MTEC 470 Clinical Microscopy</td>
<td>1</td>
</tr>
<tr>
<td>MTEC 472 Urinalysis/BF Lab</td>
<td>1</td>
</tr>
<tr>
<td>MTEC 440 Hematology</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 460 Instrumentation</td>
<td>2</td>
</tr>
<tr>
<td>MTEC 450 Clinical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 420 Immunohem. &amp; BB</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 430 Clinical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 480 Clinical Immunology</td>
<td>2</td>
</tr>
<tr>
<td>MTEC 401 Phlebotomy</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 421 Immunohem. &amp; BB Lab</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 431 Clinical Chemistry Lab</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 441 Clin. Hematology Lab</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 451 Clin. Microbiology Lab</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 481 Clin Immunology Lab</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

**Required Courses for Histotechnology Area of Emphasis**

<table>
<thead>
<tr>
<th>Course Code/Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NBAN 205 Intro. to Human Anat.</td>
<td>3</td>
</tr>
<tr>
<td>NBAN 206 Human Anatomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PATH 304 Microanatomy for HTL</td>
<td>3</td>
</tr>
<tr>
<td>MTEC 200 Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>PATH 305 Staining Techniques I</td>
<td>4</td>
</tr>
<tr>
<td>PATH 306 Histotechnique I</td>
<td>3</td>
</tr>
<tr>
<td>PATH 405 Staining Techniques II</td>
<td>4</td>
</tr>
<tr>
<td>PATH 406 Histotechnique II</td>
<td>3</td>
</tr>
<tr>
<td>PATH 407 Histology Laboratory</td>
<td>8</td>
</tr>
<tr>
<td>PATH 408 HTL Practicum</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

**Fourth Year (Medical Laboratory Science 2)**

Students receive didactic and clinical instruction during the fourth (senior) year. The senior year includes summer, fall, and spring semesters. Any competencies not completed must be made up by the end of the school year (mid-May) or graduation may be delayed.
Graduation Requirements

Junior Year

Students must maintain a minimum grade point average of 2.0 for each semester to advance to the senior year. Failure to maintain at least a 2.0 GPA may result in probation or suspension. The Academic and Professional Standards Committee must recommend any student for advancement to the senior year. A satisfactory GPA does not assure advancement.

Senior Year

A student must maintain a minimum grade point average of 2.0 for each semester of the senior year. Graduation requires satisfactory completion of all academic work and the recommendation of the faculty of the School of Medicine.

Graduation is not dependent upon passing a national certification examination.
Degree Offered
Bachelor of Science in Nursing

Nature of Program
The School of Nursing undergraduate program in nursing is recognized by health care agencies as providing excellent preparation for the nursing profession. Our graduates are in great demand and enjoy a large number of career opportunities. The B.S.N. curriculum includes courses in the humanities, social sciences, basic sciences, and nursing science. The clinical component of nursing courses enables students to apply their learning to actual client, family, and community situations that warrant nursing intervention. The curriculum has been carefully designed to equip graduates to begin professional nursing practice with patients of all ages in any health care setting where there is a position for the professional nurse at the start of his or her career. The program also provides an excellent foundation for graduate study in nursing and in other fields.

The baccalaureate program (B.S.N.) is available for high school graduates who aspire to a career in nursing (basic students). It is also available to registered nurses (R.N.s) who are licensed graduates of associate degree or diploma nursing programs seeking to continue their career development, and to individuals with college degrees in other fields who wish to attain the bachelor of science in nursing. The basic B.S.N. program can be completed in four years at WVU's Morgantown campus or at WVU Institute of Technology. A program with Glenville State College allows students to complete the first two years at Glenville State and the third and fourth years of the program at WVU Tech. A program at Potomac State College allows students to complete pre-nursing requirements at Potomac State College.

Registered nurses can complete the B.S.N. requirements online through a completely web-based program. Advising for the program can occur at WVU in Morgantown or at the Charleston division. Nursing courses for R.N. students are scheduled to provide opportunity for completion of degree requirements in three semesters if non-nursing courses are already completed. Credit may be earned by enrollment and by challenge through advanced placement and portfolio exams.

A B.S./B.A. to B.S.N. accelerated program is available for the college graduate with a degree in a field other than nursing. Following 18 months of continuous enrollment, students attain the B.S.N. degree and are eligible to take the R.N. licensing examination. The B.S./B.A. to B.S.N. program is offered at WVU in Morgantown.

Further information about the B.S.N. program or the M.S.N., D.N.P., and Ph.D. graduate programs in nursing may be obtained from the School of Nursing website at http://www.hsc.wvu.edu/son or by contacting the WVU School of Nursing Office of Student Services, 6400 Health Sciences South, P.O. Box 9600, Morgantown, WV 26506-9600; telephone (304) 293-1386 or (toll free) 1-866-WVUNURS.

Accreditation
Initial accreditation was received with graduation of the first class in 1964. The baccalaureate program in nursing is fully accredited by the Commission on Collegiate Nursing Education, a national accrediting agency.
Fees, Expenses, Housing, Transportation, and Immunization

Students enrolling at the Morgantown campus pay fees which are detailed at http://adm.wvu.edu/home/cost_of_attendance. Special fees and deposits are also required. Students enrolling at other sites pay the fees shown in the catalog for that site. Fees are subject to change without notice. Students’ expenses vary according to the course of study and individual needs. Information concerning financial assistance, application forms, and the Free Application for Federal Student Aid (FAFSA) form may be obtained from the financial aid website http://www.hsc.wvu.edu/fin/ or by contacting the HSC Financial Aid Office, Health Sciences North, P.O. Box 9810, Morgantown, WV 26506-9810; telephone (304) 293-3706.

The University Housing and Residence Life Office, telephone (304) 293-3621, provides information concerning University-owned housing. The Student Life Office in E. Moore Hall, telephone (304) 293-5611, provides information concerning privately owned, off-campus housing.

Students are expected to provide their own transportation, equipment, and instruments for the clinical courses. Some clinical experiences require travel in a multi-county area.

Proof of specific immunizations is required for all health sciences students.

Scholarships

The School of Nursing offers several scholarships. These scholarships are administered by the University’s Student Financial Aid Office and require completion of the Free Application for Federal Student Aid (FAFSA) form in order to be considered for financial aid. School of Nursing scholarships are available only to students already admitted to the School of Nursing and are awarded each April for the following academic year.

Criminal Background Checks

Students are required by clinical agencies to undergo a criminal background check prior to clinical experiences. Felony convictions and some serious misdemeanors may preclude participation in clinical rotations. This could, in turn, prevent the completion of clinical course requirements and completion of the nursing program.

Direct Admission to Basic Program

Applicants are eligible to enter the B.S.N. program as freshmen. Admission is based on a combination of high school grade point average and composite ACT or total SAT scores in a single testing session. Students admitted to the nursing major as freshmen have a total of four semesters to complete the required freshman coursework.

High school students eligible for admission to the University are admitted directly into nursing if they meet the following criteria:

GPA    Composite ACT    Total SAT (Critical Reading and Math)
3.75 or higher    26 or higher    1190 or higher

In addition, students must have completed the following high school credits required by the University:

Units (years)
4 English (including courses in grammar, composition, and literature)
3 Social studies (including U.S. history)
3 College preparatory mathematics (algebra I, algebra II, and plane geometry)
2 Laboratory science (biology, chemistry, physics, or other courses with a strong laboratory science orientation)
Admission to Basic Program as Pre-Nursing or other College Major

If a student does not meet the nursing admission criteria to be directly admitted to the B.S.N. program as a freshman, the student can apply for admission to the B.S.N. program as a sophomore after completion of at least one semester of college coursework with a minimum cumulative GPA of 3.0.

Applicants are admitted to either the Fall or Spring semesters. Application to the basic B.S.N. program must be made by February 1 of the year the candidate wishes to be admitted. Acceptance and placement in the program are dependent upon space available in the program. There are limited spaces available and the best-qualified applicants are accepted. Application forms are distributed after December 1 by the Health Sciences Center Office of Admissions, or are available online from the admissions website. Qualified applicants will be invited for an interview as part of the admissions process.

Note: Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria at: http://www.hsc.wvu.edu/son/.

First-Year Basic Student Curriculum

All basic students admitted to the school complete a common curriculum in the freshman year designed to provide the foundation for success in subsequent nursing courses. The curriculum for the basic B.S.N. program is currently in the process of revision. Please see the School of Nursing website for details on the updated curriculum at http://www.hsc.wvu.edu/son.

Students admitted to the School of Nursing as sophomores must have completed the freshman-year courses prior to beginning the sophomore year. All freshman-year courses must be completed with a grade of C or better, and the student must have a cumulative GPA of 3.0 or higher in science courses.

Academic Standards and Graduation Requirements

To be in good academic standing, students must:

• Maintain a cumulative grade point average of 3.0 or better in all college work attempted.
• Pass all nursing courses and pre- or co-requisite non-nursing courses with a grade of C or better.

A student who receives a grade of D, F, or W in a required nursing course or pre- or co-requisite non-nursing course may repeat that course once and must earn a grade of C or better when the course is repeated. Students who repeat a nursing course or a pre- or co-requisite non-nursing course and earn a grade of D, F, or W will be dismissed from the school. A student may repeat only one nursing course. Students who do not maintain a cumulative GPA of 3.0 or better will be placed on probation for one semester. Students on probation who do not raise their cumulative GPA to 3.0 or better after one semester will be dismissed from the School of Nursing. Nursing courses and pre- and co-requisite courses in which students earn a grade of D, F, or W must be repeated prior to the student’s progression to the next course(s) in the nursing sequence. Nursing courses must be repeated in the next fall or spring semester that the course is offered. Any general education course that is not a pre- or co-requisite of nursing courses and in which a grade of D or F has been earned must be repeated prior to graduation if it is to be counted toward graduation requirements. The baccalaureate of science in nursing degree is conferred upon completion of 128 hours and all required courses.

Transfer Students

Students with nursing credit from an accredited college or university are eligible for consideration for transfer admission by presenting a record of courses comparable to those required in this curriculum and meeting other School of Nursing admission requirements. These students must provide a statement of good standing from the nursing program in
which they are currently enrolled. Acceptance and placement in the program are dependent on the individual’s academic record and the number of spaces available. Transfer students must have a cumulative GPA of 3.0 for previous college coursework, and must have earned at least a C in all nursing and pre- and co-requisite non-nursing courses. Transfer students are admitted for the fall semester only and are required to complete a transfer student orientation.

B.S./B.A. to B.S.N. Admission

Applicants for the B.S./B.A. to B.S.N. program must have a baccalaureate degree from an accredited college or university with a cumulative grade point average of at least 3.0 on a 4.0 scale.

The following prerequisite courses must be completed with a grade of C or better prior to enrollment:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3–4</td>
</tr>
<tr>
<td>Biology</td>
<td>3–4</td>
</tr>
<tr>
<td>Human Anatomy</td>
<td>3–4</td>
</tr>
<tr>
<td>Human Physiology</td>
<td>3–4</td>
</tr>
<tr>
<td>Microbiology</td>
<td>3–4</td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Introductory Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Introductory Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Developmental Psychology Across the Lifespan</td>
<td>3</td>
</tr>
<tr>
<td>Human Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>College Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria at: http://www.hsc.wvu.edu/son/.

Application to the B.S./B.A. to B.S.N. program must be made by September 1 for admission to the program the following January. Acceptance and placement in the program are dependent upon space available in the program. There are limited spaces available and the best-qualified applicants are accepted. Application forms are distributed after September 1 by the Health Sciences Center Office of Admissions, or are available online from the admissions website. Qualified applicants will be invited for an interview as part of the admissions process. Students in the B.S./B.A. to B.S.N. program must meet the same academic standards and graduation requirements as basic B.S.N. students.

The B.S./B.A. to B.S.N. Curriculum

The curriculum for the B.S./B.A. to B.S.N. program is currently in the process of revision. Please see the School of Nursing website for details on the updated curriculum at http://www.hsc.wvu.edu/son.

Admission for R.N. to B.S.N. Program

Registered nurses are admitted directly to the School of Nursing. Acceptance and placement in the program are dependent upon the individual’s academic record and upon the number of spaces available. An unrestricted license to practice nursing and a grade point average of 2.5 or better on all college work attempted are required to be eligible for consideration.
All registered nurses will receive 50 credit hours of undifferentiated nursing credit based on licensure. Proof of licensure must be received by the School of Nursing to receive these credit hours. All R.N. to B.S.N. students will be required to meet WVU’s General Education Curriculum (GEC). If a student already holds a bachelor’s degree in another discipline, a course in statistics (if not already taken), will be the only course required to fulfill the GEC requirements. Advisors will work with students to identify courses already appearing on the transcript that meet GEC requirements, and then develop a plan to fulfill any remaining requirements.

Note: Admission criteria are subject to change. Please see the School of Nursing website for the most up-to-date criteria at: http://www.hsc.wvu.edu/son/.

R.N. to B.S.N. Curriculum
The curriculum for the R.N. to B.S.N. program is currently in the process of revision. Please see the School of Nursing website for details on the updated curriculum at http://www.hsc.wvu.edu/son. The R.N. to M.S.N. curriculum details are also available on the School of Nursing webpage.
School of Pharmacy
Patricia A. Chase, Ph.D., Dean
Rae R. Matsumoto, Ph.D., Associate Dean for Research and Graduate Programs
Mary K. Stamatakis, Pharm.D., Associate Dean for Academic Programs
W. Clarke Ridgway, B.S., Assistant Dean for Student Services

http://www.hsc.wvu.edu/sop

Degree Offered
Doctor of Pharmacy

Nature of Program
Pharmacy was first offered at West Virginia University as a department in the School of Medicine in 1914. It was changed to the College of Pharmacy in 1936 and to the School of Pharmacy in 1958. In 1960, the School of Pharmacy changed from a four-year to a five-year program. The current entry-level doctor of pharmacy program began in Fall 1998, and comprises four years of professional study preceded by a minimum of two years of pre-pharmacy coursework in an U.S. accredited college of arts and sciences.

The primary objective of the School of Pharmacy is to educate practitioners for current and future roles in the profession of pharmacy and to educate pharmaceutical scientists for careers in teaching and research.

The School of Pharmacy is accredited by the Accreditation Council for Pharmacy Education. The council is composed of members from the American Pharmacists Association, National Association of Boards of Pharmacy, American Association of Colleges of Pharmacy (AACP), and American Council on Education. The school is fully accredited through June 30, 2016. The School of Pharmacy holds membership in AACP, whose objective is to promote the interests of pharmaceutical education. All AACP member institutions must maintain certain requirements for entrance and graduation.

Admission
All students seeking enrollment in the School of Pharmacy must comply with regulations appearing in the WVU Undergraduate Catalog and the WVU Health Sciences Center Catalog.

Students preparing for the study of pharmacy must satisfy the coursework requirements for entrance into the School of Pharmacy entry-level doctor of pharmacy program by completing the following requirements or their equivalents.

<table>
<thead>
<tr>
<th>Pre-Pharmacy Requirements</th>
<th>Credit Hrs.</th>
<th>WVU Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Orientation</td>
<td>1</td>
<td>UNIV 101</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
<td>ENGL 101 and 102</td>
</tr>
<tr>
<td>Introduction to Calculus</td>
<td>3 (4)</td>
<td>MATH 150 (or MATH 155 or MATH 153 &amp; MATH 154)</td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>3</td>
<td>ECON 201</td>
</tr>
<tr>
<td>General Biology</td>
<td>8</td>
<td>BIOL 115 and 117</td>
</tr>
<tr>
<td>General Chemistry</td>
<td>8</td>
<td>CHEM 115 and 116</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>8</td>
<td>CHEM 233/235 and 234/236</td>
</tr>
<tr>
<td>Physics</td>
<td>8</td>
<td>PHYS 101 and 102</td>
</tr>
<tr>
<td>Introduction to Statistics</td>
<td>3</td>
<td>STAT 211 (or ECON 225)</td>
</tr>
<tr>
<td>General Microbiology</td>
<td>3 (4)</td>
<td>MBIM 200 (or ENVM 241)</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>3</td>
<td>SPA 270</td>
</tr>
<tr>
<td>Electives*</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>66–68</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Electives must satisfy the University General Education Curriculum (GEC) requirements.
Admissions are competitive. Criteria used to evaluate candidates include academic performance, as measured by the grade point average for all previously noted pre-requisite courses and the cumulative grade point average achieved in all prior college-level coursework, Pharmacy College Admissions Test (PCAT) and essay scores, a personal interview, and recommendations from college faculty, advisor, pharmacist, or other health care provider. PCAT tests must have been taken during or since the 2007–08 test cycle. All pre-requisite courses must be completed with a grade of C or better and must be completed by the end of the spring semester prior to the fall semester in which the applicant intends to matriculate. Priority is given to qualified West Virginia residents and applicants who have performed the majority of their pre-requisite coursework in a West Virginia college or university and students who have completed a bachelor’s degree.

All applicants must first file an initial electronic application with the Pharmacy College Application Service (PharmCAS). Instructions for completing the application are found on the PharmCAS website, http://www.PharmCAS.org. Supplemental applications specific to the West Virginia University School of Pharmacy will then be sent to candidates deemed qualified by the Committee on Admissions. Application deadlines are subject to change; please check the School of Pharmacy website at http://www.hsc.wvu.edu/sop, PharmCAS, or contact the school to verify current deadlines. A $50 application fee must accompany the supplemental application.

Each applicant who is recommended for acceptance must make a deposit of $400 (if WV resident) or $800 (if a non-resident) before acceptance is official. If the applicant enrolls, this sum is applied to the first-semester tuition. If the applicant fails to enroll, this deposit is refundable until May 1. Before enrollment in the School of Pharmacy, all students must initiate compliance with immunizations and diagnostic procedures required by the Board of Governors, WVU, the Robert C. Byrd Health Sciences Center, and the School of Pharmacy.

Completion of the Pharmacy College Admission Test is a requirement for admission. It is strongly recommended that the student take the test before submitting the application for admission. Information concerning time and place of the test can be obtained from a pre-pharmacy advisor, the School of Pharmacy, or by visiting the PCAT website at http://www.pcatweb.info.

Interviews are held at the WVU Health Sciences Center in Morgantown and are scheduled during January and February. Only applicants who are deemed by the Committee on Admissions to be competitive for consideration for acceptance will be offered an interview.

Three recommendations are required, although more may be submitted. At least two of these recommendations must be provided by course instructors in any two of the pre-pharmacy science areas: biology, chemistry, math, and physics. The third recommendation may be provided by a course instructor in any field of the student’s choice, an academic advisor, a pharmacist, or another health care practitioner.

Admission to Advanced Standing

Students from other accredited schools of pharmacy may be admitted if space is available and they meet the pre-requisite course requirements of the WVU School of Pharmacy, have at least a 2.5 grade point average (in professional coursework), and are in good academic and professional standing and eligible for continuation toward the degree in pharmacy at the school initially attended. Grades of D in professional courses will not be transferred.

For complete information concerning the curriculum and courses of instruction in the School of Pharmacy, see the WVU Health Sciences Center Catalog.

School of Pharmacy
Courses

Plan for Numbering Courses
For convenience, each course of study is designated by the name of the department in which it is given and by the number of that course. The plan for numbering courses is as follows:

Courses 1–99 Developmental and community college certificate courses (does not require WVU Faculty Senate approval) and undergraduate professional development courses (courses that are designed for professional development and require students to possess a high school diploma but the course would not count toward graduation).

Courses 100 Freshman/Lower Division: Intended primarily for freshmen although they may be taken by upper-division students if needed to complete degree requirements.

Courses 200 Sophomore/Lower Division: Intended primarily for sophomores. These courses may have 100-or 200-level prerequisites.

Courses 300 Juniors/Upper Division: Intended primarily for juniors. These courses may have extensive prerequisites or be limited to specific majors.

Courses 400 Seniors/Upper Division: Intended primarily for seniors and selected graduate students. These courses are typically limited to advance undergraduates within a particular major or degree program and selected graduate students. No more than 40 percent of the credits counted for meeting requirements for a graduate degree can be at the 400 level.

Courses 500 Undergraduate Seniors and Master's Level: Courses intended for advanced undergraduate and graduate students. Undergraduates in any class carrying a 500-level course number must have a 3.0 cumulative grade point average and written approval on an Application for an Advanced Undergraduate Student to Enroll in a Course Numbered 500–599 for Undergraduate Credit from the course instructor, student’s advisor(s), and academic dean. Seniors may count these courses for graduate credit only after completion and approval of a senior petition.

Courses 600 Master’s Level: Courses intended for master’s degree students (no undergraduate enrollment permitted).

Courses 700 Master’s and Doctoral Degree Level: Courses intended for doctoral students, and advanced master’s students (no undergraduate enrollment permitted).

Courses 900 Professional Development: Courses intended for professional development and require students to possess a bachelor’s degree, but the courses do not count toward graduation and are not applicable towards a graduate degree. (Grading is S/U only.)

Abbreviations Used in Course Listings

I a course given in the first (fall) semester
II a course given in the second (spring) semester
I, II a course given each semester
I and II a course given throughout the year
Yr a course continued through two semesters
S a course given in the summer
Hr credit hours per course
lec lecture period
rec recitation period
lab laboratory period
Conc concurrent registration required
PR prerequisite
Coreq corequisite
consent consent of instructor required
CR credit but no grade

An asterisk (*) following credit hours listed as variable indicates that the course normally carries three credit hours. Exceptions are made only in emergencies and must be approved by the departmental chair and by the professor teaching the course.

**Undergraduate Common Course Numbers**

199. Orientation to [subject/field]. 1-2 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities, and opportunities.

293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

298. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

491. Professional Field Experience. 1-18 Hr. PR: Consent (may be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

495. Independent Study. 1-6 Hr. Faculty-supervised study of topics not available through regular course offerings.

496. Senior Thesis. 1-3 Hr. PR: Consent.

497. Research. 1-6 Hr. Independent research projects.

498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

499. Global Service Learning. 3 Hr. PR: Consent. Theory and practice of global service-learning. The main objective will be to pair the experiential aspects of meaningful and sustained service in the host community with work from the student’s anchor course by offering a methodological framework for cultural immersion and community service as well as adding to the content of the anchor course.

**General Education Curriculum**

For General Education Curriculum (GEC) definitions and list of approved GEC/Writing/Capstone courses please see http://registrar.wvu.edu/.
Accounting (ACCT)

ACCT 201. Principles of Accounting. 3 Hr. PR: Sophomore standing. The accounting cycle from the analysis of business transactions through the preparation of financial statements; basic theory and practice with respect to accounting for assets and equities.

ACCT 202. Principles of Accounting. 3 Hr. PR: ACCT 201. Utilization of accounting information for purposes of managerial control and decision making; cost concepts, profit and financial budgeting, analysis of financial statements.

ACCT 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ACCT 311. Intermediate Accounting. 3 Hr. PR: (ACCT 201 with a grade of B or better) and (ACCT 202 with grade of B or better) and ECON 202 and ECON 225 and ENGL 102 and (MATH 150 or MATH 155 or (MATH 153 and MATH 154)) and PR or CONC: ACCT 321. Development of accounting theory and practice, with emphasis on asset accounting.

ACCT 312. Intermediate Accounting. 3 Hr. PR: ACCT 321 and (ACCT 311 with grade of C or better). Theory and practice with respect to accounting for liabilities and stockholders equity; special problems peculiar to financial accounting; analysis of financial statements and changes in financial position.

ACCT 321. Introduction to Accounting Systems. 3 Hr. PR: ACCT 202 and admission to the College of Business and Economics. Accounting software for record keeping, financial analysis, and accounting policy evaluation, with emphasis on the accounting cycle.

ACCT 322. Accounting Systems. 3 Hr. PR: ACCT 321 and BCOR 320. Analysis of data processing fundamentals and information systems analysis, design, and implementation, including necessary computer hardware and software components with particular reference to accounting information systems and the controls necessary therein.

ACCT 331. Managerial Accounting. 3 Hr. PR: ACCT 202 and ECON 202 and ECON 225 and ENGL 102 and (MATH 150 or MATH 155 or (MATH 153 and MATH 154)). For non-accounting majors. Analysis of internal accounting practices with emphasis on use of data for performance evaluation, control, motivation through accounting systems, and decision-making. (No credit available to students having credit for ACCT 431.)

ACCT 405. Accounting Concepts and Techniques. 2 Hr. PR: Consent. (Course primarily for graduate students in industrial and labor relations.) Basic accounting concepts and techniques for decision-making. Emphasis on the interpretation and analysis of financial statements and internal accounting reports.

ACCT 415. Advanced Accounting. 3 Hr. PR: ACCT 312. Accounting for business combinations, consolidations, foreign currency translation, governmental and not-for-profit entities, and equity method investment accounting.

ACCT 416. Advanced Accounting Theory. 3 Hr. PR: ACCT 312 and consent. Critical analysis of accounting concepts and standards with emphasis on their origin, development, and significance.

ACCT 417. Advanced Accounting Problems. 3 Hr.

ACCT 431. Cost Management. 3 Hr. PR: ACCT 202. Strategic cost management concepts and techniques used for decision-making, control, and product and service costing.

ACCT 432. Advanced Cost Management. 3 Hr. PR: ACCT 431 or consent. Advanced cost management concepts and techniques with emphasis on cost measurement systems and the evaluation and management of performance.

ACCT 441. Income Tax Accounting. 3 Hr. PR: ACCT 311 or ACCT 331. Overview and survey of federal income tax principles for individuals and simple corporations with emphasis on gross income, exemptions, and deductions, capital gains and losses, and tax credits.
ACCT 442. Income Tax Accounting. 3 Hr. PR: ACCT 441. The study of federal income tax treatment of partnerships, corporations and estates, and the treatment of those property transfers subject to the federal gift tax, together with an introduction to tax research and tax procedure.


ACCT 461. Accounting for Nonbusiness Entities. 3 Hr. PR: ACCT 312. Accounting, reporting, and budgeting for governmental and not-for-profit entities and the use of fund accounting data for planning and control.

ACCT 471. International Accounting. 3 Hr. PR: ACCT 312 or consent. Financial reporting from an international perspective, focusing on the flow of information in multiple currencies, differences in financial reporting requirements, development of international accounting standards, and related issues facing multinational enterprises and global financial markets.

ACCT 473. Personal Financial Advising. 3 Hr. PR: ACCT 312. Develops a life financial plan for students. Topical coverage includes self-assessment of financial planning acumen, cash/credit management, insurance coverage, investing components, tax planning, retirement/estate planning and special circumstance planning.

ACCT 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ACCT 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ACCT 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses. (Maximum of nine semester hours in any or all courses numbered 493 offered by the College of Business and Economics may be applied toward bachelors and master’s degree.)

ACCT 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ACCT 495. Independent Study. 1-6 Hr. PR: Consent. Faculty supervised study of topics not available through regular course offerings.

ACCT 496. Senior Thesis. 1-3 Hr. PR: Consent.

ACCT 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

Advertising (ADV)
ADV 201. Advertising and Society. 3 Hr. As a social institution, advertising plays a critical role in our daily lives. The course will examine the social, economic, and legal aspects of advertising.

ADV 215. Principles of Advertising. 3 Hr. (Open to all University students.) An introduction to all sides of the advertising field and to the process, quantitative, strategic and aesthetic, by which the sales message is planned, produced and delivered. This is the first advertising course for advertising majors and must be taken as a pre-requisite for other courses in the sequence.

ADV 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ADV 309. Advertising and Creativity. 3 Hr. PR: ADV 215 and JRL 101. Advertising minors only. Online course explores creativity in advertising through a process and variety of creative vehicles, including print, broadcast and interactive media.
ADV 315. Advertising Copywriting. 3 Hr. PR: ADV 215 and admission to School of Journalism. Writing advertising copy and designing effective layouts. Elements of effective advertising: creating strategies, building campaigns, writing and rewriting, and preparing roughs and comps. Developing a portfolio. Emphasis on print advertising. (Should be taken in combination with ADV 403.)

ADV 401. Retail Advertising. 3 Hr. PR: ADV 315 and ADV 403. Principles and practices of retail advertising. Planning and budgeting; copy preparation and layout, evaluation and selection of media; outdoor advertising, specialty advertising.

ADV 403. Advertising Media Analysis. 3 Hr. PR: ADV 215. CoReq: ADV 315. Theory, evaluation and selection of advertising media for a variety of market situations. Market analysis, media characteristics, sources of media data, and development of a media plan.

ADV 409. Advertising Research and Media. 3 Hr. PR: ADV 215 and JRL 101. Advertising minors only. Online course explores role of research throughout the communication process. Emphasis on media component through planning, buying and evaluation.

ADV 410. Graphic Design. 3 Hr. PR: ADV 215. Design layout for print media. Includes buying, supervising, and scheduling of art, typography, and print material. (2 hr. lec., 2 hr. lab.)

ADV 419. Advertising Strategies. 3 Hr. PR: ADV 309 and ADV 409. Advertising minors only. Online course introduces the changing consumer marketplace. Analysis of actual advertising campaign strategies in terms of creative media and research components.

ADV 421. Advertising Research. 3 Hr. PR: ADV 315 and ADV 403. A broad study of scientific and critical research methods; relevant sources of historical data gathering, relationship, and audience analysis; evaluation of marketing and public opinion research.

ADV 451. Direct Marketing. 3 Hr. PR: ADV 315 and ADV 403. An examination of the concepts, strategies and applications involved in direct marketing. Measurability, accountability, lists, data and the integration of direct marketing program into total marketing efforts are discussed.

ADV 459. Campaigns. 3 Hr. PR: ADV 315 and ADV 403 and JRL 421 and senior standing. The capstone course in the undergraduate advertising curriculum. The course is designed to give students the opportunity to integrate all prior learning and apply it to the development of an advertising campaign for a real-world client. The actual output of the course will be a written plans book and a formal campaign presentation. (Should be taken the final semester before graduation.)

ADV 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant. (Course will be graded pass/fail.)

ADV 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hrs.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development. (Course will be graded pass/fail.)

ADV 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ADV 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ADV 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

ADV 496. Senior Thesis. 1-3 Hr. PR: Consent.

ADV 497. Research. 1-6 Hr. Independent research projects.

ADV 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study, or research.
African/American Studies (ASP)

ASP 220. Introduction Africana Studies. 3 Hr. An interdisciplinary introduction to the histories, economics, cultural and artistic heritages, political and social experiences of Africans and African-Americans; focusing on the relationships between the two experiences.

ASP 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ASP 420. Seminar Africana Studies. 3 Hr. PR: ASP 220. Focus on selected aspects of Africana experience. Required for completion of minor in Africana studies.

ASP 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ASP 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

Agriculture, Forestry and Consumer Sciences (AFCS)

AFCS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AFCS 480. Assigned Topics. 1-4 Hr. Assigned studies of an interdisciplinary nature with a particular specialty area in agriculture and forestry. Students must be in good standing and have prior approval of a proposed outline from the division director’s office.

AFCS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

AFCS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

AFCS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AFCS 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

AFCS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

AFCS 496. Senior Thesis. 1-3 Hr. PR: Consent.

AFCS 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

Agricultural Biochemistry (AGBI)

AGBI 199. Orientation to Biochemistry. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

AGBI 410. Introductory Biochemistry. 3 Hr. PR: 8 hr. General chemistry and CHEM 231 or equivalent. Introduction to chemistry of cellular constituents (proteins, amino acids, carbohydrates, lipids, nucleic acids, enzymes and coenzymes) and their metabolism in animals and plants.

AGBI 411. Introductory Biochemistry Laboratory. 1 Hr. PR or CONC: AGBI 410. Experiments to demonstrate certain principles and properties of animal and plant biochemicals.
AGBI 412. Introduction to Biochemistry Wet Laboratory. 1 Hr. PR or CONC: AGBI 410 or Consent. Classic and modern techniques in biochemistry.

AGBI 480. Assigned Topics. 1-4 Hr.

AGBI 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

AGBI 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

AGBI 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AGBI 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

AGBI 496. Senior Thesis. 1-3 Hr. PR: Consent.

AGBI 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

Agricultural and Environmental Education (AGEE)

AGEE 101. Global Food and Agricultural Industry. 3 Hr. Examination of the history and current developments, structures, functions, and importance of the international food and agricultural industry; issues, concerns and interrelationships and their impacts on American agriculture and society.

AGEE 102. Educational Colloquium in AGEE. 1 Hr. Components of and requirements for majoring in agricultural and extension education, including specializations, professional organizations, avenues to program completion, and requirements to be gainfully employed.

AGEE 103. Basics of Ag Mechanization. 2 Hr. Study and application of the foundation area associated with agricultural mechanization.

AGEE 110. Microcomputer Applications in Agricultural Education. 3 Hr. PR: Consent. Microcomputer applications in the instructional process of agricultural education; use of applications software, agricultural software, and databases; and methods of integrating microcomputers into secondary school agriculture and extension programs.

AGEE 202. Site Based Tutoring in AGEE. 1 Hr. Application of models and paradigms of learning in the content area through tutoring of individuals and small groups in an assigned public school setting.

AGEE 203. Ag Mechanics Practica. 3 Hr. Theory and practice of designing and constructing structures, electrical circuits, masonry, equipment maintenance, and surveying.

AGEE 220. Group Organization and Leadership. 3 Hr. Study of the impact of leaders and organized groups on societies. Role of groups in conveying cultural norms. Principles and techniques involved in forming and directing organizations in providing effective leadership.

AGEE 293. Special Topic. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AGEE 303. Small Engines and Hydraulics. 3 Hr. Theory and practice of disassembling, assembling and maintaining small gasoline engines and hydraulic devices.

AGEE 305. Metal Fabrication. 3 Hr. Theory and practice of the fusion of metals. Advancing the science, technology and application of welding and allied processes including: joining, brazing, soldering, and cutting.
AGEE 330. Shop Theory and Methods. 3 Hr. PR: AGEE 103 and AGEE 203. Methods of teaching agricultural mechanics including laboratory safety, organization and supervision.

AGEE 421. Agricultural and Natural Resource Communications. 3 Hr. Procedures and practices in developing, interpreting, and communicating agricultural and natural resource information; emphasis on visual materials and effective presentations. (3 hr. lec.)

AGEE 426. Directing FFA and SAEs. 3 Hr. This course is specifically designed for students preparing to teach agricultural science in the public schools. Focus will be on planning, advising, supervising and evaluating student educational experiences through FFA and supervised agricultural experience programs.

AGEE 430. Methods of Teaching Agriculture. 3 Hr. PR: Consent. Organization and preparation for teaching agriculture in middle and secondary schools.

AGEE 431. Adult Education in Agriculture and Natural Resources. 2 Hr. PR: Consent. Planning and preparation for teaching adult classes and advising agricultural organizations.

AGEE 434. Managing Learning Environment. 3 Hr. PR: AGEE 430 or consent. Principals/process in organizing and managing all components of the secondary agricultural education learning environment to maximize student achievement.


AGEE 452. Advanced Farm Machinery. 3 Hr. Systems approach to selection, use and operation of machinery related to agriculture, forestry and other rural activities. Emphasis on safety and environmental impact. Use of records for management decisions, purchase, replacement, sale, or overhaul. (2 hr. rec., 3 hr. lab.)

AGEE 454 A-Z. Agricultural Mechanics Problems. 1-4 Hr. PR: C or better in an AGEE course. Special projects and problems in theoretical analysis, design, or construction. (1-4 hr. conference.)

AGEE 460. Engineering Technology for Urban Watersheds and Irrigation. 3 Hr. Soil and water management; analysis of small watersheds and design of waterways, culverts, ponds, sediment basins, and turf irrigation systems. (3 hr. lec.)

AGEE 461. Waste Management-Composting. 3 Hr. Both present and alternative waste management strategies will be examined. Students will learn how to analyze the waste stream and be able to develop management concepts which are both economically and environmentally sound. Lectures by waste management professionals will be integrated into the class to expose the students to the very latest practices and technology.

AGEE 488. Professional Agricultural Internship. 1-12 Hr. PR: Consent.

AGEE 489. AGEE Reflective Seminar. 1 Hr. Provides opportunities for students to examine their field based experiences. Professional issues and problems are identified and discussed. Ethics and misconceptions about professional practice are examined.

AGEE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.
AGEE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

AGEE 492 A-Z. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

AGEE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AGEE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

AGEE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

AGEE 496. Senior Thesis. 1-3 Hr. PR: Consent.

AGEE 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

Agriculture (AGRL)
AGRL 111. Professions in Agriculture. 1 Hr. An overview of subject matter related to agriculture in current society. Emphasis on agricultural organizations, environmental and food issues, careers, and programs within the college.

AGRL 112. Professions in Agriculture. 1 Hr. Continuation of AGRL 111.

AGRL 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AGRL 400. Agricultural Travel Course. 1-6 Hr. Tour and study of production methods in major livestock and crop regions of the United States and other countries. Influence of population, climate, soil, topography, markets, labor, and other factors on agricultural production.

AGRL 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

AGRL 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

AGRL 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

AGRL 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AGRL 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

AGRL 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

AGRL 496. Senior Thesis. 1-3 Hr. PR: Consent.

AGRL 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

West Virginia University Undergraduate Catalog
Agriculture and Resource Economics (ARE)

ARE 110. Agribusiness Accounting. 3 Hr. Introduction to accounting for agricultural, rural, and small business managers. Emphasis on the accounting cycle, analysis and interpretation of financial statements, income taxes, and managerial accounting. (Students having prior college credit in accounting are not eligible for this course.)

ARE 150. Introductory Agricultural and Agribusiness Economics. 3 Hr. Introduction to basic agricultural economics and agribusiness concepts, and the application of these concepts to agricultural and agribusinesses issues.

ARE 187. Energy Resource Economics. 3 Hr. Dilemmas posed for developing and modern societies by rising energy demands amid concerns for the world’s environment. Economics of fuel sources and technologies, and historical and new concerns over resource scarcities.

ARE 199. Orientation to Agriculture & Resource Economics. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

ARE 201. Principles of Resource and Energy. 3 Hr. PR: Third-year standing. Analyzes problems important or peculiar to mineral industry economics; exhaustion, externalities, risks, production cycle, industry structure, pricing, role of minerals in development and trade, resource planning. Energy, metals, industrial minerals. (3 hr. lec.)

ARE 204. Agribusiness Management. 3 Hr. Overview of the agribusiness decision-making process, and the functions of agribusiness management; analysis of financial statements and budgeting for evaluating profitability of alternative enterprises and practices.

ARE 220. Introductory Environmental and Resource Economics. 3 Hr. Economic analysis of environmental pollution, natural resource conservation and management, outdoor recreation, public land use, wildlife resources, water use, property rights, and benefit-cost issues.

ARE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ARE 360. Current Issues In Agriculture. 3 Hr. Course focusing on the current scientific, ethical, legal, economic and political issues relating to agriculture. Students conduct group and individual research, discuss topics in an informal debate format and summarize positions in a written form.

ARE 370. Recreation/Tourism Economics. 3 Hr. PR: ARE 220 or consent. Principles of economic analysis as applied to recreation and tourism resources, including economic impact and cost-benefit analyses.

ARE 382. Agricultural and Natural Resources Law. 3 Hr. Introduction to legal concepts, principles and practices related to environmental, natural resource, and agricultural issues; in the context of the legal system within which statues are enacted, administered and enforced.

ARE 401. Applied Demand Analysis. 3 Hr. Consumer demand economics applied to environmental, natural resource, and agricultural issues; in the context of the legal system within which statues are enacted, administered and enforced.

ARE 406. Applied Quantitative Methods. 3 Hr. PR: ARE 150. Application of basic quantitative concepts and methods applied to agribusiness and natural resources. Topics include applied economics, statistics, mathematics, and financial concepts and decision-making tools for determining optimum allocation of resources for production processes.

ARE 410. Environmental and Resource Economics. 3 Hr. PR: (ARE 401 and ARE 402) or ECON 301 or consent. Economic analysis of natural resource and environmental problems; management of renewable and non-renewable resources and environmental amenities; market failure, externalities, benefit-cost and risk analysis; property rights and the “taking” issue.
ARE 411. Rural Economic Development. 3 Hr. Economic trends, development policies, and analysis of rural economies in the United States. Rural diversity, development concepts, rural planning, public programs and policies, and community analysis methods.

ARE 421. Rural Enterprise Development. 4 Hr. PR: ARE 110 and ARE 204 or consent. Introduction to concepts, methods and strategies involved in starting a successful small private enterprise in a rural area: assessing a community for enterprise opportunities, identifying and developing an enterprise idea, and preparing an enterprise plan.

ARE 431. Marketing Agricultural Products. 3 Hr. Organization, functions, and analysis of the agricultural marketing system. Food consumption, exports, price analysis, marketing costs, market power, commodities futures market, food safety, and government regulations.

ARE 435. Marketing Livestock Products. 3 Hr. Livestock marketing practices and policies. Supply and demand, livestock price cycles, grading, marketing alternatives, processing and retailing. Economic analysis of alternatives, current issues, and trends.

ARE 440. Futures Markets and Commodity Prices. 3 Hr. Analysis of price-making forces which operate in the market place; emphasis on major agricultural and mineral commodity and futures markets.

ARE 445. Energy Economics. 3 Hr. Analysis of the energy sector and its relationship to the rest of the economy; energy security, deregulation, full cost pricing, substitutability among energy sources, transmission, new technologies, environmental considerations.

ARE 450. Agriculture, Environmental and Resource Policy. 3 Hr. PR: (ARE 401 and ARE 402) or ECON 301 or consent. Economic analysis of agricultural, natural resource and environmental policies; problems of externalities and market failure, and alternative policies for addressing such problems; benefits and cost of alternative policies.

ARE 461. Agribusiness Finance. 3 Hr. An overview of financial analysis and the application of financial principles to small, rural and agricultural businesses. Includes applications of financial analysis computer software.

ARE 482. Enterprise Operation Law. 3 Hr. Course focusing on laws applicable to businesses and the management of risks associated with operating a business. Students will learn to read and interpret laws and apply them to real-life business scenarios.

ARE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ARE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ARE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ARE 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ARE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

ARE 496. Senior Thesis. 1-3 Hr. PR: Consent.

ARE 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.
Agronomy (AGRN)
AGRN 125. Soil Judging. 1 Hr. PR: Consent. Field study of soils for classification and land use evaluation. (3 hr. lab.) (May be repeated for maximum of 3 credits.)

AGRN 202. Principles of Soil Science. 3 Hr. PR: CHEM 111 or equivalent. CONC: AGRN 203. Introductory course. Soils as a natural resource emphasizing physical, chemical, and biological properties in relation to plant growth and production, land use and management, soil and water pollution, and environmental protection. (Regional campus concurrent.)

AGRN 203. Principles of Soil Science Laboratory. 1 Hr. PR or CONC: AGRN 202 or consent. (Regional campus concurrent.)

AGRN 225. Advanced Soil Judging. 1 Hr. Advanced field study for soil classification and land use evaluation. Participation in National Collegiate Soils contest required. (May be repeated for maximum of 3 credits.)

AGRN 315. Turfgrass Management. 3 Hr. PR: AGRN 202 and AGRN 203 and PLSC 206 or consent. Establishment, maintenance and adaptation of grasses for lawns, golf courses, parks, athletic and playing fields, and roadsides. Associating differential plant responses with soil, climatic and biotic factors. (3 hr. lec.)

AGRN 410. Soil Fertility. 3 Hr. PR: AGRN 202 and AGRN 203 and CHEM 116. Effect of soil chemical and physical properties on soil fertility; evaluation of essential and toxic nutrients and the controls on their availability; fertilizer and lime use; soil fertility evaluation. (3 hr. lec.)

AGRN 415. Soil Survey and Land Use. 3 Hr. PR: AGRN 125 or consent. Identification of morphological characteristics and taxonomic units of soil; techniques of writing soil pedon and mapping unit descriptions; techniques of preparing soil maps; evaluation of soil for land use planning. (2 hr. lec., 3 hr. lab.)

AGRN 417. Soil Genesis and Classification. 4 Hr. PR: AGRN 125 or Consent. Origin and formation of soils; principles of soil classification; study of soil pedons and polypedons; influence of soil-forming factors and processes. (Two Saturday field trips required.) (3 hr. lec., 3 hr. lab.)

AGRN 420. Soil Microbiology. 3 Hr. PR: AEM 341. Microbiology and biochemistry of the soil environment. Occurrence, distribution, ecology, and detection of microorganisms in soil. (Also listed as AEM 420 and ENVP 420.)

AGRN 425. Environmental Soil Management. 3 Hr. PR: AGRN 202 and AGRN 203. This course provides a foundation for utilizing creative solutions and technical knowledge in preserving and enhancing soil and water quality. Soil conservation, precision agriculture and nutrient management for protection of soil and water quality are covered. (Also listed as ENVP 425.)

AGRN 430. Soil Physics. 3 Hr. PR: AGRN 202 and AGRN 203. Physical properties of soils; water and air relationships and their influence on soil productivity.

AGRN 451. Principles of Weed Science. 3 Hr. PR: PLSC 206 and AGRN 202 and AGRN 203 or consent. Fundamental principles of weed science including identification, ecology, and control in crops. (Also listed as ENVP 451.)

AGRN 452. Grain and Special Crops. 3 Hr. PR: PLSC 206 and AGRN 202 and AGRN 203 or consent. Advanced study of methods in the production of grain and special crops. Varieties, improvement, tillage, harvesting, storage, and use of crops grown for seed or special purposes.

AGRN 454. Forage Crops. 3 Hr. PR: PLSC 206 and AGRN 202 and AGRN 203 or consent. All phases of forage crop science including ecology, taxonomy, management practices used for the production of forage and seed, and forage composition, quality, and utilization. (3 hr. lec., 1 hr. lab.)
AGRN 455. Reclamation of Disturbed Soils. 3 Hr. PR: Junior standing or above. Principles of soil science, geology, hydrology, and engineering will be applied to surface mine planning, overburden handling during mining, soil replacement and amendments, revegetation practices, acid mine drainage control and treatment, hazardous wastes, and land management of disturbed areas. (Field trip required.) (Also listed as ENVP 455.)

AGRN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

AGRN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

AGRN 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AGRN 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

AGRN 496. Senior Thesis. 1-3 Hr. PR: Consent.

AGRN 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

**Animal Nutrition (ANNU)**

ANNU 260. Animal Nutrition. 3 Hr. PR: Two courses in chemistry. Digestion and metabolism of food nutrients, nutrient requirements of farm animals, and nutritive values of feeds and rations.

ANNU 361. Applied Nutrition. 3 Hr. PR: ANNU 260. Feedstuffs, feed processing storage and additives, nutrient requirements and ration formulation for beef and dairy cattle, sheep, and horses. (2 hr. lec., 1 hr. lab.)

ANNU 362. Applied Nutrition 2. 3 Hr. PR: ANNU 260. Applied feeding practices, nutrient requirements and ration formulation for poultry, swine, laboratory and companion animals. (2 hr. lec., 1 hr. lab.)

ANNU 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANNU 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ANNU 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ANNU 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANNU 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ANNU 496. Senior Thesis. 1-3 Hr. PR: Consent.

ANNU 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Animal Physiology (ANPH)**

ANPH 301. Introduction to Animal Physiology. 3 Hr. PR: BIOL 191 and BIOL 102 or consent. The function and regulation of the principal systems of the animal body.
ANPH 400. Growth and Lactation Physiology. 3 Hr. PR: ANPH 301 or consent. Animal life cycles; nature of growth and lactation; effects of biological, environmental, and social-psychological variants; physiological regulation and control.

ANPH 405. Animal Physiology Laboratory. 2 Hr. PR: ANPH 301 or consent. Laboratory study of the physiological systems of animals and the influences of environment on these systems. (4 hr. lab.)

ANPH 424. Physiology of Reproduction. 3 Hr. PR: Course in biology. Comparative physiology of reproduction in higher animals; endocrine functions involved in reproduction; genetic and environmental variations in fertility mechanisms.

ANPH 425. Reproductive Laboratory. 1 Hr. PR or CONC: ANPH 424 and junior standing or consent. Laboratory study of the anatomy and function of the reproductive physiology system in animals.

ANPH 426. Applied Animal Reproduction. 1 Hr. PR or CONC: ANPH 424 and junior standing or consent. Laboratory study, including rectal pregnancy examination, of reproductive physiology system in animals.

ANPH 430. Breeding of Farm Animals. 3 Hr. PR: Course in genetics or consent. Application of principles of quantitative genetics to the improvement of farm animals.

ANPH 480. Behavioral Patterns of Animals. 3 Hr. Examination of the bases for exhibition and control of behavioral patterns of domesticated and nondomesticated species. (2 hr. lec., 3 hr. lab.)

ANPH 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ANPH 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ANPH 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPH 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ANPH 496. Senior Thesis. 1-3 Hr. PR: Consent.

ANPH 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Animal Production (ANPR)
ANPR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPR 308. Animal Production Experience. 1-4 Hr. Experience in operating a dairy or livestock farm, including layers or broilers, calving, lambing, or farrowing of hogs. (Can be repeated up to a maximum of 4 credits. 3 hr. lab. per hr. of credit.)

ANPR 336. Dairy Cattle History and Selection. 3 Hr. To familiarize the student with the breeds of dairy cattle as well as modern concepts in phenotype and performance record evaluation. (2 labs.)

ANPR 338. Horse/Livestock/Poultry Evaluation. 3 Hr. Appraisal of horses, cattle, sheep, poultry, and swine. Evaluation of scientific techniques used in selecting those species. Tours of representative flocks, herds and stables will be required. (Two 3 hr. labs.)

ANPR 339. Advanced Evaluation of Animal Products. 1-4 Hr. PR: FDSC 334 or ANPR 336 or ANPR 338 or consent. Advanced selection, evaluation and grading of domestic livestock species and animal products. Tours of representative flocks, herds and processing plants will be required. (Can be repeated up to a maximum of 4 credits. 3 hr. lab. per hr. credit.)
ANPR 341. Beef Production. 3 Hr. PR: ANNU 260. Applying the principles of breeding, nutrition, physiology, and economics for the production of beef cattle.

ANPR 343. Beef Production Laboratory. 1 Hr. CoReq: ANPR 341. Experiences in beef cattle management, including feeding, handling, health programs and farm visits. (3 hr. lab.)

ANPR 344. Light Horse Science. 3 Hr. PR: ANNU 260. Application of breeding, nutrition, physiology, and pathology to production and management of light horses.

ANPR 350. Milk Production. 3 Hr. PR: ANNU 260. Feeding and management of dairy cattle. (2 hr. lec., 3 hr. lab.) (Regional campus course requires 30 hours of work on the campus farm.)

ANPR 353. Pork Production. 3 Hr. PR: ANNU 260. Physiological and economical bases of pork production. (2 hr. lec., 3 hr. lab.)

ANPR 355. Small Ruminants. 3 Hr. PR: ANNU 260. Genetics, nutrition, physiology, health and management of small ruminants in production of fiber, meat and milk, in local, regional and global contexts.

ANPR 367. Poultry Production. 3 Hr. PR: ANNU 260. Special phases of broiler and egg production, disease control, labor-saving studies, and recent designs in housing and equipment for all types of poultry.

ANPR 369. Poultry Production Laboratory. 1 Hr. CoReq: ANPR 367. Laboratory study of poultry production systems, related feed manufacturing and product processing practices. (3 hr. lab.)

ANPR 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ANPR 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ANPR 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ANPR 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ANPR 496. Senior Thesis. 1-3 Hr. PR: Consent.

ANPR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Animal and Veterinary Science (A&VS)
A&VS 105. Professional Orientation. 2 Hr. PR: Freshman standing or consent. Orientation to WVU and the academic programs in the Division of Animal and Veterinary Sciences; related career and professional opportunities. Field trips required.

A&VS 150. Introduction to Animal Science. 2 Hr. Survey of major disciplines in animal and veterinary sciences with emphasis on related terminology; study of the development of breeds of livestock and their identification.

A&VS 199. Orientation to Biochemistry. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

A&VS 251. Principles of Animal Science. 4 Hr. A comparative study of the production of meat, milk, eggs and wool. Nutrition, physiology genetics, hygiene and physical environment, and economics are discussed as bases for sound managerial decisions. (1 hr. lab.)
A&VS 275. Companion Animal Science. 3 Hr. Basic physiology, nutrition and genetics; economic and ethical consideration of pet ownership; benefits of companion animals in society; aspects of handling and training, behavior, and common health diseases and parasite problems of pet animals.

A&VS 276. Service Dog Training. 3 Hr. Application of current principles, theory, and practices for training service dogs.

A&VS 281. Equine Management and Training. 3 Hr. Introduction to equine management and methods of training. Topics include handling, behavior, breeds, disciplines, tack clipping, grooming, soundness, basic training, and an introduction to the horse industry. Short field trip will be required.

A&VS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

A&VS 343. Equine Hoof and Limb. 3 Hr. Students in this course gain in-depth knowledge of the anatomy and physiology of the equine hoof and limb. Students will study tendons, ligaments, bones, soundness, hoof structure, shoeing principles, laminitis, and navicular disease.

A&VS 402. Values and Ethics. 3 Hr. PR: Senior standing or consent. Current ethical aspects in agriculture and forestry and their impact on societal values.

A&VS 404. Career Development. 1 Hr. Identification of career opportunities and preparation of employment applications. Development of personal skills for interviewing for employment.

A&VS 410. Calving Management. 3 Hr. PR: Junior standing and ANNU 260. Application of current management practices for calving beef cows for early calf management and for service sire selection.

A&VS 411. Dairy Heifer Management. 3 Hr. PR: Junior standing and ANNU 260. Application of current management practices for raising dairy calves from birth through establishment of pregnancy.

A&VS 412. Lambing Management. 1 Hr. PR: Junior standing and ANNU 260. Application of current management practices for lambing ewes and lamb management from birth through first months of life.

A&VS 413. Camelid Physiology & Management. 3 Hr. PR: Junior standing and ANNU 260. Application of current management practices for alpaca management.

A&VS 435. Marketing Registered Livestock. 3 Hr. PR: Junior standing or consent. Application of strategies for marketing animals in the registered livestock industry in West Virginia and the surrounding states.


A&VS 480 A-Z. Assigned Topics. 1-4 Hr. To be eligible to register in A&VS 480, the student must: (1) be in good standing, (2) obtain approval of the instructor supervising the topic, and (3) obtain approval from the instructor assigned the course responsibility.

A&VS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

A&VS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

A&VS 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

A&VS 496. Senior Thesis. 1-3 Hr. PR: Consent.

A&VS 497. Research. 1-6 Hr. Independent research projects.

A&VS 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

Applied and Environmental Microbiology (AEM)

AEM 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AEM 341. General Microbiology. 4 Hr. PR: CHEM 115. Introductory morphological, cultural, and physiological characteristics of microorganisms; application of microbiology to agriculture, home economics, and health.

AEM 401. Environmental Microbiology. 4 Hr. PR: AEM 341 or Consent. Microbiology as applied to soil, water, wastewater, sewage, air, and the general environment. Occurrence, distribution, ecology, and detection of microorganisms in these environments. (Also listed as ENVP 401.)

AEM 408. Applied Water Microbiology. 3 Hr. PR: AEM 341. Microbiology and health hazards associated with surface and ground water intended for consumption, recreation, waste disposal, and agriculture/industry applications.

AEM 420. Soil Microbiology. 3 Hr. PR: AEM 341. Microbiology and biochemistry of the soil environment. Occurrence, distribution, ecology, and detection of micro-organisms in soil. (Also listed as AGRN 420 and ENVP 420.)

AEM 445. Food Microbiology. 3 Hr. PR: AEM 341. The relationships of microorganisms to food-borne illness and intoxications, microbial food safety and food quality, food spoilage, food preservation and bio-processing. The emerging food preservation and technologies and predictive microbiology will be introduced.

AEM 449. Food Microbiology Lab. 1 Hr. PR: AEM 445. Laboratory training in methods used in microbiological examination of foods. This laboratory will provide hands-on experience for students who take or have taken AEM 445.

AEM 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

AEM 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

AEM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

AEM 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

AEM 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

AEM 496. Senior Thesis. 1-3 Hr. PR: Consent.

AEM 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
Arabic (ARBC)
ARBC 101. Elementary Modern Standard Arabic 1. 3 Hr.


ARBC 203. Intermediate Modern Standard Arabic 1. 3 Hr. PR: ARBC 102 or equiv. Continuation of ARBC 102.

ARBC 204. Intermediate Modern Standard Arabic 2. 3 Hr. PR: ARBC 203 or consent. Continuation of ARBC 203.

ARBC 293. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ARBC 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ARBC 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ARBC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ARBC 493. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ARBC 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ARBC 496. Senior Thesis. 1-3 Hr. PR: Consent.

ARBC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Art (ART)
ART 102. Non-Major Ceramics. 3 Hr. The course is designed to teach basic ceramic skills associated with beginning pottery. Emphasis is on throwing techniques, trimming, handle attachment, basic ceramic design, glazing and studio practices.

ART 103. Materials and Procedures. 3 Hr. The course is designed for elementary education majors, to familiarize the student with two- and three-dimensional media, processes, and concepts.

ART 109. Basic Drawing 1 for Non Majors. 3 Hr. A beginning-level studio experience emphasizing the application of techniques and materials in rendering. Designed for non art-majors and those seeking to improve their portfolios to gain entrance into the BFA studio program.

ART 110. Basic Drawing 2 for Non Majors. 3 Hr. PR: ART 109 or consent. A studio experience building upon skills and techniques gained in ART 109. Includes the examination of drawing through expanded materials. For non-art majors, those seeking to improve their portfolios and enter the BFA program.

ART 111. Drawing 1. 3 Hr. The course emphasizes fundamental principles of drawing with a focus on building basic skills through direct observation, using traditional graphic media and expression.

ART 112. Drawing 2. 3 Hr. The course emphasizes fundamental principles of drawing with a focus on more expressive approaches to basic problems. Greater emphasis is placed on abstraction and non-traditional drawing processes and media.
ART 121. 2D Visual Foundation. 3 Hr. The course provides an introduction to the fundamental principals and concepts of two-dimensional image making with an emphasis on color theory and design. Through creative assignments students develop abilities and visual awareness emphasizing the basics of color perception, form, proportion and rhythm.

ART 122. 3D Visual Foundation. 3 Hr. The course incorporates projects involving abstract and representational ideas in three dimensions and investigates the basic concepts of line, plane, volume, form, mass, texture, composition and time.

ART 199. Orientation to Art. 1 Hr. (Required for all studio art majors.) Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities. Faculty assists students in establishing career goals. Course includes a mandatory portfolio review of all first-year art majors.

ART 211. Figure Drawing. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. This class concentrates on compositional structure from the human figure. Students will investigate organic nature of the figure and its representation in space using a wide variety of media and processes. (May be repeated for credit.)

ART 212. Advanced Drawing. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. This class expands media possibilities and examines the variables of image-making while establishing personal expression. The course is designed to develop analytical and problem solving skills as well as technical processes. (May be repeated for credit.)

ART 213. Painting. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. The course serves as an introduction to painting with concentration on basic structure, techniques and imagery of historic and contemporary painting. Emphasis is on the development of skills in rendering works which convincingly express light, color and form integral to the medium.

ART 214. Painting. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. The course provides the essential structure, techniques and iconography of painting. Its modern development, augmenting the traditional languages of painting, are clarified and isolated.

ART 217. Arts and Cultural Organizations. 3 Hr. An introduction to the types of non-profit arts and cultural organization and the field of arts administration. Coursework will focus on issues related to the performing and visual arts in the non-profit sector.

ART 223. Introduction to Graphic Design. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. The course emphasizes the application of traditional and technological skills emphasizing color, composition, symbolic drawing, and typography fundamental to the field of graphic design.

ART 224. Graphic Design 2. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 122. This course emphasizes typography, sequential projects and complex compositions, and includes preparation as well as review of upper-level entrance portfolios.

ART 226. Introduction to Sculpture. 3 Hr. PR: ART 111 and 112 and ART 122 and ART 199. The course focuses on creative expression using basic traditional materials and techniques. Students explore aesthetics and contemporary issues while acquiring a working knowledge of various sculptural media.

ART 227. Sculpture. 3 Hr. PR: ART 111 and ART 112 and ART 122 and ART 199. New construction techniques including stretched canvas over wood encaustics, molds, plasticene and figure modeling will aid the students in developing problem-solving skills related to aesthetics and formal sculptural issues.

ART 230. Printmaking - Intaglio and Relief. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. This course is a fundamental printmaking class concerned with creating an understanding and sensitivity towards intaglio processes and techniques. Students explore and develop visual ideas and images using non-traditional approaches.
ART 231. Printmaking - Lithography. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. This course is an introduction to the fundamental processes of lithography with a focus on developing imagery and technical proficiency. Students acquire a working knowledge of the medium while examining aesthetics, contemporary discourse, and history as an art form.

ART 232. Photography. 3 Hr. PR: ART 111 and ART 112 and ART 121 and ART 199. The class provides an introduction to the fundamentals of black and white photography. This course covers the tools, materials and principles of the photographic art, focusing on both the technical and visual aspects of the medium.

ART 233. Photo Design. 3 Hr. PR: ART 224. Emphasis is placed on the use of large and small format cameras, studio photography, darkroom techniques and lighting. Projects are developed to complement the graphic design studio courses by exploring indoor and outdoor assignments.

ART 234. Digital Photography. 3 Hr. PR: ART 232. This course will explore the fundamentals of photography using digital cameras and Adobe Photoshop software. Emphasis will be placed on processes in the digital darkroom, specialized lighting methods and concept development.

ART 235. Introduction to Silkscreen. 3 Hr. Printmaking class concerned with creating an understanding and sensitivity towards silkscreen processes, techniques, and developing ideas and images using multiple approaches. Students acquire knowledge of silkscreen, examine its aesthetics, discourse, and history.

ART 240. Ceramics. 3 Hr. PR: ART 111 and ART 112 and ART 122 and ART 199. The course covers basic ceramic techniques including throwing, trimming, ceramic design, glazing, firing and studio practices. Lectures cover basic ceramic material, information and studio procedures.

ART 241. Ceramics. 3 Hr. PR: ART 111 and ART 112 and ART 122 and ART 199. The course continues the study of basic ceramic techniques: throwing, trimming, ceramic design glazing, firing and studio practices. Lectures cover basic ceramic material, information and studio procedures.

ART 264. Introduction to Art Education. 3 Hr. PR: ART 105 and ART 106 and ART 111 and ART 112 and ART 121 and ART 122 and six hours of studio. Contemporary art education and resources that support its practices. Students also interact with experienced K-12 art specialists and their various grade levels.

ART 265. Art Education: Elementary. 3 Hr. PR: ART 264. This course is designed on discipline-based content and the character of art education at the elementary level. Emphasis is placed on curriculum development. Course content is based on the WV CSO's and national standards.

ART 266. Art Education: Secondary. 3 Hr. PR: ART 264. This course is designed on discipline-based content and character of art education at the secondary level. Emphasis is placed on child-centered curriculum development. Course content is based on the WV CSO's and national standards.

ART 267. Technology Methods in Art Education. 3 Hr. PR: ART 264. This class examines multiple aspects of classroom technology in arts education. The course combines hands-on computer techniques, critical analysis of digital art, and practical experience with curriculum design.

ART 270. Introduction to Electronic Media 1. 3 Hr. PR: ART 112 and ART 121 and ART 122. Class provides introduction to fundamentals of digital media. Explores digital photography, animation multimedia. Covers use of various software, focuses on sound, technical foundation and esthetic proficiency in these media.

ART 271. Introduction to Electronic Media 2. 3 Hr. PR: ART 270. A continued exploration into applications and aesthetics of digital media. Attention is given to historical and contemporary critical contest for this media. Students encouraged to create hybrids between media and digital approaches.

ART 293 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.
ART 313. Painting. 1-15 Hr. PR: ART 213 and ART 214. The course reaffirms and expands formal criteria established in 213 and 214 and directs individual research into personal, historical and contemporary painting issues in oil, acrylic and related media. (May be repeated for credit.)

ART 315. Arts Administration. 3 Hr. This course provides a practical approach to understanding arts management in not-for-profit organizations. Topics include facilities management, leadership, programming, audience development, board relations, and fundraising.

ART 316. Arts Programming. 3 Hr. PR: ART 217. The course examines principles and best practices related to comprehensive arts and cultural programming. Program theory, partnerships, program evaluation, volunteer coordination, marketing, and related topics will be explored.

ART 323. Graphic Design 3. 1-12 Hr. PR: ART 224. Varied hypothetical projects give students a methodology for solving applied design projects in a range of formats. This class will deal with a combination of computer graphics, book arts, publication design and multi-media projects. Portfolio review. (May be repeated for credit.)

ART 324. Graphic Design 4. 1-9 Hr. PR: ART 323. Senior graphic design studio includes a model studio with real projects, most of which are produced and printed. Emphasis is on developing professional skills in design and design management. (May be repeated for credit.)

ART 325. Design For Web and Screen. 3 Hr. PR: ART 223 and ART 224. Introduction to the technologies and methodologies utilized in graphic design for the web and other screen-based interfaces. This course focuses on an entire design process including information architecture, visual aesthetics and usability.

ART 326. Sculpture. 1-15 Hr. PR: ART 226 and ART 227. Students continue to examine personal iconography as it pertains to aspects of contemporary sculpture. Topics explored are concept-oriented, using stone, concrete, glass, and emphasizing craftsmanship and aesthetic issues. (May be repeated for credit.)

ART 327. Installation Art. 1-15 Hr. PR: ART 122 and ART 199. Students investigate this contemporary art form through a series of temporary, site-specific sculptural environments. Conventional art media and concepts are challenged as students develop alternative solutions to creative problems. (May be repeated for credit.)

ART 328. Advanced Typography. 3 Hr. PR: ART 224. Students will study taxonomy, history and classification of typography as well as create projects in diverse formats such as posters, publications, exhibits or packaging to experience the typographic contexts and etiquette for each.

ART 330. Printmaking. 1-15 Hr. PR: ART 230 and ART 231. An exploration of color printmaking, advancing imagery through critical contexts. Students focus on technical mastery in lithography, intaglio, relief and alternative processes, expand their knowledge of printmaking’s history and develop creative problem solving skills. (May be repeated for credit.)

ART 331. Jackson Hole Photo Workshop. 3 Hr. Ten-day intensive photography field course that explores the diverse and remote region of northwestern Wyoming. Course includes daily excursions, darkroom and digital work sessions, gallery visits, and evening presentations.

ART 332. Intermediate Photography. 3 or 6 Hr. PR: ART 232 and ART 234. This course expands on the formal and critical criteria established in the introductory courses, and directs creative research into personal, historical, and contemporary issues. Students explore larger format cameras and advanced lighting techniques.

ART 333. Alternative Photography. 3-6 Hr. PR: ART 232 and ART 234. This course explores alternative photographic techniques and concepts that expand the definition of the medium. Techniques may include hand-applied emulsions, contemporary liquid emulsions, pinhole and plastic cameras, and digital negatives.
ART 335. Advanced Photography. 6 Hr. PR: ART 332 and ART 333. In this course emphasis will be on furthering explorations in the study of personal expression and development of creative style. Advanced camera, lighting and digital techniques are covered as needed.

ART 340. Ceramics. 1-15 Hr. PR: ART 240 and ART 241. This intense studio concentration is designed to prepare students for graduate studies and/or professional studio practices. Historical and contemporary design issues, kiln design and building, firing, glaze and clay formulation, studio practices and advanced-level throwing and hand-building techniques will be studied. (May be repeated for credit.)

ART 341. Ceramic Production Methods. 3 Hr. PR: ART 240 or consent. This course expands the student's experiences in ceramics through the use of industrial techniques, production equipment and business tools for the development, production and marketing of ceramic products.

ART 365. Pre-Student Teaching. 3 Hr. PR: ART 265 and ART 266. The course concentrates on curriculum development, research methods, and delivery strategies for K-12 art specialists preparing for their professional semester.

ART 370. Intermediate Electronic Media. 3 or 6 Hr. PR: ART 270 and ART 271. Students will expand explorations in video production from ART 271 and examine opportunities of creative works on the Internet. Building video skills and methodologies, students will create dynamic and artistic web pages.

ART 371. Interactive Art. 3 or 6 Hr. PR: ART 270 and ART 271. Students will utilize skills learned in previous electronic media courses to create projects incorporating a variety of knowledge and interactive softwares. Attention is given to historical and contemporary critical context.

ART 413. Senior Projects in Painting. 6 Hr. PR: 18 hrs. of ART 313. Advanced study directed toward completion of senior-level projects. Developed to meet individualized creative goals. The course culminates with participation in a senior student exhibition/other exit requirements.

ART 425. Graphic Design: Senior Project. 3 Hr. PR: ART 324. This course is focused on the development of an undergraduate thesis in which each project is individually defined with an umbrella topic. Formats and content vary but each project culminates in a thesis exhibition and an individual audio/visual presentation. (May be repeated for credit.)

ART 426. Senior Projects in Sculpture. 6 Hr. PR: 18 hrs. of ART 326 or consent. Advanced study towards completion of senior-level projects, developed to meet individualized creative goals. The course culminates with participation in a senior student exhibition and other exit requirements.

ART 430. Senior Projects in Printmaking. 6 Hr. PR: 18 hrs. of ART 330 or consent. Advanced study directed toward completion of senior-level projects. Projects developed to meet individualized creative goals. The course culminates with participation in a senior student exhibition and other exit requirements.

ART 435. Senior Projects in Photography. 6 Hr. PR: ART 332 and ART 333 and ART 335. Advanced study directed toward completion of senior level projects, developed to meet individualized creative goals. The course culminates with participation in a senior student exhibition.

ART 440. Senior Projects in Ceramics. 6 Hr. PR: 18 hrs. of ART 340 or consent. Advanced study towards completion of senior-level projects, developed to meet individualized creative goals. The course culminates with participation in a senior student exhibition and other exit requirements.

ART 470. Senior Projects in Intermedia. 6 Hr. PR: Consent. Advanced study towards completion of senior-level projects in intermedia. Projects are developed to meet individualized goals. The course culminates with participation in a senior student exhibition as well as other exit requirements.
ART 491 A-Z. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ART 492. Directed Study. 1-3 Hr. Directed study, reading and/or research.

ART 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ART 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ART 495 A-Z. Independent Study. 1-6 Hr. PR: Consent. Faculty supervised study of topics not available through regular course offerings.

ART 496. Senior Thesis. 1-3 Hr. PR: Consent.

ART 497. Research. 1-6 Hr. Independent research projects.

ART 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Art History (ARHS)
ARHS 101. Landmarks of World Art. 3 Hr. Introduction to the study of art history from prehistory to the present in which major landmarks of world art and architecture are considered as aesthetic objects, cultural documents and within their socio-historical contexts.


ARHS 120. Survey of Art History 1. 3 Hr. The course examines the history of the visual arts in world cultures from pre-historic periods to the fourteenth century.

ARHS 160. Survey of Art History 2. 3 Hr. The course examines the history of the visual arts in world cultures from the fourteenth century to the present.

ARHS 181. World Architecture 4: 1850-Present. 3 Hr. Examination of architecture from the Industrial Revolution to the present. Will consider style, form, technique, material, and meaning in the architecture of the modern and contemporary periods.

ARHS 225. Intro to Italian Culture. 3 Hr. Exploration of Italian history, culture, art, design, and language through lecture and experiential learning. Possible field trips: Florence, Rome, Pisa, Sienna, Lucca, Milan. Students conduct an individual design research project.

ARHS 240. Art Theory. 3 Hr. The course will examine development and tradition of the literature of art theory and its relationship to artistic practice.

ARHS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ARHS 304. Asian Art. 3 Hr.

ARHS 305. Pop Art. 3 Hr.

ARHS 306. Research in Mexico. 3 Hr.

ARHS 307. Native American Visual Culture. 3 Hr. In-depth overview of the visual material culture of the First Peoples of North America north of the Rio Grande, pre-contact to present. Focus on formal analysis with careful contextual studies.
ARHS 310. Introduction to Curatorial Practices. 3 Hr. PR: ARHS 120 and ARHS 160. This course provides an introduction to museum structure and specifically the role of the curator. The objective is to assess exhibition display and develop critical perspective on curatorial practice.

ARHS 320. Greek and Roman. 3 Hr. The arts of the Aegean World, c. 2000 BCE, Greece and Rome to 400 CE are examined. Architecture, sculpture and painting will be included.

ARHS 331. Medieval. 3 Hr. PR: ARHS 120 and ARHS 160. The arts of Europe from c. 312 to c. 1350 are examined. The theoretical, historical, and literary contexts for the images will be established. Architecture, sculpture, painting and portable arts will be included.

ARHS 333. Medieval Architecture. 3 Hr. The architecture of western Europe and its builders, from 313 through the sixteenth century: monumental buildings, architectural ornament, and the fusion of sacred and secular, in context of medieval world views.

ARHS 338. The History of Stained Glass. 3 Hr. In-depth introduction to the study of architectural stained glass. Focus on the development of the medium, on formal analysis of composition, on iconographical conventions, and historic contexts.

ARHS 345. Modern Art Theory. 3 Hr. PR: ARHS 120 and ARHS 160 and 200-level art history. The course will examine the development of modern art theory and its relationship to artistic practice. Emphasis will be placed on the critical and theoretical examination of modernism and post modernism.

ARHS 348. Women in Art. 3 Hr. The course examines the art of female artists and of women as subjects in art. There will be a historical view along with a strong theoretical component.

ARHS 350. Northern Renaissance. 3 Hr. PR: ARHS 120 and ARHS 160. The arts of Northern Europe from 1350 to 1560 will be studied in a historical and theoretical context. Painting and sculpture will be the focus of study.

ARHS 354. Italian Renaissance. 3 Hr. PR: ARHS 120 and ARHS 160. Early Renaissance through Mannerism. The course will emphasize both the historical context and theoretical foundation of 15th and 16th-century Italian art and architecture.

ARHS 360. Baroque. 3 Hr. PR: ARHS 120 and ARHS 160. The course examines the art of the late 16th through 18th centuries of both Northern and Southern Europe. Issues of historical context and theoretical interpretation are emphasized.

ARHS 370. American. 3 Hr. PR: ARHS 120 and ARHS 160. This course will treat the arts in the United States from the Colonial era to 1960. Emphasis is placed upon factors which define American art and the critical foundations for the works.

ARHS 375. Nineteenth Century. 3 Hr. PR: ARHS 120 and ARHS 160. The course focuses upon European and American art from the late 18th century through 1900. Issues of theory, historical context and literary foundation will be considered.

ARHS 378. American Decorative Arts. 3 Hr.

ARHS 380. Modern. 3 Hr. PR: ARHS 120 and ARHS 160. The revolutionary experience of modern art, from its foundation in 19th-century European movements through the 1950s will be emphasized. Critical theory and historical context stressed.

ARHS 381. Modern Architecture. 3 Hr. PR: ARHS 120 and ARHS 160. In-depth overview of architecture, 1850 to present. Focus on development of International Style, its dissemination, and challenges to this modernist aesthetic by contemporary architects.

ARHS 382. Architect Frank Lloyd Wright. 3 Hr. Overview of the life and work of America's most noted and controversial architect. Close examination of his work in the context of the development of modern architecture.
ARHS 385. Print, Propaganda, and Art. 3 Hr. Survey of the history of printing, printmaking, and other forms of imaging in the western world from earliest printed materials to present. Theoretical implications of image reproduction also considered.

ARHS 388. The Art of Andy Warhol. 3 Hr. Overview of the ground-breaking and controversial art of Andy Warhol. Close examination of his work in the context of the 1960’s Pop Art movement and recent contemporary art.

ARHS 389. Contemporary. 3 Hr. PR: ARHS 120 and ARHS 160. This course explores the various artistic movements from World War II to the present. Emphasis will be given to the change from modern to postmodern. Familiarity with images and critical texts is expected.

ARHS 401. Senior Project-Capstone. 1-15 Hr. PR: Consent. This class concentrates upon independent research, closely supervised, on a topic of student's selection. This must be well-defined and contain historical, critical, and theoretical issues. (Contractual course.)

ARHS 402. History of Chinese Ceramics. 3 Hr. Covers pre-history to present with emphasis on historical development of ceramics and cultures of important dynasties in Jingdezhen, China. Students will visit historical archaeological sites, traditional production centers and museums.

ARHS 405. Chinese Language and Culture History. 3 Hr. Covers basic cultural and written Chinese, an introduction to China’s many cultures and customs, and a brief history of China. (Field trips offer experiential learning at sites discussed in class.)

ARHS 406. Graphic Design History. 3 Hr. PR: ARHS 120 and ARHS 160. 3 Hr. This course presents graphic design as visual communication from prehistory to present, traced primarily through the poster. It also includes typography, styles, material culture, attending international political and art movements.

ARHS 445. Michelangelo and His Time. 3 Hr.

ARHS 446. Medieval Painting. 3 Hr. An historical and media-centered investigation of the pictorial arts of the West c. 800-1300: manuscript illumination, mural painting, panel decoration, embroidery, mosaics, and stained glass.

ARHS 447. Romantic Painting. 3 Hr.

ARHS 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ARHS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ARHS 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ARHS 495. Independent Study. 1-6 Hr. PR: Consent. Faculty supervised study of topics not available through regular course offerings.

ARHS 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Astronomy (ASTR)
ASTR 106. Descriptive Astronomy. 3 Hr. The celestial sphere, star time, solar time, Kepler’s laws, H-R diagram and modern developments. No sophisticated mathematics used; only simple geometrical arguments employed.

ASTR 290. Teaching Practicum. 1-3 Hr.
ASTR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ASTR 367. Astrophysics 1. 3 Hr. PR: PHYS 314. Physical description of the astronomical universe. Physical principles are used to explain the properties and evolution of stars. Physical properties and effects of the Milky Way’s interstellar medium are examined.

ASTR 368. Astrophysics 2. 3 Hr. PR: ASTR 367. Continuation of ASTR 367. Physical principles are applied to the properties and evolution of the Milky Way and galaxies and to the structure and evolution of the solar system. Physical properties of the universe are examined.

ASTR 469. Observational Astronomy. 3 Hr. PR: PHYS 314. Laboratory course consisting of three detailed projects which aim to acquaint students with current techniques for astronomy data analysis and interpretation across the electromagnetic spectrum.

ASTR 470. General Relativity. 3 Hr. PR: PHYS 314 and PHYS 331. Innovative ‘physics-first’ introduction to Einstein’s relativistic theory of gravity. Topics covered include special relativity, curved space time, spherical stars, gravitational collapse, black holes, gravitational waves and cosmology.

ASTR 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ASTR 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ASTR 496. Senior Thesis. 1-3 Hr. PR: Consent.

ASTR 498 A-Z. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study, or research.

Athletic Coaching Education (ACE)

ACE 100. The Total Athlete. 3 Hr. In-depth analysis of topics associated with being an athlete, i.e., attitude, academics, media, peer pressure, racism in sports, recruiting, AIDS, rape, stress/time management, suicide, sportsmanship, ethics, drugs (types and testing), agents, coping with adversity, eating disorders, gambling, life after sports, non-revenue sports, pro sports, violence in sports, gender equity, and personal growth.

ACE 101. Wrestling Methods. 3 Hr. An in-depth look at the various methods and weight categories of wrestling.

ACE 103. Coaching Special Olympics. 3 Hr. An in-depth look into the techniques and methods used in coaching special olympics.

ACE 105. Nutrition for Coaches. 3 Hr. General nutrition and dietary requirements to aid coaches and their athletes.

ACE 106. Introduction to Physical Education. 3 Hr. A general overview into the teaching/methodologies, etc. in a physical education/coaching education environment.

ACE 168. Sport Officiating. 2 Hr. Study of officiating.

ACE 256. Principles & Problems of Coaching. 3 Hr. Designed to teach students the principles and problems of interscholastic athletic coaching.

ACE 290. Physiological Aspects of Strength and Conditioning 3 Hr. Muscle physiology, warm-up techniques, stretching, flexibility, plyometrics, speed and agility, core training, balance and functional training, spotting, and weight room safety.
ACE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ACE 330. Coaching Education Administration. 3 Hr. An administrative focus of leadership, finance, fundraising, planning, facility development, personnel supervision, public relations, rules and regulations, purchase and care of equipment and the conducting of athletic events.

ACE 356. Techniques of Coaching: Cheerleading. 3 Hr. Designed to provide students with knowledge, skills, and motivation that will prepare them to become safe and successful cheerleading coaches.

ACE 357. Techniques of Coaching: Swimming. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 358. Techniques of Coaching: Women's Gymnastics. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 359. Techniques of Coaching: Track. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 360. Techniques of Coaching: Wrestling. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 361. Techniques of Coaching: Soccer. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 362. Techniques of Coaching: Basketball. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 364. Techniques of Coaching: Football. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 365. Techniques of Coaching: Baseball. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 366. Techniques of Coaching: Volleyball. 2 Hr. Designed to permit students to gain athletic coaching experience through a supervised on-site experience with a varsity athletic team.

ACE 368. Sport Movement Analysis. 3 Hr. This course is designed to introduce a prospective coach to the principles of human movement.

ACE 369. Basic Strength and Conditioning for Coaches. 3 Hr. PR: EXPH 364 and EXPH 365. Present basic exercise performance methodologies to assist in coaching athletics. Types of training include speed drills, agility drills, conditioning workouts, flexibility exercises, balance-improvement drills, and proper training-environment safety techniques.

ACE 371. Strength and Conditioning Coach Techniques. 3 Hr. PR: EXPH 364 and EXPH 365 and ACE 369. Hands-on experience performing and coaching exercises to improve athletic performance. Specifics include resistance training, core exercises, proprioception rehabilitation, injury prevention, flexibility exercises, plyometric and explosive techniques, speed training, agility exercises.

ACE 372. Sport Specific Strength and Conditioning. 3 Hr. PR: EXPH 364 and EXPH 365 and ACE 369. Present optimal training for athletics of different sports in trained and untrained states. Specific protocols in resistance training and conditioning, correcting specific running and speed mechanics and agility movements.

ACE 389. Intro Adventure Sports. 1 Hr. This course provides a comprehensive introduction to the field of adventure sports including its history, career opportunities, and common competencies needed to succeed in the industry.
ACE 445. Personal Training Instructor. 3 Hr. This course is designed to provide theoretical knowledge and practical skills in preparation for the American Council on Exercise (ACE) national certification exam in personal training.

ACE 450. Career Planning In Sport. 3 Hr. Students will utilize the Career Service Center and demonstrate a working knowledge of various job search strategies and career planning.

ACE 451. Plan/Risk Management for Adventure Sport. 3 Hr. The objective of this course is to provide students with a thorough introduction to the process of planning safe, fun, and meaningful outdoor adventure programs.

ACE 452. Outdoor Leader/Group Dynamics. 3 Hr. The objective of this course is to guide students as they explore the concepts of leadership and group dynamics as they pertain to working with groups in outdoor adventure settings.

ACE 454. Advanced Sport Instruction Techniques. 3 Hr. The objective of this course is to provide students with a thorough overview of the skills and knowledge needed to effectively instruct participants of outdoor adventure activities.

ACE 455. Adventure Sports Internship. 2-6 Hr. The goal of this course is to provide students with a supervised professional experience within an adventure sports environment under the direction of a supervisor at that site.

ACE 456. Coaching Experience. 1-6 Hr. Students will learn to be a successful coach.

ACE 460. Fitness Management. 3 Hr. Provide content knowledge and practical experiences in health and fitness facility management and operation. ACE certification exam prep.

ACE 462. Fitness Field Testing. 3 Hr. Provide content knowledge and practical experience concerned with health screening, fitness testing, assessment and evaluation. Content needed for ACE national certification exam.

ACE 463. Group Fitness Internship. 6 Hr. This course provides a supervised professional experience in teaching group fitness classes under the direction of a professional at the site.

ACE 464. Lifestyle and Weight Management. 3 Hr. Provide content knowledge and practical experience in basic nutrition, behavior change, exercise, and health psychology. ACE certification exam prep.

ACE 470. Methods of Aerobic Instruction. 3 Hr. PR: ACE 460 and ACE 462. Provide practical experiences in teaching group fitness exercises, including hi/lo, step, interval, and resistance training. ACE certification exam prep.

ACE 471. Women and Sport. 3 Hr. Study the history of women in sport, and investigate issues that are directly related to women in sport as participants, coaches, administrations, parents, and fans.

ACE 472. Methods of Personal Training. 3 Hr. PR: ACE 460 and ACE 462. Content knowledge, practical experiences of training techniques and exercise programming for the healthy adult and special populations. ACE certification exam prep.

ACE 474. Aquatic Fitness Instructor. 1 Hr. PR: ACE 470. Provides theoretical framework, content knowledge, and practical experiences in teaching aquatic fitness in a group setting.

ACE 476. Fitness Internship. 3-6 Hr. PR: ACE 470 or ACE 472. Supervised experience in a health/fitness environment under the direction of a professional at the site. Preparation for the ACE national certification exam.

ACE 477. Group Cycling Instructor. 1 Hr. Provides theoretical framework, content knowledge, and practical experience in teaching indoor cycling in a group setting.
ACE 478. Fitness Yoga Instructor. 1 Hr. Provides theoretical framework, content knowledge, and practical experience in teaching fitness yoga in a group setting.

ACE 479. Kickboxing Instructor. 1 Hr. Provides theoretical framework, content knowledge, and practical experience in teaching kickboxing in a group setting.

ACE 480. Fitness Certification. 2 Hr. This course provides college credit for successfully passing the North American Council on Exercise Certification Exam in personal training or Group Fitness Instruction.

ACE 481. Pilates Mat Instructor. 1 Hr. Provides theoretical framework, content knowledge, and practical experience in teaching mat Pilates in a group setting.

ACE 482. Certified Pool Operator. 3 Hr. This class is designed to give students the knowledge and skills to sit for the NSPF Pool Operator Exam. (Students responsible for the NSPF exam fee.)

ACE 483. Aquatic Exercise Professional. 3 Hr. This course is designed to prepare students to take the AEA Professional Instructor Exam for water aerobics instructors. (Students are responsible for the AEA exam fee.)

ACE 484. Aquatic Staff and Programming. 3 Hr. This class teaches students the different types of staff and programs available for an aquatic facility.

ACE 485. Aquatic Design and Budget. 3 Hr. PR: ACE 482 and ACE 484 and PE 175 and PET 324. Teaches students to design a facility that is both functional and profitable.

ACE 486. Aquatic Management Internship. 3 Hr. PR: ACE 482 and ACE 484 and PE 175 and PET 324. This class will give students hands-on experience with aquatic facility management.

ACE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ACE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ACE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ACE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

**Athletic Training (ATTR)**

ATTR 101. Prospective Athletic Training. 3 Hr. An introduction to the clinical and educational components of athletic training including observation hours and basic skill acquisition.

ATTR 121. Sport Injury Control and Management. 3 Hr. Training, conditioning, protection, and other injury prevention measures. First aid, emergency service, and care related to physical education and athletics.

ATTR 122. Sports Injury Control & Management Lab. 1 Hr. PR: Consent. Basic skills in athletic conditioning, application of taping and bracing, equipment fitting, record keeping, modality set-up, emergency procedures for athletic-related injuries and the proper management of open wounds. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

ATTR 218. Gross Anatomy Lab. 1 Hr. Analysis of gross anatomy and systems of the trunk and extremities; cadaver laboratory experience.

ATTR 219. Gross Anatomy. 3 Hr. Designed to provide an overview of body systems and gross anatomy of the trunk and extremities.
ATTR 220. Taping/Bracing & Padding. 2 Hr. PR: Consent. Practical application of adhesive tape, elastic wraps, and bracing techniques for prevention and protection of athletic injuries to support an athlete’s return to play.

ATTR 221. Advanced Athletic Training 1. 3 Hr. PR: Consent. Designed to provide an in-depth analysis of life-threatening situations and internal injuries associated with athletics.

ATTR 222. Orthopedic Assessment 1. 3 Hr. PR: Consent. Designed to provide in-depth analysis of athletic injury mechanisms to the lower extremity; injury recognition, injury evaluation techniques, and muscle isolation techniques.

ATTR 281. Athletic Training Practicum 1. 2 Hr. PR: Consent. Structured methods of practical application and evaluation of clinical skills and academic knowledge of athletic training students and their progress through the athletic training program.

ATTR 282. Athletic Training Practicum 2. 2 Hr. PR: Consent. Structured methods of practical application and evaluation of clinical skills and academic knowledge of athletic training students and their progress through the athletic training program.

ATTR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ATTR 301. Athletic Training Practicum 3. 2 Hr. PR: Junior standing and consent. Structured methods of practical application and evaluation of clinical skills and academic knowledge of athletic training students and their progress through the athletic training program.

ATTR 302. Athletic Training Practicum 4. 2 Hr. PR: Junior standing and Consent. Structured methods of practical application and evaluation of clinical skills and academic knowledge of athletic training students and their progress through the athletic training program.

ATTR 321. Therapeutic Modalities. 3 Hr. PR: Consent. Designed to investigate tissue repair, physiology of hot and cold treatment, therapeutic modalities and pharmacology relevant to athletic injury management.

ATTR 323. Athletic Injury Rehabilitation. 2 Hr. PR: ATTR 219 and ATTR 221 and ATTR 222 and ATTR 322. Designed for the practical applications of athletic training rehabilitation techniques to the lower extremity.

ATTR 324. Athletic Injury Rehabilitation 2. 2 Hr. PR: ATTR 219 and ATTR 221 and ATTR 222 and ATTR 323 and ATTR 332. Designed for the practical application of athletic training rehabilitation techniques to the upper extremity.

ATTR 325. Organization & Administration. 3 Hr. PR: Consent. Designed to analyze various issues and policies in athletic training relevant to training room administration, liability, drug testing, record keeping, and other selected topics.

ATTR 326. Clinical Drug Application. 1 Hr. PR: ATTR 321 and ATTR 323. Designed to provide students with the skills to make basic drug application issues and interactions within the athletic training setting.

ATTR 332. Orthopedic Assessment 2. 3 Hr. PR: Consent. Designed to provide in-depth analysis of athletic injury mechanics to the upper extremity; injury recognition, injury evaluation techniques, and muscle isolation techniques.

ATTR 403. Athletic Training Practicum 5. 2 Hr. PR: Senior standing and consent. Structured methods of practical application and evaluation of clinical skills and academic knowledge of athletic training students and their progress through the athletic training program.

ATTR 404. Athletic Training Practicum 6. 2 Hr. PR: Senior standing and consent. Structured methods of practical application and evaluation of clinical skills and academic knowledge of athletic training students and their progress through the athletic training program.
ATTR 424. Athletic Training Senior Seminar. 3 Hr. PR: Consent. Practical application of athletic training techniques.

ATTR 426. Medical Aspects of Athletic Training. 3 Hr. PR: Consent. Designed to provide students the exposure to a variety of medical concerns, illnesses, and conditions that may occur within the various clinical settings of athletic training.

ATTR 427. Biomechanics. 3 Hr. PR: Consent. Designed to provide in-depth study of normal and abnormal biomechanics of the lower extremity and spine.

ATTR 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ATTR 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ATTR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ATTR 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ATTR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

ATTR 496. Senior Thesis. 1-3 Hr. PR: Consent.

ATTR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Bibliography (BIBY)

BIBY 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

BIBY 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

BIBY 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BIBY 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

BIBY 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

Biochemistry (BIOC)

BIOC 339. Introduction to Biochemistry. 3-5 Hr. PR: General chemistry, organic chemistry. (For medical technology, undergraduate biochemistry majors, and other students.) A general introduction to biochemistry with emphasis on human biochemistry. (4 hr. lec., 1 hr. lab.)

BIOC 492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

BIOC 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BIOC 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

BIOC 496. Senior Thesis. 1-3 Hr. PR: Consent.
BIOC 497. Research. 1-6 Hr. Independent research projects.

BIOC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Biology (BIOL)**

Biol 101. General Biology. 3 Hr. PR or CONC: BIOL 103. Introductory course in biology: cellular, organismal, and population genetics, including reproduction, growth and development, and evolution.

Biol 102. General Biology. 3 Hr. PR or CONC: BIOL 104. Introductory biology: energetics and physiology of cells, organisms, and populations, including regulation and control of multicellular organisms.

Biol 103. General Biology Laboratory. 1 Hr. PR or CONC: BIOL 101. Experiments in biology: genetics and evolution; reproduction, growth, and development of cells, organisms, and populations.

Biol 104. General Biology Laboratory. 1 Hr. PR or CONC: BIOL 102. Experiments in biology: materials exchange, actions of enzymes, photosynthesis and respiration, and physiology of organisms.

Biol 105. Environmental Biology. 3 Hr. (Intended for non-biology majors.) Population growth and human impacts on the environment, including ecosystem destruction, biological diversity, pollution, and global climate change are explored to obtain the concepts necessary to understand complex environmental issues of our time.

Biol 106. Environmental Biology Laboratory. 1 Hr. CoReq: BIOL 105. Field and laboratory exercises explore fundamental ecological concepts and environmental problems, such as biodiversity, pollution, and natural resource utilization.

Biol 107. Biotechnology and Society. 3 Hr. An overview of the use of biotechnology to solve agricultural, medical, and environmental problems. Bioethical concerns and societal impacts of the use of the technologies will be discussed.

Biol 115. Principles of Biology. 4 Hr. An introductory course presenting basic principles of modern biology. This course represents the first in a four-course, integrated sequence required of biology majors. Topics include ecology and evolution, organismal biology, and cellular/molecular biology.

Biol 117. Introductory Physiology. 4 Hr. PR: BIOL 115 or BIOL 101 and BIOL 103 AND BIOL 104. Continuation of BIOL 115. The diversity of reproductive, developmental, functional, and integrative mechanisms in plants and animals.

Biol 122. Human Sexuality. 3 Hr. A study of biological, behavioral and societal aspects of sexuality. Issues considered include changing fecundity, social-legal implications, sex roles, sexually transmitted diseases, populations, erotica, aging, dysfunctions, decision-making skills for sex-related issues.

Biol 124. The Human Environment. 3 Hr. An examination of several aspects of current worldwide environmental deterioration caused by the actions of humans. Public policies and alternative mitigative strategies are also presented.

Biol 219. The Living Cell. 4 Hr. PR: (CHEM 115 or CHEM 117) and BIOL 117. Continuation of BIOL 117. Structure, function and diversity of cells with an emphasis on gene expression and cellular phenotype including cell chemistry, energetics, and regulation of cell activities.

BIOL 235. Human Physiology. 3 Hr. PR: BIOL 101 and BIOL 102 and BIOL 103 and BIOL 104. (Intended for non-biology majors.) An introductory course in the function of the human.

BIOL 236. Human Physiology: Quantitative Lab. 1 Hr. PR: MATH 156 and CHEM 116 and BIOL 115 and PR or CONC: BIOL 235. Optional lab for BIOL 235 incorporating engineering concepts, such as mass and energy balances, circuit theory, and chemical kinetics to quantify and help understand many aspects of human physiology.

BIOL 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BIOL 298. Honors. 1-3 Hr. PR: Consent. For students in the Honors Program with consent by the honors director. Independent reading, study, or research.

BIOL 301. History of Biology. 3 Hr. PR: (BIOL 101 and BIOL 103 and BIOL 102 and BIOL 104) or BIOL 115. History of development of biological knowledge with philosophical and social backgrounds.

BIOL 302. Biometry. 3 Hr. PR: STAT 211. Application of quantitative methods and statistics to biological data with emphasis on hands-on hypothesis construction, experimental design, data analysis and biological interpretation of statistical results.


BIOL 311. Advanced Cellular/Molecular Biology-Laboratory. 2 Hr. PR or CONC: BIOL 310. Experimental approaches to the study of cellular systems.


BIOL 313. Molecular Basis of Cellular Growth. 3 Hr. PR: BIOL 219. Study of the integration of internal and external influences as they regulate the division, growth, and differentiation of cells. Topics include hormones as cell effectors, cancer, and stem cells.

BIOL 316. Developmental Biology. 3 Hr. PR: BIOL 115 and BIOL 117 and BIOL 219. A molecular genetic analysis of the mechanisms by which multicellular organisms develop from single cells.

BIOL 317. Developmental Biology Laboratory. 1 Hr. PR: BIOL 219. CoReq: BIOL 316. Experimental approaches to the genetic analysis of the mechanisms by which multicellular organisms develop from single cells.

BIOL 321. Total Science Experience Lab. 2 Hr. PR or CONC: BIOL 221. Biological research experience incorporating diverse learning experiences that take place in the process of being a research scientist; including writing grant proposals, manuscripts, and presentation of results in a public forum.

BIOL 324. Molecular Genetics. 3 Hr. PR: BIOL 219. Theoretical and practical knowledge in genetics as a field of study and as an approach for investigating biological problems.

BIOL 325. Molecular Genetics Laboratory. 1 Hr. PR: BIOL 219. CoReq: BIOL 324. The laboratory is a logical sequence of experiments providing actual research experience in molecular genetics. Must be taken at the same time as BIOL 324.

BIOL 327. Professional Development. 1 Hr. PR: BIOL 219. This course provides an overview of opportunities for students graduating with degrees in the biological sciences. An assessment test will help identify strengths and weaknesses within the field.

BIOL 335. Cell Physiology. 3 Hr. PR: BIOL 117. Emphasis on the unity and diversity of cells; membrane structure and function; the role that intracellular compartments, cytoskeleton, intracellular matrix play in cell physiology.
BIOL 336. Vertebrate Embryology. 4 Hr. PR: BIOL 115 and BIOL 117 and BIOL 219 and BIOL 221. An experimental and descriptive analysis of vertebrate development.

BIOL 337. Physiological Psychology. 3 Hr. PR: 9 Hr. Psychology, behavior, physiology, or graduate standing. Introduction to physiological mechanisms and the neural basis of behavior. (Also listed as PSYC 426.)

BIOL 338. Behavioral Ecology. 3 Hr. PR: BIOL 221. Consideration of the influences of environmental factors on short-and long-term regulation, control, and evolution of the behavior of animals.

BIOL 340. Invertebrate Zoology. 4 Hr. PR: BIOL 219 and BIOL 221. The evolution of animals without vertebral columns. The laboratory includes field trips, including one that takes an entire weekend. (Dissection kit required.)

BIOL 341. Ichthyology. 4 Hr. PR: BIOL 117. Study of the internal and external structure of fishes, their systematic and ecological relationships, and their distribution in time and space. (Dissection kit required.)

BIOL 348. Basic Neurobiology. 3 Hr. PR: BIOL 219. An introduction to neuroscience, including basic neuroanatomy, neurophysiology, and the relationship between the central nervous system, physiology, and behavior.

BIOL 350. Plant Physiology. 4 Hr. PR: CHEM 115 and CHEM 116 and ((BIOL 101 and BIOL 103) or BIOL 117). Physiochemical processes of plants.

BIOL 351. Plant Diversity. 4 Hr. PR: (BIOL 101 and BIOL 102 and BIOL 103 and BIOL 104) or BIOL 115. Evolution, morphology, life cycles, ecology, and uses of cyanobacteria, lichens, algae, bryophytes, ferns, gymnosperms, and angiosperms. Laboratory emphasizes comparing living specimens with local field trips.

BIOL 352. Plant Anatomy and Development. 4 Hr. PR: BIOL 117 or PLSC 206. How plants (especially angiosperms) develop, stand up, defend themselves, transport food and water, and reproduce; also evolution and uses of wood and bark. Students observe development from spores, seeds, and cuttings. (Two local field trips.)

BIOL 353. Flora of West Virginia. 3 Hr. PR: (BIOL 101 and BIOL 103 and BIOL 102 and BIOL 104) or BIOL 115. Identification of local woody and herbaceous seed plants, with emphasis on common native and introduced species. Conducted primarily through field trips to nearby areas with the use of dichotomous keys to determine the scientific names of observed specimens.

BIOL 361. Plant Ecology. 4 Hr. PR: BIOL 221. Introduction to the four divisions of plant ecology, including physiological ecology, population ecology, community ecology and ecosystem ecology.

BIOL 362. Limnology. 4 Hr. PR: (BIOL 101 and BIOL 103) or BIOL 115 or WMAN 224 or consent. Physical, chemical, and biological characteristics of inland waters with emphasis on the structure and function of stream ecosystems. (Also listed as WMAN 446.)

BIOL 363. Plant Geography. 3 Hr. PR: BIOL 221. World-wide distribution patterns of plants and factors related to these distributions, including dispersal. Limiting factors, climate, isolation, evolutionary history, plate tectonics, pleistocene glaciations, and human activities. Plant communities and soils of polar, temperate, and tropical biomes are discussed.

BIOL 384 A-Z. Marine Ecosystem Topics. 3 Hr. Three-week field-based courses offered at the Marine Science Consortium in Virginia. Courses vary by year including marine ichthyology, marine mammals, and coral reef ecology. A maximum of six-hours counts toward the biology major.

BIOL 386. Undergraduate Research. 1-4 Hr. PR: Written consent of chair and a 2.7 grade point average in biology. Individual laboratory or field experiments supervised by a faculty member.
BIOL 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BIOL 410. Cell and Molecular Biology Methods. 3 Hr. PR: BIOL 219. Introduction to the theory, application, ethic and economics of biotechnologies.

BIOL 411. Introduction to Recombinant DNA. 4 Hr. PR: BIOL 219. An introductory course covering the basic principles and techniques of recombinant DNA technology, includes molecular cloning, isolation of plasmid DNA, agarose/acrylamide gel electrophoresis, restriction enzyme mapping, nucleic acid hybridization, and DNA sequencing.

BIOL 413. Molecular Endocrinology. 3 Hr. PR: BIOL 219. Hormonal action is discussed at the cellular and molecular levels. Topics include hormone production and regulation, receptor kinetics and activation, and receptor output.

BIOL 414. Molecular Endocrinology-Laboratory. 1 Hr. CoReq: BIOL 413. Experimental techniques used to study hormones and receptors.

BIOL 424. Protein Structure & Function. 4 Hr. PR: BIOL 219 and (CHEM 231 or CHEM 233). Explores fundamentals of the protein structure; methods of structure determination; features of globular, membrane, and fibrous proteins; and approaches to protein classification.

BIOL 425. Developmental Genetics. 3 Hr. PR: BIOL 219. This course covers the mechanisms by which genetics instructs the process of development. The complex interactions between cells, the environment, and the genome are presented.

BIOL 432. Forensic Biology. 4 Hr. PR: BIOL 219. A lecture and laboratory course focusing on the latest advances in forensic identification technologies, including advantages and limitations of different approaches. Students can gain extensive hands-on experience in the isolation, qualification, and analysis of DNA.

BIOL 436. General Animal Physiology. 3 Hr. PR: BIOL 115 and BIOL 117 and BIOL 119 and BIOL 221. In-depth, current treatment of physiological principles which operate at various levels of biological organization in animals of diverse taxonomic relationships. Understanding is developed from background lectures and student analyses in discussion sessions of research literature.

BIOL 438. Animal Behavior. 4 Hr. PR: BIOL 221 and (BIOL 101 and BIOL 102 and BIOL 103 and BIOL 104 or BIOL 115). Introduction to animal behavior (ethology) emphasizing the ecology and evolution of individual and social behaviors. Laboratory includes independent investigation of behavioral phenomena. (Offered in even numbered years.)

BIOL 439. Neuroethology. 3 Hr. PR: BIOL 219 and (BIOL 337 or BIOL 348 or BIOL 438). Explores the way sensory systems process information to mediate behavior in a wide variety of animals in order to understand similarities and differences in neural mechanisms.

BIOL 440. Comparative Anatomy. 4 Hr. PR: BIOL 115 and 117 and BIOL 219 and BIOL 221 or consent. A functional and evolutionary study of vertebrate structure. (Dissection kit required.)

BIOL 441. Vertebrate Microanatomy. 5 Hr. PR: BIOL 115 and BIOL 117 and BIOL 219 and BIOL 221. Structural and functional approach to the study of tissues and organs of vertebrates.

BIOL 450. Plant Systematics. 4 Hr. PR: (BIOL 101 and BIOL 103 and BIOL 102 and BIOL 104) or BIOL 117. Study of the taxonomy of flowering plants worldwide and related topics in angiosperm classification and evolution. Laboratories emphasize characteristics of selected families of monocotyledons and dicotyledons using living and herbarium material.

BIOL 451. Plant Development. 4 Hr. PR: BIOL 221 and (CHEM 235 or AGBI 410). Experimental studies of plant growth and development.
BIOL 461. Principles of Evolution. 3 Hr. PR: BIOL 221. Introduction to the study of evolution, including genetics of evolutionary change, speciation and adaptation molecular evolution, the history of life, extinction, co-evolution and the origins of humans.

BIOL 463. Global Ecology. 3 Hr. PR: BIOL 221. The Earth viewed as a changing biogeochemical system. Topics include the structure, composition and dynamics of the ecosphere, nutrient cycles, changing atmospheric composition, climate change, ozone depletion, land-use change, biological invasions, and changes in biodiversity.

BIOL 464. Population and Quantitative Genetics. 3 Hr. PR: BIOL 221. Relationship of gene and genotype frequencies in populations of diploid organisms and the effects of mutation, selection, and non-random mating in relation to single gene pairs. Application of these concepts to multigenic inheritance of quantitative traits.

BIOL 486. Honors Investigation and Thesis. 1-4 Hr. (May be repeated for credit; max. credit 12 hr.) PR: Second semester of junior year, recommendation of advisor, biology majors only. Permission required. Supervised readings, investigation, and study.

BIOL 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

BIOL 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

BIOL 492. Directed Study. 1-6 Hr. PR: Consent. Directed study, reading, and/or research.

BIOL 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BIOL 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

BIOL 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

BIOL 496. Senior Thesis. 1-3 Hr. PR: Consent.

BIOL 497. Research. 1-6 Hr. Independent research projects.

BIOL 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Biometric Systems (BIOM)**

BIOM 426. Biometric Systems. 3 Hr. PR: STAT 215 and MATH 261 and CS 111. This course presents an introduction to the principles of operation, design, testing, and implementation of biometric systems, and the legal, social, and ethical concerns associated with their use. (Cross-listed with EE 426.)

BIOM 480. Senior Design Seminar. 2 Hr. PR: ENGL 102 and consent. Penultimate semester. Group senior design projects with individual design assignments appropriate to student’s discipline. Complete system-level designs of the subsequent semester’s project presented in written proposals and oral presentations. (Equivalent to CPE 480, CS 480 and EE 480) (2 hr. lec., 1 hr. conf.)

BIOM 481. Senior Design Project. 3 Hr. PR: BIOM 480. Continuation of BIOM 480. Detailed design and implementation of the system including choice of components, algorithm development, interfacing, troubleshooting, working in groups, and project management. Also covers professional topics including ethics, liability, safety, socio-legal issues, risks, and employment agreements. (1 hr. lec., 1 hr. conf., 2 hr. lab.)
BIOM 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

**Business Administration (BUSA)**

BUSA 101. Introduction to Business. 3 Hr. PR: Freshmen only. An introduction to the contemporary business world, including international and small business, quality, ethics, and career preparation. The role of accounting, economics, finance, management, and marketing activities are investigated.

BUSA 199. Orientation to Business. 1-3 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

BUSA 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BUSA 310. Survey of Business Law. 3 Hr. PR: Junior standing. Overview of business law discipline. Topics include laws and the court system, employment and labor law, business forms and capitalization, business competition law and business ethics.

BUSA 320. Survey of Management. 3 Hr. PR: Junior standing. Overview of management discipline as a process involving planning, organizing, controlling and directing. An integrated view of management including organizational behavior is emphasized.

BUSA 330. Survey of Marketing. 3 Hr. PR: Junior standing. Overview of the marketing discipline. Topics include the management of the product, communication, price, and distribution variables as well as an introduction to buyer behavior and marketing research.

BUSA 340. Survey of Finance. 3 Hr. PR: Junior standing. Overview of the finance discipline. Topics include financial statement analysis, risk, capital budgeting, investments, and security markets.

BUSA 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

BUSA 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

BUSA 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BUSA 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

BUSA 496. Senior Thesis. 1-3 Hr. PR: Consent.

BUSA 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Business Core (BCOR)**

BCOR 310. Professional Development 1. 1 Hr. PR or CONC: BCOR 330. The development of skills necessary for the successful study of business, including effective teamwork skills, information search skills, presentation skills, stress management, and time management.

BCOR 315. Professional Development 2. 1 Hr. PR: BCOR 310. The development of essential skills for professional placement, including resume writing, interviewing skills, and job search skills.

BCOR 320. Legal Environment of Business. 3 Hr. Explores the relationship of law, government and ethics to business enterprise. Provides overview of legal and ethical issues relevant to business decision-making and planning and the government regulations of business.
BCOR 330. Information Systems and Technology. 3 Hr. PR: CS 101. Introduces essential information systems concepts for managing competitive firms in a global environment. Utilizes the Internet and builds skills in decision-making using spreadsheets, oral communication using presentation graphics, and data management using database software.

BCOR 340. Business Finance. 3 Hr. PR: (ACCT 202 and ECON 202 and ECON 225 and ENGL 102) and (MATH 150 or MATH 155). Activities of the finance manager in the planning, acquisition, and administration of funds used in a business enterprise.

BCOR 350. Principles of Marketing. 3 Hr. PR or CONC: BCOR 330 and BCOR 310 and BCOR 370. Overview of marketing and the interrelationships between marketing and other business disciplines. Topics include the management of the product, communication, price, and distribution variables as well as introduction to buyer behavior and marketing research.

BCOR 360. Operations and Quantitative Business Methods. 3 Hr. PR: BCOR 370 and BCOR 330. The course is designed to acquaint students with a variety of production and operations management concepts and techniques. Productivity, competitiveness, operations strategy, capacity, location, layout, inventory, forecasting, and supply chain management are key concepts to be covered.

BCOR 370. Managing Individuals and Teams. 3 Hr. Topics include traditional management functions, employee motivation, leadership, team dynamics, individual and group decision-making, and individual differences. Additional topics include social responsibility and ethics, diversity, organizational structure and design, organizational control, and managing innovation and change.

BCOR 380. Business Ethics. 3 Hr. This course first provides a comprehensive survey of the ethical issues challenging professional and corporate conduct in today's business world. It then offers a review of accepted business practices designed to meet those challenges.

BCOR 410. Professional Development 3. 1 Hr. PR: BCOR 310 and BCOR 315. Transition to the workplace. Provides practical application skills for successful adjustment to the world of work. Topics include personal financial planning, career challenges, professional dress, etiquette, ethics and sensitivity issues.


BCOR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

Business Law (BLAW)
BLAW 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BLAW 310. Business Law for Managers. 3 Hr. PR: BCOR 320. Survey of legal principles relevant to operation and management of business organizations, including the substantive law of agency and employment, business organizations, credit and bankruptcy.

BLAW 400. Personnel Relations and the Law. 3 Hr. PR: BCOR 320 or consent. The legal principles guiding employer-employee relations, including agency law and the laws regulating employee health, safety, compensation, and benefits, job opportunity, and labor organizing.

BLAW 420. Law for the C.P.A. 3 Hr. PR: BCOR 320. (Credit cannot be received for both BLAW 112 and BLAW 420.) A survey of those areas of commercial and regulatory law with which accountants need familiarity in order to exercise good judgment, practice their profession skillfully and understand their professional responsibility.

BLAW 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.
BLAW 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hr.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

BLAW 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

BLAW 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

BLAW 496. Senior Thesis. 1-3 Hr. PR: Consent.

BLAW 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Chemical Engineering (CHE)**

CHE 102. Intro to Chemical Engineering. 3 Hr. PR: ENGR 101 and PR or CONC: (CHEM 116 or CHEM 118). Overview of traditional and emerging areas of chemical engineering, projects involving computational and programming tools, design projects, written and oral presentation of results, discussions of professional and ethical behavior relating to the engineering profession.

CHE 201. Material and Energy Balances 1. 3 Hr. PR: MATH 155 and CHEM 116 and PR or CONC: ENGR 102 or CHE 102. Introduction to chemical engineering fundamentals and calculation procedures, industrial stoichiometry real gases and vapor-liquid equilibrium, heat capacities and enthalpies; unsteady material balances and energy balances. (2 hr. lec., 2 hr. calc. lab.)

CHE 202. Material and Energy Balances 2. 3 Hr. PR: CHE 201 and PR or CONC: CHE 230. Continuation of CHE 201. (2 hr. lec., 2 hr. calc. lab.)

CHE 230. Numerical Methods for Chemical Engineering. 3 Hr. PR: (ENGR 102 or CHE 102) and MATH 156 and PR or CONC: CHE 202 and MATH 251. Numerical solution of algebraic and differential equations with emphasis on process material and energy balances. Statistical methods optimization, and numerical analysis. (2 hr. lec., 2 hr. calc. lab.)

CHE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHE 310. Process Fluid Mechanics. 3 Hr. PR: MATH 251 and CHE 202. Fluid statics, laminar and turbulent flow, mechanical energy balance, Bernoulli equation, force balance, friction, flow in pipes, pumps, metering and transportation of fluids, flow through packed beds and fluidized beds. Laboratory demonstrations and experiments. (2 hr. lec., 2 hr. calc. lab.)

CHE 311. Process Heat Transfer. 3 Hr. PR: MATH 251 and CHE 202. Conductive heat transfer, convective heat transfer, design and selection of heat exchange equipment, evaporation, and radiation. Applications, laboratory demonstrations, and experiments. (2 hr. lec., 2 hr. calc. lab.)

CHE 312. Separation Processes. 4 Hr. PR: CHE 310 and CHE 311 and CHE 320. Equilibrium stage and multiple stage operations, differential countercurrent contracting, membrane separations, fluid-particle separations. Laboratory demonstrations and experiments. (3 hr. lec., 2 hr. calc. lab.)

CHE 315. Chemical Engineering Transport Analysis. 3 Hr. PR: CHE 310 and CHE 311 and CHE 320 and MATH 261. Development of fundamental relationships for momentum, heat and mass transfer for flow systems to include chemical reactions, interphase transport, and transient phenomena. Development and use of microscopic and macroscopic balance equations.

CHE 320. Chemical Engineering Thermodynamics. 3 Hr. PR: CHE 202 and MATH 251. First and second laws of thermodynamics. Thermodynamic functions for real materials. Physical equilibrium concepts and applications. (2 hr. lec., 2 hr. calc. lab.)
CHE 325. Chemical Reaction Engineering. 3 Hr. PR or CONC: CHE 312. Application of material balances, energy balances, chemical equilibrium relations, and chemical kinetic expressions to the design of chemical reactors. (3 hr. lec.)

CHE 326. Reaction Phenomena. 3 Hr. PR: CHE 320 and PR or CONC: CHE 325. Theory and application of reaction kinetics, analysis of rate data, reaction equilibrium, and catalysis. The application of these phenomena to industrial relevant systems will be emphasized.

CHE 366. Materials Science. 3 Hr. PR: CHEM 116 and junior standing in engineering and mineral resources or chemistry. Chemical bonding and structures of metals, ceramics, and organic materials; the dependence of properties upon these structures and bonding conditions; thermal and mechanical stresses; corrosion; synthesis and preparation of materials.

CHE 381. Introduction to Biomedical Engineering. 3 Hr. PR: BIOL 235 and MATH 261 and CHEM 116. This course covers molecular and physiological principles that provide the basis for biomedical engineering. Quantitative approaches for querying biological systems will be emphasized through detailed problem-solving sessions.

CHE 382. Biomaterials. 3 Hr. PR: CHE 381 and BIOL 235 and PHYS 111. Principles of materials science and cell biology underlying the design of medical implants and artificial organs. Properties of living tissue, biocompatibility of polymers, metals, and ceramics; implants for hard and soft tissue.

CHE 414. Coal Conversion Engineering. 3 Hr. PR: CHEM 233 and PR or CONC: CHE 312 and CHE 325. Coal conversion processes from the unit-operations approach; thermodynamics, kinetics, and evaluation of system requirements and performance. (3 hr. lec.)

CHE 435. Chemical Process Control. 3 Hr. PR: CHE 312 and CHE 325. Transient behavior of chemical process flow systems, linearization and stability. Process control system design including frequency response analysis. Instrumentation and hardware.

CHE 450. Unit Operations Laboratory 1. 2 Hr. PR: CHE 312 and CHE 325. Operation of chemical process engineering equipment; collection, analysis, and evaluation of laboratory report preparation. (4 hr. lab.)

CHE 451. Unit Operations Laboratory 2. 2 Hr. PR: CHE 450. Continuation of CHE 450. (4 hr. lab.)

CHE 455. Chemical Process Design 1. 4 Hr. PR: CHE 312 and CHE 325. Analysis, synthesis, and design of chemical process systems. Engineering economics, safety, professional aspects of the practice of chemical engineering. Includes a group chemical plant design project, as well as individual design projects. (3 hr. lec., 4 hr. des. lab.)

CHE 456. Chemical Process Design 2. 3 Hr. PR: CHE 455. Continuation of CHE 455.

CHE 461. Polymer Science and Engineering. 3 Hr. PR: CHEM 233 and PR or CONC: CHE 315. Polymer classification, polymer synthesis, molecular weights and experimental techniques, thermodynamics, rubber elasticity, mechanical behavior, crystallization, diffusion, rheology, extrusion and injection molding. (3 hr. lec.)

CHE 462. Polymer Processing. 3 Hr. PR: Junior standing in engineering and mineral resources. Flow behavior in idealized situations; extrusion; calendering; coating; injection molding; fiber spinning; film blowing; mixing; heat and mass transfer; flow instabilities. (3 hr. lec.)

CHE 463. Polymer Composites Processing. 3 Hr. PR: Junior standing in engineering and mineral resources. Advantages and applications of polymer composites; chemistry and kinetics of thermosetting polymers; hand lay up and spray up; compression molding; resin transfer molding; reaction injection molding; filament winding; pultrusion. (3 hr. lec.)
CHE 466. Electronic Materials Processing. 3 Hr. PR: Junior standing in engineering and mineral resources. The design and application of thermal, plasma, and ion assisted processing methodologies; solid state, gas phase, surface, and plasma chemistry underpinnings; thin film nucleation and growth; the effect of processing methods and conditions on mechanical, electrical, and optical properties. (3 hr. lec.)

CHE 471. Biochemical Engineering. 3 Hr. PR: CHE 325 or consent. Kinetics of enzymatic and microbial reactions, interactions between biochemical reactions and transport phenomena, analysis and design of bioreactors, enzyme technology, cell cultures, bioprocess engineering. (3 hr. lec.)

CHE 472. Biochemical Separations. 3 Hr. PR or CONC: CHE 312 or consent. Modeling and design of separation processes applicable to recovery of biological products. Topics include filtration, centrifugation, extraction, adsorption, chromatography, electrophoresis, membranes, crystallization, examples from industry. (3 hr. lec.)

CHE 475. Chemical Process Safety. 3 Hr. PR: CHE 202 or consent. Introduction to safety, health and loss prevention in the chemical process industry; regulations, toxicology, hazard identification, system safety analysis and safety design techniques. (3 hr. lec.)

CHE 476. Pollution Prevention. 3 Hr. PR or CONC: CHE 312 and CHE 325 and CHE 326. Environmental risk and regulations; fate and persistence of chemicals; green chemistry; evaluation and improvement of pollution performance during chemical process design; life cycle analysis; industrial ecology.

CHE 481. Applied Bio-Molecular Modeling. 3 Hr. PR: CHE 381 and MATH 261 and CHEM 231 or CHEM 233. This course provides an introduction to modern molecular-level computational methods for calculating properties of reaction systems and thermodynamic, transport, and structural properties of materials with a particular focus on biological applications.

CHE 482. Introduction to Tissue Engineering. 3 Hr. PR: CHE 381 and CHE 382. This course introduces biological principles and engineering fundamentals pertaining to cell behavior and substrate properties. The design and characterization of artificial tissues will be discussed using properties and function of native tissues as a guide.

CHE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CHE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CHE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CHE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

CHE 496. Senior Thesis. 1-3 Hr. PR: Consent.

CHE 498. Honors. 1-3 Hr. PR: Students in the Honors Program and consent by the honors director. Independent reading, study or research.
Chemistry (CHEM)

CHEM 110. Introduction to Chemistry. 2 Hr. Required for students whose performance on ACT/SAT/placement examination indicates need for introductory work before enrolling in other chemistry courses. Scientific terminology and concepts; chemical arithmetics; chemical symbols, formulae and equations; mole concepts; problem solving. May not count for credit toward graduation if taken after credit for another course in chemistry has been established. (1 hr. lec., 1 hr. rec.)

CHEM 111. Survey of Chemistry. 4 Hr. Designed primarily for students taking only one year of college chemistry. Atomic structure; chemical bonding; acids, bases, and salts; periodicity; properties of gases, liquids, and solids; stoichiometry; oxidation-reduction. (3 hr. lec., 3 hr. lab.) (Students may not receive credit for CHEM 115 or CHEM 117 and for CHEM 111.) (CHEM 111 and CHEM 112 cannot be used as pre-requisite courses for organic chemistry; students anticipating the possibility or likelihood of taking organic chemistry must have credit for CHEM 115 and CHEM 116 or for CHEM 117 and CHEM 118.)

CHEM 112. Survey of Chemistry. 4 Hr. PR: CHEM 111. Continuation of CHEM 111. Nuclear chemistry; air and water pollution; useful natural materials; consumer chemistry; introduction to organic and biochemistry. (3 hr. lec., 3 hr. lab.) (Students may not receive credit for CHEM 116 or CHEM 118 and for CHEM 112.) (CHEM 111 and CHEM 112 cannot be used as pre-requisite courses for organic chemistry) students anticipating the possibility or likelihood of taking organic chemistry must have credit for (CHEM 115 and CHEM 116) and (CHEM 117 and CHEM 118).

CHEM 115. Fundamentals of Chemistry. 4 Hr. PR: Satisfactory ACT/SAT or placement exam performance, or grade of C or better in CHEM 110. For students who need more than one year of college chemistry and quantitative relationships on which subsequent chemistry courses are built. (3 hr. lec., 3 hr. lab.) (Students may not receive credit for CHEM 117 and for CHEM 115. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

CHEM 116. Fundamentals of Chemistry. 4 Hr. PR: CHEM 115. Continuation of CHEM 115. (3 hr. lec., 3 hr. lab.) (Students may not receive credit for CHEM 118 and for CHEM 112 or CHEM 116.) Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

CHEM 117. Principles of Chemistry. 5 Hr. PR: Satisfactory ACT/SAT and placement examination performance, or a score of four or five on AP chemistry examination. A more advanced treatment of the principles and theories of chemistry than offered in CHEM 115 and CHEM 116. Primarily for students specializing in chemistry. (3 hr. lec., two 3-hr. lab.) (Students may not receive credit for CHEM 117 and for CHEM 115.

CHEM 118. Principles of Chemistry. 5 Hr. PR: CHEM 117. Continuation of CHEM 117. (3 hr. lec., two 3-hr. lab.) (Students may not receive credit for CHEM 118 and for CHEM 112, CHEM 116 or CHEM 215.)

CHEM 215. Introductory Analytical Chemistry. 4 Hr. PR: CHEM 116. Volumetric analysis, gravimetric analysis, solution equilibria, spectrophotometry, separations, and electrochemical methods of analysis. (2 hr. lec., two 3 hr. labs.) (Students may not receive credit for CHEM 215 and for CHEM 117 and CHEM 118.)

CHEM 231. Organic Chemistry: Brief Course. 4 Hr. PR: CHEM 116. Emphasis on biological applications for students in medical technology, agriculture, and family resources. Nomenclature, structure, reactivity, and stereochemistry are stressed. (3 hr. lec., 3 hr. lab.) (Students may not receive credit for CHEM 231 and for CHEM 233 and CHEM 234.)

CHEM 233. Organic Chemistry. 3 Hr. PR: CHEM 116 or CHEM 118 and PR or CONC: CHEM 235. Basic principles of organic chemistry. Modern structural concepts, the effect of structure on physical and chemical properties, reactions and their mechanisms and application to syntheses. (3 hr. lec.) (Students may not receive credit for CHEM 233, CHEM 234, and for CHEM 231.)

CHEM 234. Organic Chemistry. 3 Hr. PR: CHEM 233 and CHEM 235 and PR or CONC: CHEM 236. Continuation of CHEM 233. (3 hr. lec.)
CHEM 235. Organic Chemistry Laboratory. 1 Hr. PR or CONC: CHEM 233. Fundamental organic reactions and the preparation of organic compounds. (3 hr. lab.)

CHEM 236. Organic Chemistry Laboratory. 1 Hr. PR: CHEM 233 and CHEM 235 and PR or CONC: CHEM 234. Continuation of CHEM 235. (3 hr. lab.)

CHEM 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHEM 310. Instrumental Analysis. 3 Hr. PR: CHEM 215 and physical chemistry. Lectures and demonstrations. Fundamentals of instrumental methods applied to chemical analyses: electrochemistry, spectroscopy, mass spectrometry, and chromatography. (2 hr. lec., 1 hr. demonstration.)

CHEM 312. Environmental Chemistry. 3 Hr. PR: CHEM 215 and CHEM 234 and physical chemistry. Study of the nature, reactions, transport, and fates of chemical species in the environment. (2 hr. lec., 1 hr. demonstration.)

CHEM 313. Instrumental Analysis Laboratory. 1 Hr. PR: CHEM 310. Practical application of modern instrumental methods to problems in chemical analysis. (3 hr. lab.)

CHEM 335. Methods of Structure Determination. 4 Hr. PR: CHEM 234 and CHEM 236. Use of chemical methods and UV, IR, NMR, and mass spectroscopy to elucidate structures of organic compounds. For students in chemistry and related fields who may need these methods in research and applied science. (2 hr. lec., 2 hr. lab.)

CHEM 337. Polymer Chemistry. 3 Hr. PR: CHEM 234 and physical chemistry. Methods, mechanisms, and underlying theory of polymerization. Structure and stereochemistry of polymers in relation to chemical, physical, and mechanical properties. (3 hr. lec.)

CHEM 339. Organic Syntheses. 3 Hr. PR: CHEM 234 and CHEM 236. Modern synthetic methods of organic chemistry. (1 hr. lec., two 3-hr. lab.)

CHEM 341. Physical Chemistry: Brief Course. 3 Hr. PR: (CHEM 116 with a grade of C or better or (CHEM 215 for chemistry majors)) and MATH 156 and (PHYS 102 or PHYS 112). Beginning physical chemistry covering the subjects of chemical thermodynamics, chemical dynamics, and the structure of matter. (3 hr. lec.) (Students may not receive credit for CHEM 346 and 348 and for CHEM 341.)

CHEM 342. Experimental Physical Chemistry. 1 Hr. PR: (CHEM 341 or CHEM 346) and CHEM 215 and (CHEM 235 or CHEM 231). Laboratory work in physical chemistry designed to accompany CHEM 341. (One 3 hr. lab.)

CHEM 346. Physical Chemistry. 3 Hr. PR: CHEM 234 and MATH 156 and PHYS 112. A first course in physical chemistry. Topics include a study of thermodynamics and chemical equilibria. (3 hr. lec.) (Students may not receive credit for CHEM 346 and for CHEM 341.)

CHEM 347. Physical Chemistry Laboratory. 1 Hr. PR: (CHEM 118 or CHEM 215) and CHEM 346. Experimentation illustrating the principles of physical chemistry and offering experience with chemical instrumentation. (One 3-hr. lab.)

CHEM 348. Physical Chemistry. 3 Hr. PR: CHEM 346 and MATH 251. Continuation of CHEM 346. Chemical dynamics and the structure of matter. (3 hr. lec.) (Students may not receive credit for CHEM 348 and for CHEM 341.)

CHEM 349. Physical Chemistry Laboratory. 2 Hr. PR: CHEM 346 and CHEM 347 and CHEM 348. Continuation of CHEM 347. (Two 3-hr. lab.)

CHEM 401. Chemical Literature. 1 Hr. PR: CHEM 234 and (CHEM 341 or CHEM 346). Study of techniques for locating, utilizing, and compiling information needed by the research worker in chemistry. (1 hr. lec.)
CHEM 403. Undergraduate Seminar. 1 Hr. PR: CHEM 401. Instruction in design and presentation of topics of current chemical interest. (1 hr. individual instruction and/or lecture.)

CHEM 411. Intermediate Analytical Chemistry. 3 Hr. PR: CHEM 215 and physical chemistry. Concepts underlying modern analytical procedures and their application to the solution of contemporary problems; presented at the intermediate level. (3 hr. lec.)

CHEM 422. Intermediate Inorganic Chemistry. 3 Hr. PR: Physical chemistry. Structure, bonding, and reactivity of compounds of main-group and transition metal elements. Molecular structure and symmetry, solid state chemistry, ligand field theory, and coordination chemistry. (3 hr. lec.)

CHEM 423. Inorganic Synthesis Laboratory. 2 Hr. PR: CHEM 422. Application of modern synthetic and spectroscopic methods of analysis to the preparation and characterization of main group, solid-state, transition metal, and organometallic compounds. (Two 3-hr. lab.)

CHEM 440. Quantum Chemistry. 3 Hr. PR: CHEM 348. Introduction to the principles of quantum mechanics and its application to atoms, molecules, solids, spectroscopy, and computational chemistry.

CHEM 444. Colloid and Surface Chemistry. 3 Hr. PR: Physical chemistry. Selected topics in the properties and physical chemistry of systems involving macromolecules, lyophobic colloids, and surfaces. (3 hr. lec.)

CHEM 460. Forensic Chemistry. 3 Hr. PR: CHEM 115 and CHEM 116 and CHEM 117 and CHEM 118 and CHEM 233 and CHEM 236 and CHEM 215 or instructor permission. Analytical chemistry as applied in forensic science. Drug analysis, toxicology, arson, paints, polymers, fibers, inks, and gunshot residue.

CHEM 463. Forensic Chemistry Lab. 1 Hr. PR: (CHEM 115 and CHEM 116) or (CHEM 117 and CHEM 118) and CHEM 233 and CHEM 236 required and CHEM 215 or instructor permission and PR or CONC: CHEM 460. Analytical chemistry as applied in forensic science. Drug analysis, toxicology, arson, paints, polymers, fibers, inks, and gunshot residue.

CHEM 490. Teaching Practicum - PLTL. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CHEM 490A. Teaching Practicum-CLC. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CHEM 490B. Teaching Practicum - TA. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CHEM 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CHEM 492 A-Z. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

CHEM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHEM 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CHEM 496. Senior Thesis. 1-3 Hr. PR: Consent.

CHEM 497. Research. 1-6 Hr. Independent research projects.

CHEM 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.
Child Development / Family Studies (CDFS)

CDFS 110. Families Across the Life-Span. 3 Hr. Explores the physical, psychological, and cognitive developmental changes of individuals who are functioning in family systems that change across the life-span.

CDFS 112. Introduction to Marriage and Family. 3 Hr. Explores various dimensions of self-development and personal preference relevant to dating, mate selection, marriage, having children, parenting, divorce, and remarriage.

CDFS 210. Introduction to Parenting. 3 Hr. Introduction of terminology, descriptions, and explanations of the parental role and parent-child interactions. Emphasis on social and personal definitions of the parental role and on the problems and changes in parent-child relationships.

CDFS 211. Infant Development. 4 Hr. PR: CDFS 110. Developmental characteristics and environmental effects on the child during the prenatal period and the first two years with implications for guidance and care, includes practical experience working with infants and toddlers.

CDFS 212. Early Childhood Development. 3 Hr. PR: CDFS 110. Physical, social, emotional, and cognitive development of children from conception to seven years with implications for guidance and care in practical settings.

CDFS 316. Child Development Practicum. 3-4 Hr. PR: CDFS 212 or PSYC 241. Application of child development principles. Involves planning developmentally appropriate activities for three-, four-, and five-year old children at the West Virginia University Child Development Laboratory.

CDFS 317. Hospital Child Life Practicum. 3 Hr. PR: CDFS 212 and CDFS 316. Application of development principles to children in the hospital. Assignments involve learning intervention techniques to minimize hospital-generated stress and enhance normal development and family experience.

CDFS 320. Family Life Education. 3 Hr. Introduces the general philosophy and broad principles of family life education along with the range of programs available. An opportunity is given to plan, implement, and evaluate such educational programs for diverse audiences.

CDFS 321. Family Policy and Law. 3 Hr. Explores at the federal and state level the process of policy formation, implementation, and evaluation as it relates to family life. Introduces the laws regulating such family life activities as marriage, parenting, and divorce.

CDFS 412. Adolescent Development. 3 Hr. PR: Senior or graduate standing and CDFS 110. The adolescent in contemporary American culture, including normative physical, social, and personality development; relationships within various typical social settings. (e.g., family, school, community, peer group.)

CDFS 413. Contemporary Issues in Family Relations. 3 Hr. PR: Senior or graduate standing or consent. Study of recent research findings in the major areas of family relationships. Topics include effects of family violence, substance abuse, poverty, and health. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

CDFS 414. Adolescent Problems/Disorders. 3 Hr. Focuses on non-normative aspects of adolescent development including social, behavior, emotional, and psychological problems. Prevention and intervention strategies are examined.

CDFS 415. Family Interaction and Communication. 3 Hr. PR: Senior or graduate standing or consent. The family as a social group; processes related to well-being for a variety of family relationships.

CDFS 420. The Art of Leadership in Early Childhood. 3 Hr. The course will prepare students to develop effective leadership skills in early childhood settings, advocate for children and families and develop collaborative partnerships.
CDFS 421. Child Care Center Administration. 3 Hr. Focuses on skills necessary for directing a high quality child care center. Participants will gain knowledge in program planning, development, and maintenance.

CDFS 422. Business of Child Care. 3 Hr. This course is designed to provide essential business and management lessons in operating a high quality early child care center.

CDFS 430. Best Practices in Pre-K Movement. 3 Hr. The course will prepare students to plan, develop and implement an appropriate structured movement program so young children can be physically active and to set the stage for lifelong physical activity.

CDFS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CDFS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CDFS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CDFS 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CDFS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

CDFS 496. Senior Thesis. 1-3 Hr. PR: Consent.

CDFS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Chinese (CHIN)

CHIN 101. First Year Chinese 1. 3 Hr. PR: No prior study of the language. Introduction to the sound and writing systems of the language, with emphasis on listening, speaking, reading, and writing within an authentic cultural context. (3 hr. lec.)

CHIN 102. First Year Chinese 2. 3 Hr. PR: CHIN 101. Continuation of CHIN 101. Continued development of basic skills in listening, speaking, reading, and writing Chinese. (3 hr. lec.)

CHIN 203. Second Year Chinese 1. 3 Hr. PR: CHIN 102 or equiv. Continuation of CHIN 102. Continued development of basic skills in listening, speaking, reading, and writing Chinese. (3 hr. lec.)

CHIN 204. Second Year Chinese 2. 3 Hr. PR: CHIN 203 or equiv. Continuation of CHIN 203. Continued development of basic skills in listening, speaking, reading, and writing Chinese.

CHIN 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHIN 301. Third Year Chinese 1. 3 Hr. PR: CHIN 204. Continued development of oral and written communicative skills in Chinese.

CHIN 302. Third Year Chinese 2. 3 Hr. PR: CHIN 301. Continued development of oral and written communicative skills in Chinese.

CHIN 303. Readings in Modern Chinese 1. 3 Hr. PR: CHIN 204. Development of communicative skills, with emphasis on reading modern Chinese texts.

CHIN 304. Readings in Modern Chinese 2. 3 Hr. PR: CHIN 303. Development of communicative skills, with emphasis on reading modern Chinese texts.

CHIN 465. Chinese Media. 3 Hr. PR: CHIN 302 or CHIN 304. Advanced training in vocabulary, sentence structure, and rhetoric of Chinese media.

CHIN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CHIN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CHIN 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHIN 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CHIN 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

CHIN 496. Senior Thesis. 1-3 Hr. PR: Consent.

CHIN 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Civil Engineering (CE)

CE 200. Land Surveying. 3 Hr. PR: MATH 128. Introduction to current surveying methods and equipment as applied to mapping projects and simple construction layout. Leveling, angles and directions, distance measurements, and fundamental traverse calculations along with mapping principles are emphasized.

CE 201. Introduction to Civil Engineering. 1 Hr. PR: ENGR 102. Overview of civil engineering disciplines and careers including structural, environmental, hydrotechnical, geotechnical and transportation engineering. Addresses the technical concepts and career opportunities in each area. Emphasis on providing guidance for success in completing undergraduate studies.

CE 202. Concrete Canoe/Steel Bridge Design and Construction. 1 Hr. Students participate in the concrete canoe and/or steel bridge design and construction for competition in the annual American Society of Civil Engineers (ASCE) Virginia's Conference.

CE 205. Introduction to Geomatics. 3 Hr. PR: CE 210 or consent. Introduction to the theory and practice of the technologies used to measure, calculate, acquire, process, and display terrain and other data for use in mapping, planning, designing, constructing, and managing the built and natural environments. (Two 75-minute periods.)
CE 310. Civil Engineering Materials. 4 Hr. PR: MAE 243 or consent. Physical, chemical, and molecular properties of materials commonly used in civil engineering works. Influence of these properties on the performance and use of materials. Laboratory evaluation of properties that control the performance of materials. (1 hr. lec., 3 hr. lab.)

CE 321. Fluid Mechanics for Civil Engineers. 3 Hr. PR: MATH 261 and MAE 242. Fluid properties, statics, and kinematics; conservation laws for mass, momentum, and mechanical energy; piezometric head and grade lines; dimensional analysis and similitude; weir and orifice flow; introduction to flow in pipes and open channels. (3 hr. lec.)

CE 322. Hydrotechnical Engineering. 3 Hr. PR: CE 321. Flow in pipes and pipe networks; pumps; uniform and gradually varied open channel flow; design of water distribution, sanitary sewer, and storm water collection systems. (3 hr. lec.)

CE 322. Introduction to Transportation Engineering. 4 Hr. Integrated transportation systems from the standpoint of assembly, haul, and distribution means. Analysis of transport equipment and traveled way. Power requirements, speed, stopping, capacity, economics, route location. Future technological developments and innovations. (3 hr. lec., 3 hr. lab.)

CE 347. Introduction to Environmental Engineering. 4 Hr. PR: Consent. Introduction to physical, chemical, and biological characteristics of waters and wastewaters, and fundamental principles of water and wastewater treatment including hands-on laboratory exercises. (3 hr. lec., 2 hr. lab.)

CE 351. Introductory Soil Mechanics. 4 Hr. PR: MAE 243. Introduction to geotechnical engineering, fundamental soil properties, classification of soils, soil compaction, permeability, compressibility, and consolidation of soils, shear strength, lateral earth pressures. (3 hr. lec., 3 hr. lab.)

CE 361. Structural Analysis 1. 4 Hr. PR: MAE 243 or consent. Stability, determinacy, and equilibrium of structures; shear and bending moment diagrams of determinate and indeterminate beams and frames; analysis of trusses; displacement of planar structures by geometric and energy methods. (3 hr. lec., 3 hr. lab.)

CE 412. Concrete and Aggregates. 3 Hr. PR: CE 310 or consent. Considerations and methods for the design of concrete mixes. Properties of portland cement and aggregates and their influence on the design and performance of concrete mixtures. Testing of concrete and aggregate and the significance of these tests. (2 hr. lec., 3 hr. lab.)

CE 413. Construction Methods. 3 Hr. PR: Junior or senior standing in civil engineering. Study of construction methods, equipment, and administration with particular emphasis on the influence of new developments in technology. (3 hr. lec.)

CE 414. Construction Engineering. 3 Hr. PR: Senior standing. Introduce student to the role of the civil engineer in the construction process, including critical path analysis, productivity estimation, equipment capability and selection.

CE 415. Flexible Pavements. 3 Hr. PR: CE 310. Design, construction and maintenance of flexible pavements, including material characterization, mix design, construction methods, pavement design and evaluation, and maintenance procedures.

CE 416. Advanced Concrete Materials. 3 Hr. PR: MAE 243. Microstructure and properties of portland cement pastes, rheology, maturity, strength properties, non-linear fracture mechanics, early age volume changes, creep and shrinkage models, transport mechanism and durability of concrete, special concretes. (3 hr. lec.)

CE 420. Computational Fluid Mechanics. 3 Hr. PR: CE 321 and ENGR 102 or consent. Use of the computer in elementary hydraulics, open channel flow, potential flow, and boundary layer flow, numerical techniques for solution of algebraic equations, ordinary differential equations, and partial differential equations. (3 hr. lec.)
CE 425. Engineering Hydrology. 3 Hr. PR: CE 321 or consent. Scientific basis of the hydrologic cycle and its engineering implications; rainfall-runoff processes, hydrographs, flood routing, and statistical methods. (3 hr. lec.)

CE 427. Water Resources Engineering. 3 Hr. PR: CE 425. Application of hydrologic and hydraulic principles in the design and analysis of water resource systems; probability concepts and economics in water resource planning, water law, reservoir operations, hydraulic structures, flood damage mitigation, hydroelectric power, and drainage. (3 hr. lec.)

CE 431. Highway Engineering. 3 Hr. PR: CE 332 and CE 351. Highway administration, economics and finance; planning and design; subgrade soils and drainage; construction and maintenance. Design of a highway. Center line and grade line projections, earthwork and cost estimates. (2 hr. lec., 3 hr. lab.)

CE 433. Urban Transportation Planning and Design. 3 Hr. PR: CE 332 or consent. Principles of planning and physical design of transportation systems for different parts of the urban area. Land use, social, economic, and environmental compatibilities emphasized. Evaluation and impact assessment. (3 hr. lec.)

CE 435. Railway Engineering. 3 Hr. PR: CE 205. Development and importance of the railroad industry. Location, construction, operation, and maintenance. (3 hr. lec.)

CE 436. Pedestrian/Bike Transportation. 3 Hr. Planning, design, operation and maintenance of pedestrian and bicycle facilities, including multi-use trails; policies to encourage non-motorized travel; traffic calming; accessibility and ADA requirements; connections to transit.

CE 442. Environmental Aerosol Science. 3 Hr. This course will give an understanding of the basic principles behind aerosol generation, measurement, mechanics and toxicity for aerosols found in the environment.

CE 443. Environmental Science and Technology. 3 Hr. PR: Engineering major. Issues of global atmospheric change, minimization and control of hazardous wastes, groundwater contamination, water pollution, air pollution, solid waste control, and management of water and energy resources. (3 hr. lec.)

CE 445. Properties of Air Pollutants. 3 Hr. PR: Consent. Physical, chemical, and biological behavioral properties of dusts, droplets, and gases in the atmosphere. Air pollutant sampling and analysis. Planning and operating air pollution surveys. (2 hr. lec., 3 hr. lab.)

CE 447. Environmental Engineering Design. 3 Hr. PR: CE 347. Process design of treatment/remediation systems; comparison of alternatives and preliminary cost evaluation. (2 hr. lec., 3 hr. lab.)

CE 451. Foundation Engineering. 3 Hr. PR: CE 351. Subsurface investigations and synthesis of soil parameters for geotechnical design and analysis, concepts of shallow and deep foundation design, geotechnical design of conventional retaining walls, computerized analysis and design of soil/foundation interaction; case histories. (3 hr. lec.)

CE 453. Earthwork Design. 3 Hr. PR: CE 351. Use of soil mechanics principles in the analysis, design and construction of earth structures. Principles of compaction and compaction control; an introduction to slope stability analysis and landslides; earth reinforcement systems, and ground improvement techniques. (3 hr. lec.)

CE 454. Geotechnical Engineering Field Methods. 3 Hr. PR: CE 351. Soil exploration and groundwater sampling; in-situ determination of properties using split spoon, cone, dilatometer, pressure meter, and vane equipment. Instrumentation for monitoring field performance and challenges associated with exploration and monitoring in geotechnical/geoenvironmental engineering. (3 hr. lec.)
CE 461. Structural Analysis 2. 3 Hr. PR: CE 361 or consent. Fundamental theory of statically indeterminate structures; analysis of indeterminate beams, frames, and trusses by stiffness and flexibility methods; study of influence lines for beams, frames, and trusses. (3 hr. lec.)

CE 462. Reinforced Concrete Design. 3 Hr. PR: CE 361. Behavior and design of reinforced concrete members. Material properties, design methods and safety consideration, flexure, shear, bond and anchorage, combined flexure and axial load, footings, introduction to torsion slender columns, and pre-stressed concrete.

CE 463. Steel Design. 3 Hr. PR: CE 361. Material properties, design of steel bridge and building systems with emphasis on connections, beams, columns, plastic design, and cost estimates.

CE 464. Timber Design. 3 Hr. PR: CE 361. Fundamentals of modern timber design and analysis. Topics include wood properties, design of beams, columns, trusses, and other structures using dimension lumber, glue-laminated products and composites.

CE 465. Conceptual Design of Structures. 3 Hr. PR: CE 361 or consent. Classification, function, and conceptual analytical understanding of structural systems and components; design codes and modeling of loads; behavior of components and systems; design principles of structural systems. (3 hr. lec.)

CE 479. Integrated Civil Engineering Design. 3 Hr. PR: Senior standing. Integration of the civil engineering curriculum by comprehensive design experience to professional standards. Projects are performed in student groups under faculty supervision.

CE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CE 495. Independent study. 1-6 hr. Faculty supervised study of topics not available through regular course offerings.

CE 496. Senior Thesis. 1-3 Hr. PR: Consent.

CE 497. Research. 1-6 Hr. Independent research projects.

CE 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Classics (CLAS)
CLAS 101. Elementary Latin 1. 3 Hr.


CLAS 203. Intermediate Latin 1. 3 Hr. PR: CLAS 102 or two years of high school Latin.

CLAS 204. Intermediate Latin 2. 3 Hr. PR: CLAS 203 or two years of high school Latin.

CLAS 231. Greek and Roman Civilization and Culture. 3 Hr.

CLAS 232. Greek and Roman Myths. 3 Hr.
CLAS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CLAS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CLAS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CLAS 492. Directed Study. 1-6 Hr. Directed study, reading and/or research.

CLAS 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CLAS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

CLAS 496. Senior Thesis. 1-3 Hr. PR: Consent.

CLAS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Communication Studies (COMM)
COMM 100. Principles of Human Communication. 1 Hr. Introduction to the human communication process with emphasis on the principles, variables, and social contexts of communication.

COMM 102. Human Communication in the Interpersonal Context. 2 Hr. Introduction to interpersonal communication with emphasis upon application of one to one communication in a variety of social contexts.

COMM 103. Presentational Speaking. 1-3 Hr. A laboratory designed to reinforce behavioral speaking skills based on the theory taught in COMM 104.

COMM 104. Public Communication. 3 Hr. Introduction to principles of communication in the one-to-many context. Emphasis is given to the creation and refutation of arguments.

COMM 105. Introduction to the Mass Media. 3 Hr. Critical examination of mass media with special emphasis on ways in which social, economic, and psychological factors influence the structure, functions, and effects of the media.

COMM 112. Small Group Communication. 3 Hr. Introduction to small-group communication with emphasis on developing understanding of the small group communication process and learning how to communicate effectively when working in a small group.

COMM 122. Human Communication in Contemporary Society. 3 Hr. This course addresses various social issues faced by young adults in our society and how communication is often part of the problem and how it is used to solve these problems.

COMM 200. Communication Theory and Research 1. 3 Hr. PR: Pre-communication studies major. Methods of understanding human communication behavior; issues relating to epistemology and ontology in communication studies; and reviews/critiques of the major approaches and theories of human communication.

COMM 201. Communication Theory and Research 2. 3 Hr. PR: Pre-communication studies majors and a C or better in COMM 200. Emphasis on social science research; the language research, types of research, sampling, design, measurement, observation, and ethics from a communication perspective.
COMM 202. Interpersonal Communication. 3 Hr. PR: COMM 102. Survey of theoretical and research literature in interpersonal communication. Emphasis on interaction, interpersonal understanding, personal relationships, and self understanding as outcomes in interpersonal communication.

COMM 212. Gender and Communication. 3 Hr. PR: COMM 102 or consent. The similarities and differences of communication variables for males and females. Theoretical implications in the study of the gender variable with practical applications in different contexts.

COMM 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

COMM 303. Business and Professional Communication. 3 Hr. PR: COMM 306. Application of the theories of effective communication in organizations. Simulated projects and oral presentations will be used to refine communication skills necessary for entry-level positions within business and industry.

COMM 304. Human Communication and Rational Decisions. 3 Hr. PR: Consent. Argumentation, small group, and persuasion, to the process and outcome of rational decision making in communication. Some emphasis on critical-rational response to manipulative communication.

COMM 305. Appreciation of the Motion Picture. 3 Hr. PR: Consent. Evaluation of motion picture and television film as forms of mediated communication and as art forms involving communication and aesthetic principles. Emphasis on the feature-length theatrical fiction film.

COMM 306. Human Communication in Organizations and Institutions. 3 Hr. PR: Consent. Communication processes and problems in business and nonbusiness organizations and institutions with attention to practical application. This course is not open to freshmen.

COMM 307. Life-Span Communication. 3 Hr. PR: Consent. Development of communication from birth through adulthood to later years; study of media, interpersonal relationships, and competence in communication. This course is not open to freshmen.

COMM 308. Nonverbal Communication. 3 Hr. PR: Consent. Examination of the effects of human nonverbal behavior on human communication. Emphasis on specific nonverbal behaviors including touch, time, environmental contexts, physical appearance cues, and social communication cues. This course is not open to freshmen.

COMM 309. Health Communication. 3 Hr. PR: Consent. Examines the role of nonverbal behavior in health care. Emphasis on major nonverbal behaviors including touch, time, environmental contexts, physical appearance cues, and social communication cues. This course is not open to freshmen.

COMM 314. Nonviolence in Communication Behavior. 3 Hr. PR: Consent. Nonviolent resistance as communication behavior. Emphasis on major proponents of and upon learning ways to apply nonviolence in communication behavior.

COMM 315. American Diversity in Film. 3 Hr. PR: Consent. Examination of films that show the diversity of individuals who live in the United States of America. Films will show characters of different ages, ethnicity, gender, sexual orientation, race, religion, region, and social class.

COMM 316. Intercultural Communication. 3 Hr. PR: COMM 102 or COMM 104. Examines similarities and differences between cultures with regard to norms, values, and practices in verbal and nonverbal communication. Emphasis on communication in Latin America, Asian, African, and Middle Eastern cultures. This course is not open to freshmen.

COMM 317. Communication and Aging. 3 Hr. PR: Consent. Examining the influence of aging on communication, concentrating on persons over age 55. Social, psychological, biological, and sensory communication adjustments. Multidisciplinary approach to aging theories.
COMM 400. Principles of Communication Education. 3 Hr. Literature, principles, and current practices of communication education in public schools with directed application. Intended for teachers in communication and language arts.

COMM 401. Communication Research Methods. 3 Hr. PR: Communication studies major or consent and COMM 201. Research methods in human communication and related professional areas with emphasis on understanding and evaluating research procedures. Special focus on practical application.

COMM 403. Capstone Seminar. 3 Hr. PR: Senior status and completion of 24 hours of communication studies coursework or consent. Part one in a two-part sequence aimed at the appraisal and synthesis of communication knowledge and skills. It also prepares students to complete an in-depth applied project related to communication studies.

COMM 404. Persuasion. 3 Hr. Theory and research in persuasion, emphasizing a critical understanding and working knowledge of the effects of social communication on attitudes, beliefs, and behavior. This course is not open to freshmen.

COMM 405. Effects of Mediated Communication. 3 Hr. PR: COMM 105. Messages and characteristics of mass media with emphasis on effects of mass communication on society. This course is not open to freshmen.

COMM 406. Advanced Organizational Communication. 3 Hr. PR: COMM 306. Communication in superior/subordinate and peer relationships; emphasis on application of communication theory to complex organizations and organizational contexts. This course is not open to freshmen.

COMM 408. Advanced Study in Nonverbal Communication. 3 Hr. PR: COMM 308. Functions of nonverbal communication including status, power, immediacy, relationship development, regulation, turn-taking, leakage and deception, person perception, and emotional expressions.

COMM 409. Advanced Health Communication. 3 Hr. PR: COMM 309. Advanced study of research and practice of health communication. Students use theory to create and deliver communication campaigns addressing health issues, policy or practices, using mediated, community, group, or one to one interaction.

COMM 410. Family Communication. 3 Hr. This course explores the components and dynamics of human communication within the family unit. The student will examine research, various communication models, principles and theories that are relevant to family communication.

COMM 425. Computer Mediated Communications. 3 Hr. Explores the relationships between CMC and various aspects of human activity. Investigates established and emerging CMC-based social, cultural, organizational, and instructional activities.

COMM 490. Teaching Practicum. 1-3 Hr. Teaching practice as a tutor or assistant.

COMM 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hrs.) Prearranged experimental learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

COMM 492 A-Z. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

COMM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

COMM 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

COMM 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.
COMM 496. Senior Thesis. 1-3 Hr. PR: Consent.

COMM 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Community Health Promotion (CHPR)**

CHPR 170. Health of the Individual. 3 Hr. Examines personal health-related problems in terms of information, services, and actions, as they relate to attainment and maintenance of individual health.

CHPR 172. First Aid and Emergency Care. 2 Hr. Emergency aid for the sick and injured. Emergency services aimed at reducing the potential of permanent disability or threats to life, as well as pain, damage, or suffering of a less serious nature.

CHPR 210. First-Aid Teaching Practicum. 3 Hr. This class prepares students to conduct a first-aid course. Students work with the instructor in all aspects of course management. Students who complete this course are eligible to apply for instructor candidate training with the American Red Cross.

CHPR 250. History and Philosophy of Health Education. 3 Hr. Provides the student with a historical perspective of health education’s development, its present status, and its current philosophical foundations.

CHPR 260. Introduction to Peer Health Education. 3 Hr. Prepares students to become peer health educators through the study of health concerns of students in higher education and examination of effective teaching strategies that result in positive health outcomes.

CHPR 261. Advanced Peer Health Education. 3 Hr. Students apply a variety of teaching strategies based on the peer concept to health concerns of college students and other young adults.

CHPR 265. HIV/STD Prevention: Global Challenge. 3 Hr. Addresses personal, social, legal, medical, and cultural aspects of HIV and sexually transmitted diseases and the health education efforts to stem the pandemic.

CHPR 270. Alcohol/Drug Education for Athletes. 3 Hr. Chemical use and dependency has a significant impact on people in all walks of life. An overview of chemical dependency and current prevention and intervention is presented.

CHPR 271. Health in the Community. 3 Hr. Develops an understanding of the organization, structure, and function of official, voluntary, and professional community health components in terms of their protecting and maintaining the health of the community.

CHPR 275. Substance Abuse: Student Leaders. 3 Hr. Provides individuals, particularly those in organizational leadership roles, with an understanding of substance abuse, leadership roles, and decision-making skills for organizations.

CHPR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHPR 301. Elementary School Health Program. 2 Hr. PR: Junior standing. The organization, educational aspects, and personnel relationships involved in elementary school health services, healthful school living, and health education.


CHPR 305. Disease Across the Life Span. 3 Hr. PR: CHPR 170. Students will identify causative factors, treatment, prevention, and educational implications for disease across the life span.
CHPR 320. Drug and Alcohol Abuse Prevention. 3 Hr. Experiences designed to prevent the development of abusive drug-taking relationships by focusing on psychological variables such as self-esteem, coping skills, and development of support networks.

CHPR 331. Accident Prevention and Control Principles. 3 Hr. Basic course which structures principles, concepts, and methodology of the safety movement into introductory experiences dealing with accident prevention and control efforts recommended for various social institutions and agencies.

CHPR 332. Safety Education Principles and Content. 3 Hr. PR: CHPR 331 or consent. Study and analysis of content areas usually recommended for instructional programs within the field of safety, with emphasis on structured learning experiences.

CHPR 333. Foundations of Wellness. 3 Hr. Provide students with physical, mental, emotional, and environmental health concepts and experiences that will expand their knowledge and skills. These relate to the processes and techniques for promoting and maintaining individual and community health changes.

CHPR 365. Men’s Health. 3 Hr. Optimal health is a theme for men across the lifespan. This course will address men’s health specific to race, ethnicity and orientation, to provide skills to be an informed consumer of health information.

CHPR 375. Physical Lifestyle Management. 3 Hr. This course will provide an experience conducive to the understanding, exploration, experience, and development of scientifically sound physical health behaviors within the framework of the Transtheoretical Model of Health Behavior.

CHPR 376. Mental Lifestyle Management. 3 Hr. This course will provide experience conducive to the understanding, exploration, and development of mental, emotional, and spiritual health processes that comprise and support personal holistic health.

CHPR 380. Women and Health. 3 Hr. Examination of theories, myths, and practices surrounding women’s physical and mental health from both historical and present-day perspectives. Exploration of specific health issues and controversies and the rise of the women’s health movement.

CHPR 400. School Health Teaching Seminar. 2 Hr. PR: CHPR 250 and CHPR 301 and CHPR 302. This course is designed for students who plan to complete their student teaching requirement in health education. Format of the course will include lecture, discussion, and student teaching in a public school.

CHPR 436. Introduction to Worksite Wellness. 3 Hr. An introduction to the field of health promotion in a worksite setting. Persons with interest in exploring the possibility of employment in health promotion in a worksite setting will find this course helpful.

CHPR 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CHPR 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CHPR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CHPR 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CHPR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

CHPR 496. Senior Thesis. 1-3 Hr. PR: Consent.
CHPR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Computer Engineering (CPE)**

CPE 271. Introduction to Digital Logic Design. 3 Hr. PR: MATH 156 or Consent. An introduction to the design of digital networks and computers. Topics include number systems, coding, Boolean and switching algebra, logic design, minimization of logic, sequential networks, and design on digital subsystems. (3 hr. lec.)

CPE 272. Digital Logic Laboratory. 1 Hr. CoReq: CPE 271. Experiments with digital electronic circuits including number systems, design and application of modern digital circuitry for both combinational and sequential logic circuits. (3 hr. lab.)

CPE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CPE 310. Microprocessor Systems. 3 Hr. PR: CPE 271 and PHYS 112. Theory and design of microprocessors: organization and architecture of modern processors; integration of microprocessors with RAM, ROM, and I/O devices; machine language, assembly language and software development. (3 hr. lec.)

CPE 311. Microprocessor Laboratory. 1 Hr. CoReq: CPE 310. Machine language, assembly language and hardware and software interfacing. (This includes editing, linking, and debugging.) Memory, I/O and basic techniques of microprocessor interfacing. (3 hr. lab.)

CPE 312. Microcomputer Structures and Interfacing. 3 Hr. PR: CPE 310 and CPE 311 and EE 251 and EE 252 and CoReq: CPE 313 and CS 350. Design of computer systems with emphasis on interface hardware including communications, high power interface devices, line driver/receiver circuits, A/D and D/A devices, and utilization of software techniques for programmed, interrupt, and direct memory access. (3 hr. lec.)

CPE 313. Microcomputer Structures and Interfacing Laboratory. 1 Hr. PR: CPE 310 and CPE 311 and CoReq: CPE 312. A microprocessor based single-board computer is designed and built. A semester project is required using standard I/O techniques. (3 hr. lab.)

CPE 435. Computer Incident Response. 3 Hr. PR: CPE 310 and CPE 311 and CS 350 or consent. Introduction to computer incident response, forensics, and computer security. Legal basis, proper procedures, and multiple operating systems application.

CPE 442. Introduction to Digital Computer Architecture. 3 Hr. PR: MATH 375 and CPE 310 and CPE 311. Control, data, and demand-driven computer architecture; parallel processing, pipelining, and vector processing; structures and algorithms for array processors, systolic architectures, design of architectures. (3 hr. lec.)

CPE 450. Introduction to Microelectronics Circuits. 3 Hr. PR: EE 251. (VLSI-Very Large Scale Integrated) circuit design, including layout, simulation and performance optimization of basic digital logic functions and combinations of such basic functions into more complex digital system functions. CAD tools are used for projects. (3 hr. lec.)


CPE 480. Senior Design Seminar. 2 Hr. PR: ENGL 102 and consent. Penultimate semester. Group senior design projects with individual design assignments appropriate to student’s discipline. Complete system-level designs of the subsequent semester’s project presented in written proposals and oral presentations. (Equivalent to BIOM 480, CS 480, and EE 480). (2 hr. lec., 1 hr. conf.)
CPE 481. Senior Design Project. 3 Hr. PR: CPE 480. Continuation of CPE 480. Detailed design and implementation of the system including choice of components, algorithm development, interfacing troubleshooting, working in groups, and project management. Also covers professional topics, including ethics, liability, safety, socio-legal issues, risks and employment agreements. (1 hr. lec., 1 hr. conf., 2 hr. lab.)

CPE 484. Real-Time Systems Development. 3 Hr. PR: CS 350 or working knowledge of C programming language and UNIX. Characteristics of real-time systems, system and software development standards, structured and object oriented development methods for real-time systems, using a computer aided software engineering (CASE) tool in the development of a large engineering project. Emphasis is on real-time systems requirements analysis and design. This is a project-based course. (3 hr. lec.)

CPE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CPE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CPE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CPE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CPE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

CPE 496. Senior Thesis. 1-3 Hr. PR: Consent.

CPE 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Computer Science (CS)
CS 101. Intro to Computer Applications. 4 Hr. Introduction to spreadsheets and databases for problem-solving in disciplines such as math, science, engineering, business, social sciences, behavioral sciences, and environment: using computer applications to create technical reports and presentations.

CS 110. Introduction to Computer Science. 4 Hr. PR: (MATH 126 and MATH 128) or MATH 129 or MSAT score of 600 math ACT score of 26. Programming and design; simple data types, variables, and expressions; program modularization through procedures, functions, and classes; repetition, selection through control structures; structured data types including arrays and records; application. (3 hr. lec., 1 hr. lab.)

CS 111. Introduction to Data Structures. 4 Hr. PR: CS 110. Software development with abstract data types; elementary data structures including lists, stacks, queues and binary trees. Object-oriented design and development, dynamic allocation, recursion, design methodology. (3 hr. lec., 2 hr. lab.)

CS 210. File and Data Structures. 4 Hr. PR: CS 111. Complex internal data structures including hashing, record collision and overflow techniques. Extension of internal data structures to external storage; indexed structures, external sorting and merging, direct access methods.

CS 220. Discrete Mathematics. 3 Hr. PR: CS 110 and MATH 155. Mathematical concepts used in computer science such as sets, relations, functions, counting principles, graphs, trees, and automata; introduction to basic graph algorithms and applications. (3 hr. lec.)
CS 221. Analysis of Algorithms. 3 Hr. PR: CS 111 and CS 220 and MATH 156. Introduction to algorithm design and analysis. Growth rate of functions and asymptotic notation. Divide-and-conquer algorithms and recurrences; searching and sorting; graph algorithms including graph searching, minimum spanning trees, and shortest paths.

CS 230. Intro to Software Engineering. 4 Hr. PR: CS 111. Techniques and methodologies of software engineering; specification, modeling, requirement analysis and definition, design, quality assurance, testing, reuse, development tools and environments.

CS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CS 310. Principles of Programming Languages. 3 Hr. PR: CS 111. Theoretical and practical aspects of languages including internal representations, run-time environments, run-time storage management; historical, current, special purpose and experimental languages; finite-state automata, regular expressions and context-free grammars, language translation, semantics and paradigms. (3 hr. lec.)

CS 350. Computer System Concepts. 3 Hr. PR: CS 111 and CPE 271. System software organization; operating system concepts including processes, threads, memory management, and the user interface; elementary network concepts.

CS 410. Compiler Construction. 3 Hr. PR: CS 310 or consent for non-majors. Theory and practice of the construction of programming language translators; scanning and parsing techniques, semantic processing, runtime storage organization, and code generation; design and implementation of interpreter or compiler by students. (3 hr. lec.)

CS 420. Design of Algorithms. 3 Hr. PR: CS 221 and completed Pre-CS or consent for non-majors. Algorithm design paradigms: divide-and-conquer, dynamic programming, greedy. Advanced data structures: balanced search trees, mergeable heaps, union-find. Introduction to computational complexity. Selected topics such as backtracking, branch-and-bound, amortized analysis, approximation algorithms.

CS 422. Automata Theory. 3 Hr. PR: CS 220 or consent for non-majors. Introduction to formal languages, grammars, and automata; regular expressions and finite automata, context-free and context-sensitive languages; push down and linear-bounded automata; turing machines and recursively enumerable languages.

CS 426. Discrete Mathematics 2. 3 Hr. PR: CS 221 or consent for non-majors. Applications of discrete mathematics to computer science. Selected topics from algorithmic graph theory, combinatorics, and order theory.

CS 430. Advanced Software Engineering. 3 Hr. PR: CS 230 or consent for non-majors. Engineering process, project economics, project organizational and management issues, configuration management. (3 hr. lec.)

CS 440. Database Design and Theory. 3 Hr. PR: CS 230 or consent for non-majors. Database terminology, SQL, stored procedures, the relational and object-relational data model, triggers, and entity-relationship model.

CS 450. Operating Systems Structures. 3 Hr. PR: CS 250 or CS 350. Support of computer components; device management and interrupts, process scheduling, file management, complete OS structure, OS development and debugging, configuration management, and performance testing. (3 hr. lec.)

CS 453. Data and Computer Communications. 3 Hr. PR: CS 350 or consent for non-majors. An in-depth study of the Internet, networking fundamentals, protocols, algorithms, and principles of distributed computing, introduction to network security and management.
CS 455. Computer Architecture. 3 Hr. PR: CPE 271. Computer structure; emphasis on implications for software design; evolution of computers; elementary digital logic; CPU structures; memory and I/O structures; pipelining and memory management; introduction to parallel and high-level architectures. (3 hr. lec.)

CS 465. Introduction to Computer Security. 3 Hr. PR: CS 111 and (CS 350 or consent). An overview of threats to computer security; technologies for security assurance and approaches to security solutions. Security vulnerabilities; encryption; access control; trusted systems; security administration.

CS 470. Introduction to Computer Graphics. 3 Hr. PR: CS 210 or consent for non-majors. Overview of 3D graphics hardware and gaming consoles; focus on developing 3D graphics software; fundamental algorithms for realtime 3D graphics with focus on game engine component development; introduction to three-dimensional game engine development.

CS 472. Artificial Intelligence. 3 Hr. PR: CS 230 or consent for non-majors. Survey of AI techniques, heuristic search, game playing, knowledge representation schemes: logic, semantic net, frames, rule-based; natural language processing, advanced AI techniques/systems: planning, blackboard architecture, neural net model; AI implementation. (3 hr. lec.)

CS 473. Data Mining. 3 Hr. PR: CS 230 and CS 350. Presents the theory practice of industrial data mining. Combining pragmatics with theory, students will learn to select appropriate data mining methods for industrial applications.

CS 480. Senior Design. 2 Hr. PR: ENGL 102 and consent. Penultimate semester. Group senior design projects with individual design assignments appropriate to student’s discipline. Complete system-level designs of the subsequent semester’s project presented in written proposals and oral presentations. (Equivalent to BIOM 480, CPE 480, and EE 480.) (2 hr. lec., 1 hr. conf.)

CS 481. Senior Project. 3 Hr. PR: CS 480. Continuation of CS 480. Detailed design and implementation of the system including choice of components, algorithm development, interfacing, troubleshooting, working in groups, and project management. Also covers professional topics, including ethics, liability, safety, socio-legal issues, risks and employment agreements. (1 hr. lec., 1 hr. conf., 2 hr. lab.)

CS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

CS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

CS 492 A-Z. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

CS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

CS 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

CS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

CS 496. Senior Thesis. 1-3 Hr. PR: Consent.

CS 497. Research. 1-6 Hr. Independent research projects.
Counseling (COUN)
COUN 230. Life Choices. 3 Hr. Students will examine lifestyle choices typically dictated by unconscious customs rather than research. Covers areas of attitude, relationships, physical lifestyle, health and spirituality. The class consists of lectures and required student participation.

COUN 303. Introduction to Helping Professions. 3 Hr. To assist in evaluating students potential for a career in the helping professions. Exposure is provided to client populations served by helping professionals, along with a selection of intervention strategies used in those professions.

COUN 483 A-Z. Workshop in Counseling and Guidance. 1-12 Hr. PR: Consent. To take care of credits for special workshops and short intensive limit courses on methods, supervision, and other special topics.

COUN 493 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses

COUN 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

Curriculum and Instruction (C&I)
C&I 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

C&I 324. Teaching Language Arts: Secondary School. 3 Hr. Includes an examination and application of relevant curricular materials and teaching techniques.

C&I 337. Mathematics in the Junior High School and Middle School. 3 Hr. PR: 6 hr. college mathematics or consent. Study of teaching of mathematics in the junior high school and/or middle school; application of mathematics content to teaching; instructional techniques and materials.

C&I 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

C&I 410. Early Childhood Education 1. 3 Hr. PR: CDFS 316. An introduction to curriculum objectives, instructional methods and materials, and evaluation in early childhood education. (Pre-K to 4th grade) that includes a field experience with individualized instruction for one child.

C&I 411. Early Childhood Education 2. 3 Hr. PR: C&I 410. This course is designed for individuals who will be working in early childhood education Pre-K to 4th grade. Topics include: working with families of young children; designing, teaching and evaluating experiential lessons for small groups of children; and gathering and assessing developmental data on small groups of children. A semester-long field experience with a class of young children is required.


C&I 414. Creative Experiences in Early Childhood. 3 Hr. PR: EDUC 200 or equiv. Examination of creative experiences for young children and their relationship to child development. A special focus on play behavior as a learning medium with emphasis on program planning, curriculum development, and instructional strategies.

C&I 416. Early Language and Communication Experiences. 3 Hr. PR: EDUC 200 or equiv. Presents activities for developing language and communication skills in children 2-5 years of age. Covers a broad range of temporary and enduring forms of communication in visible and audible media.

C&I 418. Management of Preschool Education. 3 Hr. PR: EDUC 200 or equiv. (A field experience with children 2-5 years of age is required.) Planning, designing, and assessing programs for children ages 2-5 years with emphasis on management skills. (Alternate years.)
C&I 424. Approaches to Teaching Language. 2 Hr. PR: LING 101 and ENGL 102. Designed for prospective teachers of English and language arts. Focus is upon planning and implementing methods of teaching English as a language. Materials and resources appropriate for public school instruction are analyzed and utilized.

C&I 425. Approaches to Teaching Literature. 2 Hr. PR: Junior standing. Designed for prospective teachers of English and language arts. Course focuses upon methodologies for teaching literature in public schools. Workshop format will provide opportunities for peer teaching activities as students apply methods of teaching literature.

C&I 434. Teaching Mathematics: Secondary School. 3 Hr. Includes an examination and application of relevant curricular materials and teaching techniques.

C&I 444. Teaching Science: Secondary School. 3 Hr. Includes an examination and application of relevant curricular materials and teaching techniques.

C&I 454. Teaching Social Studies: Secondary School. 3 Hr. Includes an examination and application of relevant curricular materials and teaching techniques.

C&I 480 A-Z. Special Problems and Workshops. 2-4 Hr. (Maximum of 8 semester hours may be applied toward the master’s degree.) PR: 14 Hr. in education. Credits for special workshops and short intensive unit courses on methods, supervision, and other special topics.

C&I 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

C&I 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

C&I 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

C&I 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

C&I 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

C&I 496. Senior Thesis. 1-3 Hr. PR: Consent.

C&I 497. Research. 1-6 Hr. Independent research projects.

Dance (DANC)

DANC 101. Introduction to Dance. 3 Hr. Introductory course designed to develop an aesthetic appreciation and understanding of dance as a fine art and its impact on society.

DANC 102. Introduction to Dance Techniques. 2 Hr. Fundamental principles of dance with emphasis on the development of stationary and motor forms of techniques to develop body awareness, coordination, endurance, and flexibility with elements of creativity.

DANC 121. Intermediate Modern Technique. 2 Hr. PR: Consent. Intensive concentration of technique form, interpretation, and artistic sensitivity of performance. Barre and center practice developing in difficulty as to length and complexity will enhance the level of execution.

DANC 130. Intermediate Jazz Dance. 1 Hr. Development of jazz technique and appreciation of jazz as an American art form.

DANC 131. Elementary Jazz. 2 Hr. Basic jazz dance fundamentals and techniques; development of coordination, strength, and flexibility through the execution of the elementary jazz warm-ups, movement progressions, and combinations.
DANC 132. Intermediate Jazz. 2 Hr. PR: Consent. Continuation of jazz dance techniques and concepts with an emphasis on jazz isolations, polyrhythms, and syncopated movement sequences; continued practice in the development of the body as an instrument of expression.

DANC 140. Ballet. 1 Hr. Ballet vocabulary with emphasis on barre work and adagio and allegro technique.

DANC 141. Introduction to Ballet. 2 Hr. Simple ballet techniques, positions, basic barre work, and motor combinations will be developed.

DANC 142. Elementary Ballet. 2 Hr. PR: DANC 102 and DANC 141. Techniques of classical theatrical dancing. Includes barre exercises, port de bras, adage combinations, and center practice in jumping and tours. A theoretical knowledge and technical achievement is stressed.

DANC 151. Tap Dance 1. 1 Hr. Introduction to tap dance technique, including study of basic tap vocabulary, fundamental rhythms, locomotor movements and tap styles.

DANC 153. Ballroom Dance. 1 Hr. Introduction to popular ballroom dancing. Styles will range from fox trot, waltz, and swing to basic Latin dances.

DANC 154. African Dance. 2 Hr. Exploration of the culture and technique of African dance.

DANC 160. Introduction to Choreography. 2 Hr. In-depth study of movement phrases in the elements of space, time, and force. Emphasis on technique in stationary and motor forms, combinations, and progressions.

DANC 161. Technique and Composition 2. 2 Hr. PR: DANC 160. A continuation of in-depth study of movement phrases in the elements of space, time, and force. Primary focus on combinations and progression in choreographic studies.

DANC 162. Choreography 1. 2 Hr. PR: DANC 102. Creative projects dealing with the basic elements of dance composition through the development of improvisational and compositional skills which will contribute to the invention and development of movement materials.

DANC 221. Advanced Modern Technique. 2 Hr. PR: DANC 102 or DANC 160 or DANC 121. Advanced tutorial techniques relating advanced theories and individual study in the design of technique, style, and compositional form.

DANC 231. Advanced Jazz. 2 Hr. PR: DANC 132. In-depth exploration of both traditional and contemporary jazz techniques and styles; continues progression towards a more advanced level of technical skill as developed and utilized through this specific dance technique.

DANC 241. Advanced Ballet. 2 Hr. PR: DANC 142. Advanced technique of classical theatrical dancing. An in-depth continuation of adage, allegro, and pointe work. Combinations and choreographic studies will be a focus of training. (Repeatable for max. 6 hr. credit.) Fundamentals will also be developed.

DANC 262. Choreography 2. 2 Hr. PR: DANC 162. An in-depth concentration and continuation of DANC 162. Solo, duo, and group ensembles will enhance analysis and critical appraisal. Production of student works will be included.

DANC 270. Creative Dance for Educators. 2 Hr. PR: DANC 102. Specific learning experiences for the future of dance education and competencies to be achieved for children’s dance. Grades K-12. Integration of movement experience with other academic subjects and various cultural heritage emphasized.

DANC 271. History and Philosophy of Dance. 3 Hr. Cultural survey of dance as an expression of the society it represents; philosophy of dance; relation of dance to other art forms; dance as an educational experience.
DANC 272. World Dance. 3 Hr. Introduction to world cultures through the media of dance lecture and movement. Study of global religious, social, educational, and courtship rituals as related to dance.

DANC 293 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

DANC 361. Choreography 1. 2 Hr. PR: DANC 102. Creative projects dealing with the basic elements of dance composition through the development of improvisational and compositional skills which will contribute to the invention and development of movement materials.

DANC 362. Advanced Choreography. 3 Hr. PR: DANC 160. Provides opportunity for creative explorations and analysis of principles of dance composition through improvisations and problem solving. Informal presentations of student works will be included.

DANC 371. History and Philosophy of Dance. 3 Hr. A study of dance history/philosophy and prominent personalities in the world of dance through their legacy of techniques, choreographies, and performances.

DANC 492 A-Z. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

DANC 493 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

DANC 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

DANC 496. Senior Thesis. 3 Hr.

DANC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Dental Hygiene (DTHY)

DTHY 100. Health Care Terminology. 1 Hr. This course provides the foundation for understanding common terminology used in health care. The components, pronunciation, proper use, and abbreviations of medical terminology will be discussed. Emphasis will be placed on dental terminology.

DTHY 101. Introduction to Dental Hygiene. 1 Hr. PR: Permission from the director of dental hygiene. Historical evolution of the profession, the professional association, and its Code of Ethics will be emphasized. Professionalism, the various roles of a dental hygienist, legal scope of practice, and specialties of dentistry will also be included.

DTHY 185. Oral Anatomy. 2 Hr. PR: Acceptance into dental hygiene. The human neck bones, muscles, nerves, blood supply, lymphatics, glandular tissue, fascia/spaces, TMJ, and spread of dental infection are the focus of this course.

DTHY 186. Dental Anatomy. 2 Hr. PR: DTHY 100 and DTHY 185 and NBAN 301. Classroom and laboratory study of normal human dental morphology, tooth anomalies, pulp function, eruption patterns and occlusal relationships.


DTHY 211. Dental Radiology. 1 Hr. PR: DTHY 210. The application of radiology principles and techniques. Clinical integration and case presentations will be emphasized.
DTHY 220. Dental Nursing Techniques. 2 Hr. PR: Enrollment in dental hygiene. Emergency first aid and principles of nursing applicable to the dental office.

DTHY 225. Dental Hygiene Techniques. 4 Hr. PR: Enrollment in dental hygiene. Fundamental principles and techniques of dental hygiene are presented through lectures, laboratory, and clinical participation.

DTHY 226. Clinical Dental Hygiene. 1 Hr. PR: DTHY 225. This course enables the sophomore dental hygiene student to gain proficiency in the treatment of patients.

DTHY 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

DTHY 300. Anesthesia for Dental Hygiene. 1 Hr. Application of neuroanatomy, physiology, and pharmacology to the administration of regional anesthesia using local anesthetic agents. Management of complications encountered and the techniques of administering these agents will be presented.


DTHY 322. Dental Radiology. 1 Hr. PR: DTHY 320. The application of radiology principles and techniques. Clinical integration and case presentations will be emphasized.


DTHY 351. Dental Health Education. 3 Hr. PR: Enrollment in dental hygiene. Methods, materials, and resources used in teaching dental health to various population groups.

DTHY 360. Dental Materials. 3 Hr. PR: Enrollment in dental hygiene. Lecture and laboratory covering the science and manipulation of dental materials.

DTHY 361. Expanded Functions. 2 Hr. PR: DTHY 360. Lecture and laboratory covering specialty topics in dentistry and four-handed dental assisting. Assisting, and the placing and carving of amalgam and resin restorations in dentiform teeth. (1hr. lec., 4 hr. lab.)

DTHY 363. Periodontics 1. 1 Hr. PR: Enrollment in dental hygiene. Tissues of the periodontium, histopathology of periodontal disease with emphasis on etiology, assessment, diagnosis, treatment, and prevention within the scope of dental hygiene.

DTHY 364. Periodontics 2. 2 Hr. PR: DTHY 363. A sequential course to DTHY 363.

DTHY 366. Technical Expression and Dental Literature. 1 Hr. PR: Dental hygiene major. Preparation and analysis of professional communications.


DTHY 380. Interdisciplinary Approach to Rural Health. 1 Hr. Fundamental principles of and background information on Appalachian history, poverty, and cultural diversity for the assessment of rural health needs. Assess the delivery of health care services and community development in rural settings.

DTHY 402. Dental Hygiene Practice. 2 Hr. PR: Enrollment in dental hygiene. Scope of practice for the dental hygienist including ethical and legal considerations. Public and professional relations as well as practice management are discussed.


DTHY 406. Advanced Clinical Dental Hygiene 2. 3-4 Hr. PR: Fourth year in dental hygiene. Continuation of clinical practice experience in dental hygiene procedures.


DTHY 409. Clinical Dental Hygiene. 1 Hr. PR: DTHY 374. This course enables senior dental hygiene student to gain proficiency in the treatment of patients.

DTHY 410. Clinical Dental Hygiene 3. 1-4 Hr. This course enables the senior dental hygiene degree completion student to maintain proficiency in the treatment of patients.

DTHY 411. Clinical Dental Hygiene 4. 1-4 Hr. This course enables the senior dental hygiene degree completion student to maintain proficiency in the treatment of patients.

DTHY 440. Senior Integration Seminar. 1 Hr. PR: Consent. A thorough analysis and integration of didactic, laboratory and clinical content via lectures, discussions and cases in preparation for licensure.

DTHY 445. Applied Pharmacology. 1 Hr. PR: PCOL 260. Case studies encountered in dental hygiene practice that require critical thinking and decision-making to manage the dental treatment needs and potential complications of patients taking multiple pharmacologic agents.


DTHY 478. Clinical Evaluation. 1 Hr. PR: DTHY 378. Preparation for clinical instruction and evaluation. Emphasis is placed on clinical evaluation procedures, proper instrumentation and the skills/strategies utilized to promote affective and psychomotor skill development in students.

DTHY 482. Intra-Oral Photography. 1 Hr. Deals with the principles and techniques of close-up photography and its application to dentistry.

DTHY 490. Teaching Practicum. 1-3 Hr. Teaching practice as a tutor or assistant.

DTHY 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

DTHY 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

DTHY 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.
DTHY 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

DTHY 496. Senior Thesis. 1-3 Hr. PR: Consent.

DTHY 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Design and Merchandising (DSM)**

DSM 101. Introduction Design & Merchandising. 2 Hr. Provides an introduction to the educational culture in the Division of Design and Merchandising.

DSM 199. Orientation to Family and Consumer Sciences. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

DSM 261. Family Economics. 3 Hr.

DSM 265. Family Resource Management. 3 Hr. Develops an understanding of the systems approach to individual and family resource management with a focus on key concepts, processes, and contributing factors. Time management and money management are dealt with in depth.

DSM 267. Household Equipment. 3 Hr. A consumer approach to evaluating portable and major household equipment with a focus on concern for energy efficiency, safety, task performance, ecological impact, and use and care.

DSM 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

DSM 361. Consumer Economics. 3 Hr. Develops an understanding of the consumer’s role in our economy by examining the nature and function of the marketplace; the existence and impact of governmental consumer regulations and laws and; and consumer interests, buying behaviors, rights, responsibilities, and remedies.

DSM 381. Issues in Consumer Sciences. 3 Hr. PR: Senior standing or consent. Examines the process of socialization for the professional role within the context of social change and current trends affecting families in the U.S. and overseas.

DSM 460. Communications of Consumer Information. 3 Hr. Provides opportunities to use a variety of communication techniques in professional settings to meet the informational needs of consumers.

DSM 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

DSM 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

DSM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

DSM 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

DSM 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

DSM 496. Senior Thesis. 1-3 Hr. PR: Consent.

DSM 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
Design Studies (DSGN)
DSGN 280. Sustainable Design and Development. 3 Hr. An overview of social, environmental and economic aspects of the built environment. Site considerations, infrastructure, green buildings, marketing, financing, community. (Local field trips possible.)

DSGN 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

DSGN 315. Survey of Non-Western Design. 3 Hr. This course examines design from beyond the tradition of Western civilization. Students will study interior design, architecture, and art as shaped by religious beliefs, political systems, and geographical context.

DSGN 340. Design for Energy Efficiency. 3 Hr. An overview of energy efficiency in residential and small commercial settings. Energy, building shell, air leakage, insulation, hvac, lighting, appliances, water heating, indoor air quality. (Local field trips possible.)

DSGN 491. Prof Field Experience Capstone. 1-18 Hr. PR: Consent. (May be repeated up to a max of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

DSGN 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

DSGN 494. Seminar: Capstone. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

Disability Studies (DISB)
DISB 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

DISB 304. Special Education in Contemporary Society. 3 Hr. Special education principles and practices, interactions between disability and diversity in identification and intervention, and influences of family, professional, school, and community infrastructures on educational programs/outcomes for children and adults.

DISB 380. Disability and the Family. 3 Hr. This course is designed to familiarize the students with developmental disabilities and their impact on families. Interdisciplinary family-centered care is emphasized, along with how to access resources to meet the needs of children and families.

DISB 381. Lifespan Disability Policy. 3 Hr. Overview of health, education, financial and related policies impacting individuals with disabilities across the lifespan and at the federal, state, and local levels.

DISB 385. Disability and Society. 3 Hr. This course provides a global, interdisciplinary overview of issues and policies that are the concern of individuals with disabilities (e.g., public policy, health-related issues, employment, and social benefits).

DISB 482. Disability in the Community. 2 Hr. PR: Consent. This course offers service learning experiences in the community with persons who have a disability. (Grading will be satisfactory/unsatisfactory).

DISB 486. Capstone Portfolio: Disability. 1 Hr. This undergraduate capstone for the interdisciplinary certificate program in disability studies culminates with a written essay, a presentation, and a portfolio. (Grading will be satisfactory/unsatisfactory).
Economics (ECON)

ECON 111. The Economic System. 3 Hr. Introduction to the analysis of the economic system. Pricing system, monetary system, determination of national income and employment.

ECON 201. Principles of Microeconomics. 3 Hr. PR: Sophomore standing. Introductory microeconomics analysis. Competitive behavior of firms, price determination, efficiency in production and equity in distribution. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

ECON 202. Principles of Macroeconomics. 3 Hr. PR: ECON 201. Introductory macroeconomics analysis. Aggregate demand and supply, saving, investment, the level of employment and national income determination, monetary and fiscal policy. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

ECON 225. Elementary Business and Economics Statistics. 3 Hr. PR: Sophomore standing and MATH 126 with grade of C or better or MATH 129 with grade of C or better or MATH 154 with grade of C or better or MATH 154 with grade of C or better or MATH 155 or MATH 156 or MATH 156. Basic concepts of statistical models, distributions, probability, random variables, tests of hypotheses, confidence intervals, regression and correlation with emphasis on business and economic examples. (Equivalent to STAT 211.)

ECON 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ECON 301. Intermediate Micro-Economic Theory. 3 Hr. PR: ECON 201. Consumer choice and demand; price and output determination of the firm, and resource allocation, under different market structures; welfare economics, externalities, public goods, and market failure; general equilibrium; other topics.

ECON 302. Intermediate Macro-Economic Theory. 3 Hr. PR: ECON 201 and ECON 202. Forces which determine the level of income, employment, output, the inflation rate, and the balance of trade. Particular attention to consumer behavior, investment determination, and government fiscal and monetary policy.


ECON 331. Money and Banking. 3 Hr. PR: ECON 201 and ECON 202. The U.S. monetary and banking system and its functional relationship to the economic system; monetary theory and policy.

ECON 411. Moral Foundations of Capitalism. 3 Hr. PR: ECON 201 and ECON 202. Introduction to the moral foundations of capitalism. Compare and contrast alternative ethical systems using economic analysis when relevant.

ECON 421. Introduction to Mathematical Economics. 3 Hr. PR: ECON 202 and (MATH 150 or MATH 155 or MATH 156.) Principal mathematical techniques including set operation, matrix algebra, differential and integral calculus employed in economic analysis. Particular attention given to static (or equilibrium) analysis, comparative-static analysis and optimization problems in economics.


ECON 441. Public Economics. 3 Hr. PR: ECON 202. Economic roles of the public sector. Particular attention to market failure, redistributing income, the financing of public sector activities, relationships between federal, state, and local governments, and public choice.

ECON 446. Transportation Economics. 3 Hr. PR: ECON 202. Economic and institutional analysis of the domestic transportation system of the United States. Topics include role of transportation, carrier characteristics and services, transportation rates and costs, regulation of transportation.

ECON 447. Economics of Travel & Tourism. 3 Hr. PR: ECON 201. Application of economic analysis to travel and tourism. Topics include consumer demand and business firm behavior in the travel and tourism industry, pricing, and role of government in the industry.


ECON 452. Economics of Cuba. 3 Hr. PR: ECON 201 and ECON 202 or consent. CoReq: HIST 242 or POLS 355. The Cuban economy during the socialist period with focus on the crisis period after the loss of Soviet subsidies. This course requires travel to Cuba.

ECON 453. Economic Transition in Europe. 2 Hr. PR: ECON 201 and ECON 202. Socialism and transition from socialism to capitalism. The experiences of the European transitional economies. Requires travel to one of the transitional economies at the student’s expense.

ECON 453A. Economic Transition in Europe - Travel. 1 Hr. PR: ECON 201 and ECON 202. Socialism and transition from socialism to capitalism. The experiences of the European transitional economies. Requires travel to one of the transitional economies at the student’s expense.


ECON 455. Economic Development. 3 Hr. PR: ECON 202. The problems, changes, and principal policy issues faced by non-industrialized countries.

ECON 461. Regional Economics. 3 Hr. PR: ECON 202. Analysis of the regional economy’s spatial dimension, emphasizing interregional capital and labor mobility, the role of cities, objectives and issues of regional policy, lagging regions and Appalachia, growth poles, and regional growth and income distribution.

ECON 462. Urban Economics. 3 Hr. PR: ECON 202. Analyzes growth, decline, and socioeconomic problems of cities. Topics include the development of cities, urban spatial structure and land-use patterns, poverty and discrimination, housing, urban transportation and congestion, local government structure, and urban fiscal problems.

ECON 471. Labor Economics. 3 Hr. PR: ECON 202. Labor market analysis. Topics include wage and employment determination, human capital theory, discrimination, unemployment, migration, effects of unions and government regulation, and life-cycle patterns of work.

ECON 481. American Economic History. 3 Hr. PR: ECON 220. Central issues in the development of the American economy.

ECON 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ECON 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ECON 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ECON 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.
ECON 495. Independent Study. 1-6 Hr. PR: Consent. Faculty supervised study of topics not available through regular course offerings.

ECON 496. Senior Thesis. 1-3 Hr. PR: Consent.

ECON 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Education (EDUC)**

EDUC 100. Education Colloquium. 1 Hr. Components of and requirements for the teacher preparation program, including specializations, professional organizations, requirements for admission to the major, avenues to program completion, and requirements for work with children or youth.

EDUC 200. Professional Inquiry in Education. 3 Hr. PR: EDUC 100 and ENGL 101 and ENGL 102. An examination of students' preconceptions about education and their socialization process relative to the following; aims and purposes of public education, students as learners, curriculum, instruction.

EDUC 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

EDUC 301. Learning in Educational Settings. 3 Hr. Examination and utilization of behavioral and cognitive learning models; consideration of learner characteristics and other factors affecting student learning.

EDUC 311. Practicum 1/Technology App. 1 Hr. PR: EDUC 200. Application of models and paradigms of learning in content area and instructional technologies through tutoring of individuals and small groups in an assigned public school site.

EDUC 312. Practicum 2/Technology App. 1 Hr. PR: EDUC 301 and EDUC 311. Application of paradigms of learning in content area and instructional technologies through tutoring of individuals and small groups in an assigned public school site.

EDUC 400. Instructional Design and Evaluation. 3 Hr. PR: Admission to the major and a grade of a C or better in both EDUC 302 and EDUC 312. Examination and demonstration of teacher behaviors required to plan classroom instruction, assess student learning, and evaluate instruction; emphasis on instruction, assessment, and evaluation to accommodate a wide range of student needs.

EDUC 401. Managing and Organizing Learning Environments. 3 Hr. PR: Admission to the major and a grade of C or better in EDUC 400 and PR or CONC: EDUC 410. Examination of research and practice in organizing and managing school learning environments to produce optimal learning; development of management systems congruent with personal philosophy, research, learner characteristics, and content area.

EDUC 405. Issues in Middle School Education. 2 Hr. PR: EDUC 302. An analysis of the special needs of middle age students and the curriculum and strategies advocated for use in a middle school. Required for all students with a 5 - 8 content specialization.

EDUC 410. Practicum 3/Technology App. 2 Hr. PR: EDUC 312 and EDUC 400. Planning and implementing content area instruction, applying different instructional models, instructional technologies, and assessment techniques to small and large groups in an assigned public school site.

EDUC 411. Practicum 4/Technology App. 4 Hr. PR: EDUC 410 and SPED 360. Planning and implementing content area instruction, applying various management, instruction, instructional technologies, and assessment models to small and large groups in an assigned public school site.
EDUC 414. Promoting Creative Expression in Elementary Classrooms. 3 Hr. PR: EDUC 410. Includes an examination of creative experiences for children in elementary school, pre-school - grade 6. Topics include the use of the creative arts in learning activities, curriculum development, and instructional strategies.

EDUC 430. Mathematics Methods for Elementary Teachers. 3 Hr. PR: EDUC 312. Students will examine the content and pedagogy appropriate for mathematics instruction in the elementary grades. Emphasis is placed on the current reform movements in mathematics education.

EDUC 440. Elementary-Early Childhood Science Methods. 3 Hr. PR: EDUC 312. Provides students with the knowledge, skills and affective qualities needed to be an effective elementary science teacher and be committed to teaching science in the elementary classroom.

EDUC 450. Issues and Methods for Teaching Elementary Social Studies. 3 Hr. PR: EDUC 410. Students examine issues facing social studies education and evaluate and plan lessons and instructional activities that apply learning theory to the philosophy and standards of social studies education for all elementary students.

EDUC 460. Foundations of Language and Literacy. 3 Hr. PR: EDUC 200 and EDUC 311. This course focuses on foundations of language and literacy development. Students construct philosophies, approaches, and strategies to promote development of literacy in the young child. Focus will include the larger contexts of literacy including home and community.

EDUC 461. Promoting Literacy Connections. 3 Hr. PR: EDUC 460. This course emphasizes the development of literacy in the elementary setting. Students will develop and refine philosophies, approaches, and strategies to promote the development of literacy in the primary grades. Focus will include the larger contexts of literacy including content literacy, thematic instruction, and the teacher’s leadership role.

EDUC 498. Honors. 1-3 Hr. PR: Students in honors program and consent by the honors director. Independent reading, study or research.

Education Leadership Studies (EDLS)
EDLS 493 A-Z. Special Topics. 1-6 Hr. A study of contemporary topics selected from recent developments in the field.

Educational Psychology (EDP)
EDP 101. Learning Strategies for Academic Success. 3 Hr. The purpose of the course is to help students develop active learning strategies that are research-based and appropriate for the college curriculum that will enable them to achieve academic success.

EDP 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

EDP 393 A-Z. Special Topics. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

EDP 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

EDP 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

EDP 493 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

EDP 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.
EDP 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

EDP 496. Senior Thesis. 1-3 Hr. PR: Consent.

EDP 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Electrical Engineering (EE)**

EE 221. Introduction to Electrical Engineering. 3 Hr. PR: PHYS 111 and MATH 156. Electrical engineering units, circuit elements, circuit laws, measurement principles, mesh and node equations, network theorems, operational amplifier circuits, energy storage elements, sinusoids and phasors, sinusoidal steady state analysis, average and RMS values, complex power, (3 hr. lec.) Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

EE 222. Introduction to Electrical Engineering Laboratory. 1 Hr. CoReq: EE 221. Design and experimental exercises basic electrical circuits. Use of the digital computer to solve circuit problems. (3 hr. lab.)

EE 223. Electrical Circuits. 3 Hr. PR: EE 221 and EE 222 and PHYS 112 and MATH 251. Time response of RC and RL circuits, unit step response, second order circuits, poly-phase systems, mutual inductance, complex frequency, network frequency response, two-port networks and transformers. Fourier methods and Laplace Transforms.

EE 224. Electrical Circuits Laboratory. 1 Hr. CoReq: EE 223. Design and experimental exercises in circuits. Transient circuits, steady state AC circuits, frequency response of networks. Use of digital computer to solve circuit problems. (3 hr. lab.)

EE 251. Digital Electronics. 3 Hr. PR: EE 221 and CPE 271 and PHYS 112. Diode and bipolar and field-effect transistor device operation and switching models. Use of bipolar and field-effect transistors and diodes in switching and logic circuits. Switching circuits and logic gates including logic levels, circuit configuration, and interfacing. (3 hr. lec.)

EE 252. Digital Electronics Laboratory. 1 Hr. CoReq: EE 251. Design, fabrication, and measurement of digital electronic circuits. Modeling and use of discrete devices, logic gates, display devices in switching circuits and timer circuits, Interfacing with integrated logic gates. (3 hr. lab.)

EE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

EE 311. Junior Instrumentation Lab. 1 Hr. PR: EE 221 and EE 222. Students learn about industrial automation systems using data collection and control systems. Specific topics include PLCs (basic ladder diagrams, I/O, timers, counters, communications, and applications); measurement principles including standards, transducers, actuators, interference and noise.

EE 327. Signals and Systems 1. 3 Hr. PR: MATH 261 and EE 223. Introduction to linear system models and solutions in the time and frequency domains. Balanced emphasis is placed on both continuous and discrete time and frequency methods. (3 hr. lec.)

EE 328. Signals and Systems Laboratory. 1 Hr. PR: EE 327 and CoReq: EE 329. Laboratory experiments in measurement and analysis of systems and signals. (3 hr. lab.)

EE 329. Signals and Systems 2. 3 Hr. PR: EE 327 and STAT 215. Analysis of continuous and discrete time systems. Block diagrams, stability, feedback control. Statistical description of nondeterministic signals, correlation functions, and spectral density, concepts applied to communication and feedback systems. (3 hr. lec.)

EE 335. Electromechanical Energy Conversion and Systems. 3 Hr. PR: EE 223 and EE 224 and PHYS 112. Electric energy sources, fundamentals of electromechanical energy conversion, transformers and rotating machinery, transmission line parameters. (3 hr. lec.)

EE 345. Engineering Electromagnetics. 3 Hr. PR: MATH 261 and PHYS 112. Continued use of vector calculus, electrostatics, magnetostatics, Maxwell's Equations, and boundary conditions. Introduction to electromagnetic waves, transmission lines, and radiation from antennas.

EE 355. Analog Electronics. 3 Hr. PR: EE 223 and EE 251. Electronic devices in analog circuits. Small-signal and graphical analysis of BJT and FET circuits; frequency response, feedback, and stability. Linear and nonlinear operational amplifier circuits. Power amplifiers and power control by electronic devices. (3 hr. lec.)

EE 356. Analog Electronics Laboratory. 1 Hr. CoReq: EE 355. Design, fabrication, and measurement of analog electronic circuits. Use of discrete devices, integrated circuits, operational amplifiers, and power electronic devices. Study of biasing and stability, frequency response, filters, analog computation circuits, and power control circuits. (3 hr. lab.)

EE 411. Fundamentals of Control Systems. 3 Hr. PR: EE 327. Introduction to classical and modern control; signal flow graphs; state-variable characterization; time-domain, root locus, and frequency techniques; stability criteria. (3 hr. lec.)

EE 413. Introduction to Digital Control. 3 Hr. PR: EE 327. Sampling of continuous-time signals and transform analysis. Stat-variable analysis for linear discrete-time systems and design of digital controller. (3 hr. lec.)

EE 425. Bioengineering. 3 Hr. Introduction to human anatomy and physiology using an engineering systems approach. Gives the engineering student a basic understanding of the human system so that the student may include it as an integral part of the design. Co-listed with MAE 473. (3 hr. lec.)

EE 426. Biometric Systems. 3 Hr. PR: STAT 215 and MATH 261 and CS 111. It is also suggested (not required) that EE 327 and CS 350 also be taken prior to enrolling in this course. This course presents an introduction to the principles of operation, design, testing, and implementation of biometric systems, and the legal, social and ethical concerns associated with their use.

EE 431. Electrical Power Distribution Systems. 3 Hr. PR: EE 335 and EE 336 or consent. General considerations; load characteristics; subtransmission and distribution substations; primary and secondary distribution, secondary network systems; distribution transformers; voltage regulation and application of capacitors; voltage fluctuations; protective device coordination. (3 hr. lec.)

EE 435. Introduction to Power Electronics. 3 Hr. PR: EE 335 and EE 355 and EE 356 or consent. Application of power semiconductor components and devices to power system problems; power control; conditioning processing, and switching. Course supplemented by laboratory problems. (3 hr. lec.)

EE 436. Power Systems Analysis. 3 Hr. PR: EE 335 and EE 336. Incidence and network matrices, Y-Bus, symmetrical and unsymmetrical faults, load-flow and economic dispatch, MW-frequency and MVAR-voltage control. The power system simulator will be used for demonstrations. (3 hr. lec.)

EE 437. Fiber Optics Communications. 3 Hr. PR: EE 329 and EE 345. Fundamentals of optics and light wave propagation, guided wave propagation and optical wave guides, light sources and light detectors, couplers, connections, and fiber networks, modulation noise and detection in communication systems. (3 hr. lec.)

EE 445. Introduction to Antennas. 3 Hr. PR: EE 345 or equivalent. Development of Maxwell's equations and general electromagnetic theory underpinning broadcast communication systems, wave propagation, antennas and antenna arrays.

EE 447. Introduction to Antennas. 3 Hr. PR: EE 445 or equivalent. Development of Maxwell's equations and general electromagnetic theory underpinning broadcast communication systems, wave propagation, antennas and antenna arrays.
EE 450. Device Design and Integration. 3 Hr. PR: EE 345 and EE 355. Fundamentals of semiconductor materials, p-n junctions, metal-semiconductor junctions, JFET’s, MESFET’s, MOSFET’s, physical device design, device simulation, gate level & CMOS design and layout. (3 hr. lec.)

EE 455. Introduction to Microfabrication. 3 Hr. PR: EE 355 or consent. Introduction to the physical processes underlying current and emerging microfabrication technology and their selective use in the technology computer aided design (TCAD) and fabrication of electrical, optical, and micromechanical devices and systems.

EE 457. Fundamentals of Photonics. 3 Hr. PR: EE 345 or equivalent. Basic physics and optical engineering concepts necessary to understand the design and operation of photonic-based systems, including communications, nanophotonics, sensing and display technologies. Scaling, integration, and packaging of optical approaches and their compatibility with micro/nanosystems.

EE 461. Introduction to Communications Systems. 3 Hr. PR: EE 329. Introduction to the first principles of communications systems design. Analysis and comparison of standard analog and pulse modulation techniques relative to bandwidth, noise, threshold, and hardware constraints. Communications systems treated as opposed to individual circuits and components of the system. (3 hr. lec.)

EE 463. Digital Signal Processing Fundamentals. 3 Hr. PR: MATH 251 and EE 327. Theories, techniques, and procedure used in analysis, design, and implementation of digital and sampled data filters. Algorithms and computer programming for software realization. Digital and sampled data realizations, switched capacitor and charge-coupled device IC’s. (3 hr. lec.)

EE 465. Introduction to Digital Image Processing. 3 Hr. PR: EE 251 and EE 327. Introduction to the vision process fundamental mathematical characterization of digitized images, two-dimensional transform methods used in image processing, histogram analysis and manipulation, image and filtering techniques, image segmentation, and morphology. (3 hr. lec.)

EE 467. Digital Speech Processing. 3 Hr. PR: EE 327 and EE 329. Covers fundamentals in digital speech processing including production, speech analysis, speech coding, speech enhancement, speech recognition and speaker recognition. Emphasize hand-on experience of processing speech signals using MATLAB.

EE 480. Senior Design Seminar. 1-3 Hr. PR: ENGL 102 or consent. Penultimate semester. Group senior design projects with individual design assignments appropriate to student's discipline. Complete system-level designs of the subsequent semester’s project presented in written proposals and oral presentations. (Equivalent to BIOM 480, CPE 480, CS 480) (2 hr. lec., 1 hr. conf.) Note: WVU Tech course is 3 credit hours.

EE 481. Senior Design Project. 3 Hr. PR: EE 480. Continuation of EE 480. Detailed design and implementation of the system including choice of components, algorithm development, interfacing, trouble shooting, working in groups, and project management. Also covers professional topics, including ethics, liability, safety, socio-legal issues, risks and employment agreements. (1 hr. lec., 1 hr. conf., 2 hr. lab.)

EE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

EE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

EE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

EE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.
EE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

EE 496. Senior Thesis. 1-3 Hr. PR: Consent.

EE 497. Research. 1-6 Hr. PR: Consent. Independent research projects.

EE 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Engineering (ENGR)**

ENGR 100. Introduction to Engineering Applications. 3 Hr. CoReq of MATH 126A or MATH 126B or MATH 126C or MATH 128 or or MATH 129 or consent. Introduction to basic problem solving of engineering applications using algebra and trigonometry.


ENGR 102. Engineering Problem-Solving 2. 3 Hr. PR: ENGR 101 and MATH 155 with a C or higher. Continued development of engineering problem-solving, teamwork, and communication skills with emphases on using the computer as a tool and algorithm development with a high-level language such as MATLAB.

ENGR 103. Intro to Nanotechnology Design. 3 Hr. PR: ENGR 101 and (MATH 153 or MATH 155 with a C or better). Continued development of engineering problem-solving, teamwork, and communication skills with emphasis on the fundamentals of nanotechnology design, using the computer as a tool, and algorithm development with a high-level language such as MATLAB.

ENGR 129. Engineering Math. 1 Hr. PR: Consent. Review of key pre-calculus and early calculus concepts and topics for engineering students.

ENGR 150. Academic Success Skills. 1 Hr. The development of academic skills that are needed to be a successful engineering student.

ENGR 199. Orientation to Engineering. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, students responsibilities, and opportunities. Development of academic success strategies and University experiences to equip students to make life decisions.

ENGR 280. Sophomore Nanoscience Seminar. 1 Hr. PR: ENGR 103. Introduces students to the original nanoscale science and engineering literature, including research on social, ethical and economic issues, and develops skills in interdisciplinary team building.

ENGR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ENGR 380. Junior Nanoscience Seminar 1. 1 Hr. PR: ENGR 280. Familiarizes students with science and engineering that is being carried out in the laboratories at WVU, and helps students understand the importance of other disciplinary approaches to nanoscale science and engineering.

ENGR 381. Junior Nanoscience Seminar 2. 1 Hr. PR: ENGR 380. This course matches students with appropriate host laboratories in preparation for their senior research project. It fosters appreciation for the importance of the disciplinary fundamentals learned in the development of nanoscale science and engineering.

ENGR 463. Find an Engineering Job/Internship. 1 Hr. Assist engineering or computer science students in finding an engineering job or internship. Topics covered are resume and cover letter writing, interviewing skills, looking for a job, and assessing job offers.
ENGR 470. Fluid Mechanics Videos 1. 1 Hr. Videos and discussion illustrate phenomena such as turbulence, compressibility and surface tension. Supplements MAE 331 and MAE 335 and CE 321 and CE 322 and CE 522. Does not satisfy AE, CE or ME technical elective requirement.

ENGR 471. Fluid Mechanics Videos 2. 1 Hr. Videos and discussion illustrate phenomena such as turbulence, compressibility and surface tension. Supplements MAE 331 and MAE 335 and CE 321, CE 322 and CE 522. Does not satisfy AE, CE, or ME technical elective requirement.

ENGR 488. Cooperative (Co-Op) Education Experience. 1-18 Hr. PR: Consent. Prearranged co-op experience in student’s major. Involves placement in public or private enterprise, supervision, and evaluation for credit by faculty and employer.

ENGR 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ENGR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ENGR 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ENGR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings

ENGR 496. Senior Thesis. 1-3 Hr. PR: Consent.

ENGR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

English (ENGL)

ENGL 101. Composition and Rhetoric. 3 Hr. A course in writing non-fiction prose, principally the expository essay. Required of all bachelor’s degree candidates unless the requirement is waived under regulations prevailing at the time of admission. (Note: Entering freshmen who score 18 or below on the ACT English (or 450 or below on the SAT verbal) may not register for ENGL 101 until they demonstrate requisite skills on the English department’s writing placement test. Because of anticipated revisions in SAT or ACT scores, these scores are subject to change. Students should contact the English department for more current information.) Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

ENGL 102. Composition and Rhetoric. 3 Hr. PR: ENGL 101 or equiv. Writing college-level research papers based on argumentative models. Precision in footnotes, bibliographies, usage, punctuation, and stylistics assumed. Required of all bachelor’s degree candidates unless the requirement is waived under regulations prevailing at the time of admission.

ENGL 103. Accelerated Academic Writing. 3 Hr. PR: Consent. An accelerated 3-credit hour composition course for students who have already demonstrated a certain level of writing proficiency. English 103 satisfies WVU’s introductory writing requirement by emphasizing both expository writing and researched argumentative writing.

ENGL 111. Introduction to Creative Writing. 3 Hr. Instruction in reading and writing fiction, nonfiction and poetry in order to enhance creative writing skills.

ENGL 131. Poetry and Drama. 3 Hr. An introduction to the genres.

ENGL 132. Short Story and Novel. 3 Hr. An introduction to the genres.

ENGL 154. African American Literature. 3 Hr. A historical introduction and survey from its beginnings to the present.

ENGL 156. Literature of Native America. 3 Hr. A historical survey of Native American prose, poetry, song, and story from the beginning to the present.

ENGL 199. Orientation to English Studies. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

ENGL 200. Foundations of Literary Study. 3 Hr. Study and practice of the analytical, research, and writing skills fundamental to literary studies.

ENGL 201. Advanced Composition. 3 Hr. PR: (ENGL 101 and ENGL 102) or ENGL 103. Composition for students who wish to develop their expository and argumentative writing skills.

ENGL 211. Sturm Workshop. 1 Hr. PR: Consent. Creative writing workshop conducted by Sturm visiting writer in residence.

ENGL 212. Creative Writing: Fiction. 3 Hr. An open enrollment introduction to the writing of fiction.

ENGL 213. Creative Writing: Poetry. 3 Hr. An open enrollment introduction to the writing of poetry; practice in the basics of image, metaphor, line, form, sound and voice.

ENGL 214. Creative Writing: Non-Fiction. 3 Hr. Introductory course in the writing of non-fiction.

ENGL 221. The English Language. 3 Hr. PR: ENGL 101 and sophomore standing. An introduction to language, its structure in the mind, and its use in the United States.

ENGL 225. Western World Literature. 3 Hr. Selected readings in the canon of Western world literature, both ancient and modern.

ENGL 226. Non-Western World Literature. 3 Hr. Selected readings in non-Western world literature, ancient and modern.

ENGL 230. Film Studies. 3 Hr. Topics in the study of film, or film and literature, in a historical, theoretical and/or cultural context.

ENGL 232. Poetry. 3 Hr. Appreciation and enjoyment of poems through critical and analytical reading. Studies in the various types of poetry, and of the language, imagery, and techniques of poetic expression.

ENGL 233. The Short Story. 3 Hr. The short story’s structure, history, and contemporary forms.

ENGL 234. Drama. 3 Hr. The drama’s structure, history, and contemporary forms.

ENGL 235. Novel. 3 Hr. The novel’s structure, history, and contemporary forms.

ENGL 236. The Bible as Literature. 3 Hr. Analysis of the themes, topics and literary genres of the Old and New Testaments. Issues to be discussed include the unity of the text, the status of authorship, translation, and the depiction of God.

ENGL 241. American Literature 1. 3 Hr. A historical introduction and survey from its beginnings to the mid-nineteenth century.

ENGL 242. American Literature 2. 3 Hr. A historical introduction and survey from the mid-nineteenth century to the present.

ENGL 251. American Folklore and Culture. 3 Hr. Introduction to folklore of the USA. Folklore and American culture. Subject groups vary but usually include Native Americans, early European settlers, African Americans, and 20th century immigrants.
ENGL 252. Appalachian Fiction. 3 Hr. Reading of short stories, novels, and other narratives by Appalachian authors.

ENGL 253. Southern Writers. 3 Hr. Twentieth-century Southern essayists, poets, short story writers and novelists in relation to ideological background.

ENGL 254. African American Literature. 3 Hr. Studies in the literature of African American authors, 1845 to the present.

ENGL 255. Multiethnic Literature. 3 Hr. This course examines literature by Americans of diverse ethnicities including, but not limited to, Asian Americans, Latinos, Native Americans, African Americans, and European Americans of various class/religious/regional backgrounds.

ENGL 257. Science Fiction and Fantasy. 3 Hr. A study of the history and nature of science fiction from H. G. Wells to the present, with special attention to features of prose narration.

ENGL 258. Popular American Culture. 3 Hr. A survey of modern popular American culture from 1940 to the present, with special emphasis on popular literature, music, television, movies, radio in its golden age, and comic books.

ENGL 261. British Literature 1. 3 Hr. A historical introduction and survey from the Middle Ages through the eighteenth century.

ENGL 262. British Literature 2. 3 Hr. A historical introduction and survey from the late eighteenth century to the present.

ENGL 263. Shakespeare 1. 3 Hr. Several of Shakespeare’s most important plays.

ENGL 272. Modern Literature. 3 Hr. British and American poetry, drama, and fiction from 1900 to 1960.

ENGL 273. Contemporary Literature. 3 Hr. An examination of the literature written since 1960 in England and America. Poetry, drama, and fiction. Selections will vary depending on the instructor.

ENGL 285. Images of Women in Literature. 3 Hr. Representative literary works studied against a backdrop of social and historical documents to examine the effect of images of women in literature on the self-image of women today.

ENGL 288. Sexual Diversity in Literature and Film. 3 Hr. Representation of lesbians, gay men, and bisexuals in literature and film.

ENGL 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ENGL 301. Writing Theory and Practice. 3 Hr. PR: (ENGL 101 and ENGL 102) or ENGL 103. Tradition and contemporary approaches to rhetoric and writing theory for professional writing and editing students who wish to develop their abilities to analyze and produce written texts.

ENGL 302. Editing. 3 Hr. A comprehensive approach to editing, including the correctness and effectiveness of a document, information design, and editorial responsibility. Students gain a realistic perspective on workplace practice through real-world scenarios, case studies, and technological applications.

ENGL 303. Multimedia Writing. 3 Hr. Study of communication and design issues in multimedia composition. Focuses on communication, creative expression, persuasion, interactivity, and rhetorical principles. Practice in composing multimedia documents such as online publications, interactive literary works, and tutorials.

ENGL 304. Business and Professional Writing. 3 Hr. PR: (ENGL 101 and ENGL 102) or ENGL 103. Students will analyze different writing contexts, meet the needs of different audiences, and organize and present material in letters, memos, and reports. Includes some research, Internet components, and a review of style, grammar and usage.
ENGL 305. Technical Writing. 3 Hr. PR: (ENGL 101 and ENGL 102) or ENGL 103. Writing in scientific and technical fields. Introduces students to typical genres, workplace practices, document design, and conventions of writing for experts and non-experts.

ENGL 306. Topics in Humanities Computing. 3 Hr. Topics include: Literary studies (electronic publications, web-based interactive fiction, poetry, drama, nonfiction), creative writing in digital media, composition online, pedagogy, cultural studies of electronic media, online communications, language studies. Topics rotate; check with the instructor for current topic.

ENGL 309. Approaches to Teaching Composition. 3 Hr. PR: ENGL 201. (May not be taken for both undergraduate and graduate credit.) Surveys attitudes toward and techniques of teaching writing in elementary and secondary schools. Provides experiment in class with methods of teaching writing.

ENGL 312. Creative Writing Workshop: Fiction. 3 Hr. PR: Grade of B or higher in ENGL 212. Advanced workshop in creative writing for students seriously engaged in writing fiction.

ENGL 313. Creative Writing Workshop: Poetry. 3 Hr. PR: Grade of B or higher in ENGL 213. Advanced workshop in creative writing for students seriously engaged in the writing of a major group of poems.

ENGL 314. Creative Writing Workshop: Non-Fiction. 3 Hr. PR: Grade of B or higher in ENGL 212 or ENGL 213 or ENGL 214. Advanced workshop in creative writing for students seriously engaged in the writing of nonfiction.

ENGL 318. Topics in Creative Writing. 3 Hr. (May be repeated for a maximum of 9 hours.) Advanced work in creative writing; course content changes with genre: fiction, poetry, non-fiction.

ENGL 321. History of the English Language. 3 Hr. Study of the nature of the language; questions of origins, language families, development, relationships of English as one of the Indo-European languages.

ENGL 329. Topics in English Language. 3 Hr. This course rotates a set of topics offering students field-specific approaches to the study of the English language. Students engage the language through active research paradigms focusing on the social context of the language.

ENGL 331. Topics in Genre. 3 Hr. This variable-topic course will trace formal and thematic conventions in poetry, drama, prose, fiction, and/or nonfiction.

ENGL 337. Study of a Major Author. 3 Hr. PR: ENGL 102 or ENGL 103. Study a single author’s works with special attention to historical contexts and critical reception. Authors will vary.

ENGL 339. Theatre Tour. 2 Hr. Introduces students to texts in performance by reading dramatic texts and traveling to see those texts in performance. Performance sites may include either international or U.S. locations.

ENGL 339A. Theatre Tour Travel. 1 Hr. Must be taken with ENGL 339.

ENGL 342. American Drama. 3 Hr. Representative American dramas and history of theatre in America.

ENGL 343. American Poetry. 3 Hr. Major American poets of the nineteenth and twentieth centuries.

ENGL 344. Modern American Poetics. 3 Hr. A close study of those poets who have shaped the aesthetics of contemporary American poetry.

ENGL 345. American Literature to 1800. 3 Hr. Major genres, authors, themes, and topics in American literature, c. 1500 to 1800.

ENGL 346. American Literature 1800-1865. 3 Hr. Major genres, authors, themes and topics in American Literature from 1800 to 1865.
ENGL 347. American Literature 1865-1915. 3 Hr. Major genres, authors, themes, and topics in American Literature from 1865 to 1915.

ENGL 348. 20th Century American Literature. 3 Hr. Major genres, authors, themes, and topics in American literature from 1900 to 1999.

ENGL 349. Contemporary American Literature. 3 Hr. Completes the American literature sequence with an examination of stories, novels, poetry and drama (stage and screen) of the period from 1960 to present.

ENGL 351. Folk Literature. 3 Hr. The folk ballad, its origin, history, and literary significance, based on Child’s collection and on American ballad collections.

ENGL 352. Topics in Appalachian Studies. 3 Hr. Studies of authors, genres, themes, or topics in Appalachian literature.

ENGL 354. Topics in African American Literature. 3 Hr. This course examines a specific aspect of African American literature and/or culture. Topics vary from semester to semester.

ENGL 355. Topics in Multiethnic Literature. 3 Hr. PR: ENGL 102 or ENGL 103. Specialized topics course reflective of current issues in multiethnic literature and culture. Topics vary per semester.

ENGL 356. Topics in Native American Literature. 3 Hr. Specialized topics courses reflecting current trends and issues in Native American literature and culture. Subjects vary per semester.

ENGL 360. Literature of the Middle Ages. 3 Hr. Literature of the period 1066-1485 in relation to the cultural transformations of the time. Course emphases may include (but are not limited to) Arthurian romance, the “mystery” plays, crusade narratives, political ballads, and women’s writings.

ENGL 361. Chaucer. 3 Hr. Early poems, Troilus and Criseyde, and The Canterbury Tales. In addition to an understanding and appreciation of Chaucer’s works, the student is expected to acquire an adequate knowledge of Chaucer’s language.

ENGL 362. Literature of the 16th Century. 3 Hr. Studies from Caxton to Bacon, from Skelton to Shakespeare.

ENGL 363. Shakespeare 2. 3 Hr. Advanced studies in Shakespeare’s plays and non-dramatic poetry. Methodological emphases vary per semester, including textual, historical, dramaturgical and postcolonial approaches.

ENGL 364. Literature of the 17th Century. 3 Hr. Studies from Donne to Dryden.

ENGL 365. Milton. 3 Hr. All of Milton’s poems and a few selected prose works.

ENGL 366. Literature of the Eighteenth Century 1. 3 Hr. Literature of the period 1660-1744 in relation to social, political, and religious movements of the time.

ENGL 367. Literature of the Eighteenth Century 2. 3 Hr. Continuation of ENGL 366, covering the latter half of the century. May be taken independently of ENGL 366.

ENGL 368. The Romantic Movement. 3 Hr. A survey of the works of the major British Romantic writers along with an introduction to works of scholarship in British Romanticism.

ENGL 369. Victorian Literature. 3 Hr. Study of Victorian poets and prose writers with an emphasis on historical, political, and cultural issues. Representative authors may include: Tennyson, the Brownings, Arnold, Dickens, the Brontes, Eliot, and Hardy.


Courses
ENGL 372. Commonwealth Literature. 3 Hr. This course examines fiction, poetry, and plays written by citizens of countries that are members of the British Commonwealth; for instance, Canada, New Zealand, Australia, and some Caribbean Islands.

ENGL 373. Contemporary British Literature. 3 Hr. The poems, plays, and fiction read in this course reflect Britain's current multicultural makeup: among them, the North and the Republic of Ireland, Scotland, Wales, England, South Africa, Pakistan, and India.

ENGL 374. Postcolonial Literature. 3 Hr. This course will address various issues in postcolonial literature, including gender, nationalism, resistance, development, neocolonialism and diasporic identities. In addition, students will examine contemporary literary modes associated with the postcolonial project of revisionist history.

ENGL 381. Literary Criticism. 3 Hr. Literary criticism from Aristotle to modern times.

ENGL 382. Contemporary Literary Theory. 3 Hr. An introduction to the predominant schools of literary theory of the twentieth century, including psychoanalytic criticism, Marxist criticism, feminist criticism, deconstruction, postmodernism, and cultural studies.

ENGL 383. Introduction to Cultural Studies. 3 Hr. Students will explore the ways in which we are all simultaneously users of and used by culture, and the ways in which cultural practices influence how we think, feel, and act in everyday life.

ENGL 384. Introduction to American Studies. 3 Hr. This course introduces students to methodologies of studying American popular and mass cultures in the past and present. Topics may include film, literature, performance, music, economics, and technology.

ENGL 385. American Women Writers. 3 Hr. Studies in the literature of American women writers. Syllabi may vary per term; topics may include Jewish American women writers, women writers of the suffrage movement, and 20th century American women writers.

ENGL 386. British Women Writers. 3 Hr. This course examines fiction, poems, essays, and drama written by British women writers, beginning with the fourteenth-century author Margery Kempe and continuing into the late twentieth century with Nadine Gordimer.

ENGL 387. Topics in Women's Literature. 3 Hr. Syllabus will vary per term. Topics include women writers outside of Great Britain and the United States; comparative women writers; women's writing on a particular theme or topic.

ENGL 388. Topics in Gay/Lesbian Studies. 3 Hr. Specialized topics courses reflecting current trends in studies of gay/lesbian history, literature, culture, and theory. Subjects will be taught on a rotation.

ENGL 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ENGL 405. Fiction for Adolescents. 3 Hr. A survey of fiction for adolescents with special attention to literary theories that assist its interpretation.

ENGL 418. Creative Writing Seminar. 3 Hr. PR: 9 Hr. of creative writing and consent. Individual projects in creative writing pursued in a workshop setting.

ENGL 423. Introduction to Old English. 3 Hr. An introduction to Old English grammar and readings. After the basic grammar is mastered, students translate a selection of Old English prose texts and poems.

ENGL 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ENGL 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 493</td>
<td>A-Z. Special Topics</td>
<td>1-6</td>
<td>Consent</td>
<td>Investigation of topics not covered in regularly scheduled courses.</td>
</tr>
<tr>
<td>ENGL 494</td>
<td>A-Z. Seminar</td>
<td>1-3</td>
<td>Consent</td>
<td>Presentation and discussion of topics of mutual interest to students and faculty.</td>
</tr>
<tr>
<td>ENGL 495</td>
<td>Independent Study</td>
<td>1-6</td>
<td>Consent</td>
<td>Faculty supervised study of topics not available through regular course offerings.</td>
</tr>
<tr>
<td>ENGL 496</td>
<td>Senior Thesis</td>
<td>3</td>
<td>Consent</td>
<td></td>
</tr>
<tr>
<td>ENGL 498</td>
<td>A-Z. Honors</td>
<td>1-3</td>
<td>Consent, Honors Program</td>
<td>Students in Honors Program and consent by the honors director. Independent reading, study or research.</td>
</tr>
<tr>
<td>ENGL 499</td>
<td>Global Service Learning</td>
<td>3</td>
<td>Consent</td>
<td>Theory and practice of global service-learning. The main objective will be to pair the experiential aspects of meaningful and sustained service in the host community with work from the student's anchor course by offering a methodological framework for cultural immersion and community service as well as adding to the content of the anchor course.</td>
</tr>
<tr>
<td>ESL 140</td>
<td>ESL Academic Reading/Writing</td>
<td>3</td>
<td>For undergraduate (and graduate) international students.</td>
<td>Develops the skills necessary to improve academic reading skills to write well-organized and self-edited essays in a variety of rhetorical modes.</td>
</tr>
<tr>
<td>ESL 240</td>
<td>ESL Research and Writing</td>
<td>3</td>
<td>Provides undergraduate and graduate international students with the skills, strategies, and procedures necessary for researching a topic and writing a well-organized and logical research paper.</td>
<td></td>
</tr>
<tr>
<td>ESL 250</td>
<td>Speaking and Listening</td>
<td>3</td>
<td>For undergraduate and graduate international students.</td>
<td>Provides guidance and practice in general and academic speaking and listening skills and improves oral comprehensibility through pronunciation activities.</td>
</tr>
<tr>
<td>ESL 293</td>
<td>A-Z. Special Topics</td>
<td>1-6</td>
<td>Consent</td>
<td>Investigation of topics not covered in regularly scheduled courses.</td>
</tr>
<tr>
<td>ESL 350</td>
<td>ITA Fluency</td>
<td>3</td>
<td>Designed for graduate students wishing to become international teaching assistants (ITAs). Course focuses on the characteristics of effective oral communication in English in order to improve SPEAK test scores and comprehensibility in the classroom.</td>
<td></td>
</tr>
<tr>
<td>ESL 490</td>
<td>Teaching Practicum</td>
<td>1-3</td>
<td>Consent</td>
<td>Teaching practice as a tutor or assistant.</td>
</tr>
<tr>
<td>ESL 491</td>
<td>Professional Field Experience</td>
<td>1-18</td>
<td>Consent</td>
<td>Prearranged experiential learning program, to be planned, supervised and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.</td>
</tr>
<tr>
<td>ESL 493</td>
<td>A-Z. Special Topics</td>
<td>1-6</td>
<td>Consent</td>
<td>Investigation of topics not covered in regularly scheduled courses.</td>
</tr>
<tr>
<td>ESL 494</td>
<td>Seminar</td>
<td>1-3</td>
<td>Consent</td>
<td>Presentation and discussion of topics of mutual concern to students and faculty.</td>
</tr>
<tr>
<td>ESL 496</td>
<td>Senior Thesis</td>
<td>1-3</td>
<td>Consent</td>
<td></td>
</tr>
<tr>
<td>ESL 498</td>
<td>Honors</td>
<td>1-3</td>
<td>Students in Honors Program</td>
<td>Students in Honors Program and consent by the honors director. Independent reading, study or research.</td>
</tr>
</tbody>
</table>
Entomology (ENTO)
ENTO 101. Bugs and Humans. 3 Hr. “Bugs” or insects will be related to humans; their impact on human civilization and religion, the impact of insect-borne diseases on human society and history, development of insect societies, and edible insects will be presented.

ENTO 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ENTO 301. Apiculture. 3 Hr. PR: BIOL 101 and BIOL 103 and BIOL 102 and BIOL 104. Development, physiology, and behavior of the honey bee with emphasis on colony management, pollination of crops, diseases of bees, properties of honey and beeswax, and marketing of honey bee products.

ENTO 302. Apiculture Laboratory. 1 Hr. PR or CONC: ENTO 301. Identification and anatomy of honey bees, assembly and use of beekeeping equipment, field management of honey bees, examination for diseases and pests, production of queens and nuclei. (1-3 hr. lab.)

ENTO 401. Forensic Entomology. 3 Hr. Study of entomology in legal investigations; processing of specimens at crime scene/morgue; identification of arthropods from forensic cases; determination of post-mortem intervals; evaluation of case studies.

ENTO 404. Principles of Entomology. 4 Hr. PR: BIOL 101 and BIOL 103 and BIOL 102 and BIOL 104 or equiv. Basic course dealing with the anatomy, morphology, physiology, reproduction, systematics, ecology, and management of insects.

ENTO 412. Pest Management. 4 Hr. PR: ENTO 404 or consent. An in-depth look at current problems and solutions in controlling insect pests in an environmentally compatible manner. Management techniques include cultural, mechanical, physical, biological, regulatory, and chemical practices. (Also listed as ENVP 412.)

ENTO 450. Insect Ecology. 3 Hr. PR: ENTO 404 or consent. Ecology of insects as individuals, populations, and components of communities and ecosystems. Emphasis on the role of insects in agroecosystems and applications of insect ecology.

ENTO 470. Forest Pest Management. 4 Hr. PR: FMAN 311 and (BIOL 101 and BIOL 103 and PLSC 206) or (BIOL 115 and BIOL 117). Relationship of insects and disease organisms to the forest ecosystem; recognition of agents that affect forest health; management strategies for regulating their damage. (Also listed as PPTH 470.)

ENTO 471. Urban Tree and Shrub Health. 1 Hr. PR: PPTH 470 or ENTO 470 or (PPTH 401 and ENTO 404). Presents the unique problems associated with managing trees and woody shrubs in an urban environment; management options will be evaluated.

ENTO 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ENTO 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ENTO 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ENTO 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ENTO 496. Senior Thesis. 1-3 Hr. PR: Consent.

ENTO 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
Entrepreneurship (ENTR)
ENTR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ENTR 310. Communication/ Law and Ethics. 3 Hr. Through experiential assignments, students will evaluate situations facing entrepreneurs, recognize potential legal and ethical issues, and develop and communicate action plans.

ENTR 320. Entrepreneurial Finance. 3 Hr. Students are introduced to the concepts of accounting and business finance necessary for an entrepreneurial venture and taught to apply these concepts in the entrepreneurial decision-making process.

ENTR 335. Small Business Entrepreneurship. 3 Hr. This course offers a study of the concepts necessary to become a successful small business entrepreneur. The course work includes practical application of marketing and management skills.

ENTR 410. Business Innovation. 3 Hr. PR: ENTR 335. This course studies the innovation process from idea concept through technology transfer and into commercialization. In addition the course will examine the impact of innovation on economics.

ENTR 415. Entrepreneurship in Action. 3 Hr. PR: ENTR 335 and ENTR 310 with a 'C' or better. This course focuses on strategy formation/implementation for an entrepreneurial business. Students will participate in a simulated "real world experience" in managing an entrepreneurial business enterprise.

ENTR 435. New Venture Creation. 3 Hr. PR: ENTR 310 and ENTR 335. This course will provide the student with an in-depth understanding of the issues involved in the planning and creation of a new venture.

ENTR 489. Student Business Plan Competition. 3 Hr. This course provides an in-depth instruction on writing a comprehensive business plan and presenting the plan to a group of potential investors. Students must qualify by competing in the student business plan competition.

ENTR 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ENTR 492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

ENTR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

Environmental Protection (ENVP)
ENVP 119. Soil in the City. 3 Hr. Study of soil as a natural resource in urban environments; influence of soils on urban development; study of environmental problems related to soils in urban land uses.

ENVP 155. Elements of Environmental Protection. 3 Hr. An introduction to land and water resources and their management and protection. An evaluation of the relationships between human activities and natural environments and the interaction between natural resource utilization and development.

ENVP 355. Environmental Sampling and Analysis. 3 Hr. PR: BIOL 101 and BIOL 102 and BIOL 103 and BIOL 104 and CHEM 115 and CHEM 116. Introduction to environmental sampling methods and analysis. Lecture and hands-on experience will include sampling plan development, sample point selection, sampling equipment use, containers and preservatives, sample analysis, chain-of-custody and protective equipment.

ENVP 401. Environmental Microbiology. 4 Hr. PR: AEM 341 or consent. Microbiology as applied to soil, water, wastewater, sewage, air, and the general environment. Occurrence, distribution, ecology, and detection of microorganisms in these environments. (Also listed as AEM 401.)
ENVP 412. Pest Management. 3 Hr. PR: ENTO 404 or consent. An in-depth look at current problems and solution in controlling insect pests in an environmentally compatible manner. Management techniques include cultural, mechanical, physical, biological, regulatory, and chemical practices. (Also listed as ENTO 412.)

ENVP 415. Hazardous Waste Training. 3 Hr. Introduction to hazardous waste training. Lectures and hands-on experience with health and safety plan development, selecting personal protective equipment, air monitoring, incident command, site characterization, decontamination and toxicology. Includes two full-scale disaster exercises.

ENVP 420. Soil Microbiology. 3 Hr. PR: AEM 341. Microbiology and biochemistry of the soil environment. Occurrence, distribution, ecology, and detection of microorganisms in soil. (Also listed as AEM 420 and AGRN 420.)

ENVP 425. Environmental Soil Management. 3 Hr. PR: AGRN 202 and AGRN 203. This course provides a foundation for utilizing creative solutions and technical knowledge in preserving and enhancing soil and water quality. Soil conservation, precision agriculture and nutrient management for protection of soil and water quality are covered. (Also listed as AGRN 425).

ENVP 451. Principles of Weed Science. 3 Hr. PR: PLSC 206 and AGRN 202 and AGRN 203 or consent. Fundamental principles of weed science including identification, ecology and control in crops. (Also listed as AGRN 451.)

ENVP 455. Reclamation of Disturbed Soils. 3 Hr. PR: Junior standing or above. Principles of soil science, geology, hydrology, and engineering will be applied to surface mine planning, overburden handling during mining, soil replacement and amendments, revegetation practices, acid mine drainage control and treatment, hazardous wastes, and land management of disturbed areas. (Field trip required.) (Also listed as AGRN 455.)

ENVP 460. Environmental Impact Assessment. 3 Hr. PR: BIOL 101 and BIOL 102 and BIOL 103 and BIOL 104 and CHEM 115 and CHEM 116. Application of physical, biological and social science principles to assess environmental impacts. Review and prepare environmental assessments, permits, site assessments and ecological risk assessments for environmental decision-making.

**Exercise Physiology (EXPH)**

EXPH 100. Orientation: Exercise Physiology 1. 1 Hr. Orientation to degree requirements, departmental resources, curriculum options, and student responsibilities in exercise physiology. Promoting academic success strategies and exposing students to future career opportunities in exercise physiology.

EXPH 101. Introduction to Exercise Physiology. 1 Hr. A broad and foundational look at the function and adaptation of the systems of the human body in response to exercise.

EXPH 230. Exercise in American Culture. 3 Hr. Covers issues of exercise in America, specifically themes integral to American culture such as age, class, race, gender, and beauty.

EXPH 240. Medical Terminology. 1 Hr. PR: Sophomore standing. The study of medical language with special emphasis given to terms used in the field of exercise physiology.

EXPH 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

EXPH 364. Kinesiology. 3 Hr. PR: Junior standing or consent. Anatomical, mechanical, and musculoskeletal study of the human body as the instrument for efficient performance of motor activities. (Laboratory work included.)

EXPH 365. Exercise Physiology 1. 3 Hr. PR: Junior standing or consent. The study of the functioning of body systems during exercise and the acute and chronic adaptations that occur from exercise stress.
EXPH 368. Lab Techniques and Methods. 3 Hr. PR: Junior standing and EXPH 364 and EXPH 365 or consent. Techniques and methods for designing and conducting exercise programs for asymptomatic, healthy individuals.

EXPH 369. Strength/Conditioning Methods. 4 Hr. PR: EXPH 364 and EXPH 365. Scientific foundations of strength and conditioning with skills and methods to apply that knowledge in clinical exercise training.

EXPH 370. Writing for Exercise Science. 3 Hr. PR: (ENGL 101 and ENGL 102) or ENGL 103. Writing for medical scientific fields. Students will develop a book review, analyze discipline-specific texts, and write scientific literature reviews. Includes a review of style and language use.

EXPH 450. Theory of Aquatic Therapy. 3 Hr. PR: Junior standing or consent. An introduction to aquatic therapy. It covers the historical perspective, biophysiologic response to water immersion, and application of aquatic therapy to specific physical diagnoses.

EXPH 451. Application of Aquatic Therapy. 3 Hr. PR: Junior standing and consent. Design and implementation of aquatic exercise prescriptions to meet rehabilitation goals. Aquatic therapy techniques will be demonstrated and practiced.

EXPH 452. Aquatic Therapy Facility Management. 3 Hr. PR: Junior standing and EXPH 451 and consent. Facility design, water chemistry, water safety, and aquatic programming for special populations including rehabilitation, community re-entry, and wellness programs in a comprehensive continuum of care.

EXPH 460. Pathophysiology. 3 Hr. PR: EXPH 365 and junior standing. CoReq: PHYS 241. The study of disease etiology and the physiological changes that occur from disease, with special emphasis given to the use of exercise in disease prevention and therapy.

EXPH 470. Research Methods. 3 Hr. PR: Senior standing. CoReq: EXPH 496. The study of the scientific method and research design as it relates to the field of exercise physiology and preventive medicine.

EXPH 475. Industry Organization in Exercise Physiology. 3 Hr. Prepares exercise physiology students to work in health care fitness related fields and promotes knowledge on how to “build a business plan” for entrepreneurship.

EXPH 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

EXPH 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experimental learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

EXPH 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

EXPH 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

EXPH 495. Independent Study. 1-6 hr. Faculty supervised study of topics not available through regular course offerings.

EXPH 496. Senior Thesis. 1-3 Hr. PR: Consent.

EXPH 497. Research. 1-6 Hr. Independent research projects.

EXPH 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
Fashion Design and Merchandising (FDM)
FDM 110. Introduction to Fashion Business. 3 Hr. Introduces the fashion business by exploring its production and distribution systems with a focus on basic merchandising, design, marketing and retail concepts.

FDM 130. Design Concepts of Dress. 3 Hr. Introduction to design theory and methodology, elements of design, principles of composition, and universal design related to dress. Practical application included.

FDM 131. Fashion Design. 3 Hr. Market trend research and fabric/trim sourcing are used to design a women's wear collection. Studio work helps develop fashion illustration skills, create a collection, and drape one original design.

FDM 135. Figure and Fabric Drawing. 3 Hr. Basic examination and analysis of illustration techniques related to the human figure and various fabrics.

FDM 140. Introduction to Textiles. 3 Hr. Study and classification of fibers, yarns, fabrics, color applications and finishes for apparel-industry applications. (Lecture plus laboratory.)

FDM 210. Fashion and Dress Through History. 3 Hr. History of Western civilization's fashion and dress from antiquity to present within the corresponding social, cultural, technological, and economic contexts.

FDM 220. Fashion, the Body, and Culture. 3 Hr. Students learn the roles of fashion, the body, and dress in identity, social-psychological functioning, political and economic systems, and cultural diversity.

FDM 230. Apparel Production and Fit. 3 Hr. PR: FDM 140 and (MATH 124 and MATH 126 or higher) and PR or CONC: FDM 130 and fashion design major. Basic principles of apparel production, pattern alterations, and fitting. CAD introduction.

FDM 235. Product Development. 3 Hr. PR: FDM 110 and FDM 140 and (MATH 126A or MATH 126B or MATH 126C or MATH 128 or MATH 129 or MATH 150 or MATH 153 or MATH 155). Exploration of concepts and principles of apparel production and post consumer alternatives.

FDM 240. Textiles for Interiors. 3 Hr. PR: FDM 140. Study of textile products for commercial and residential interiors. Production techniques, construction variables, and quality factors affecting service ability are emphasized. Federal legislation governing labeling, mandates concerning safety, and marketing strategies influencing selection are included.

FDM 250. Flat Pattern Design. 3 Hr. PR: FDM 210 and FDM 220 and FDM 230. Creative expression through pattern design is studied using the flat pattern method. Original apparel is designed and constructed.

FDM 251. Applied History of Fashion and Dress. 3 Hr. PR: FDM 231. Object-based and critical theory research applications of Western and non-Western fashion and dress from antiquity to the present. Costume collection and conservation lab work.

FDM 260. Visual Merchandising. 3 Hr. PR: FDM 210 and FDM 220 and (FDM 230 or FDM 240). An exploration of visual merchandising including elements of design and principles of composition, display, store design, theft prevention, and promotion. Creation and analysis of visual merchandising projects using a teamwork approach.

FDM 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FDM 310. Merchandising Practicum. 3 Hr. PR: (FDM 230 or FDM 260) and FDM 261 and ENGL 102 and consent. Prearranged, supervised work experience providing practical insight into the apparel profession.
FDM 311. Fashion Study Tour. 1 Hr. PR: Junior or senior standing in FDM. Study of textile apparel and retail industries through visits to historic costume collections, apparel firms, design showrooms, and retail establishments.

FDM 320. Merchandise Buying and Management 1. 3 Hr. PR or CONC: FDM 230 and FDM 231. This course serves as an introduction to the role and responsibilities of the buyer in relation to merchandise planning and control. Sourcing, negotiation strategies and current merchandising practices are explored via the case study method.

FDM 330. Fashion Design and Illustration. 3 Hr. PR: FDM 130 and PR or CONC: FDM 210 and FDM 230. Techniques of drawing fashion figures, media, and apparel design presentation techniques explored. Design vocabulary and sources of inspiration examined in the creation of original apparel design renderings and flats for specific target consumers.

FDM 332. Flat Pattern Design. 3 Hr. PR: FDM 230 or Consent. Creative expression through pattern design is studied using the flat pattern method. Apparel designed and constructed. (May be repeated for a maximum of 6 hr. credit.)

FDM 340. Textiles and Apparel in the Global Economy. 3 Hr. PR: FDM 140. Explores economics, political and social dimensions of the international production and trade of textiles and apparel. Emphasis on U.S. textile and apparel complex within an international perspective. (Even years.)

FDM 350. Draping. 3 Hr. PR: FDM 235 and FDM 330. Creative and technical pattern development using the draping method. Original apparel designs patterned and constructed.

FDM 360. Fashion Merchandising. 3 Hr. PR: (FDM 230 or FDM 260 or FDM 261) and ECON 201. Surveys the structure of retail organizations, location and growth strategies to distribute merchandise to consumers.

FDM 361. Merchandise Planning and Control. 3 Hr. PR: FDM 360. Addresses inventory performance and fiscal aspects of merchandise planning, purchasing, and pricing. Merchandising mathematical formulas are practiced.

FDM 410. Portfolio Presentation. 2 Hr. PR: FDM 360 and CS 101 and senior standing in FDM. Digital presentation and refinement of design and merchandising portfolio, and preparation for entry into the FDM industry.

FDM 420. Merchandise Buying and Management 2. 3 Hr. PR: FDM 320 or consent and senior standing. Study of merchandising activities performed on the retail level including planning sales and assortments, selecting merchandise for resale, controlling inventories, and determining profit. Basic mathematical formulas involved in merchandising are practiced.

FDM 424. Functional Apparel. 3 Hr. PR: ENGL 101 and ENGL 102 and FDM 220 and FDM 230. Physical, sociological, and psychological clothing needs of individuals with functional needs. Historical developments and research needs explored. Students conduct a service-learning project.

FDM 430. Fashion Design Portfolio. 3 Hr. PR: FDM 330 and FDM 350. Techniques of portfolio presentation from introductory page through development of lines that focus on target consumer. Includes development of concept plates, illustrations, flats, and presentation plates.

FDM 433. Apparel Design & Illustration. 3 Hr. PR: FDM 230 and FDM 231 or consent. Techniques of drawing fashion models and various media for apparel design presentation. Sources of design inspiration examined for developing original apparel designs. (May be repeated for a maximum of 6 hr. credit.)

FDM 470. Global Issues and Fashion. 3 Hr. PR: FDM 361 or consent. Examines globalization, fashion business, and consumerism. Sourcing, sustainability, international trade, and social justice issues are addressed.
FDM 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practices as a tutor or assistant.

FDM 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Pre-arranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FDM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FDM 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

FDM 496. Senior Thesis. 1-3 Hr. PR: Consent.

FDM 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Film (FILM)
FILM 101. The Art of Film 1. 3 Hr. A survey of the history of cinema from its earliest forms and experimentation through the end of the monopoly of the “studio system” (c. 1960). Weekly film screenings.

FILM 102. The Art of Film 2. 3 Hr. A survey of the history of cinema from the rise of the auteur (c. 1960) to present trends, specifically examining American cultural dominance. Weekly film screenings.

Finance (FIN)
FIN 305. Intermediate Finance. 3 Hr. PR: BCOR 340. Continuation of BCOR 340. Use of computers to help solve extended problems and/or short cases.

FIN 310. Investments. 3 Hr. PR or CONC: BCOR 340. Investment analysis and management for the individual and the financial institution.

FIN 320. Financial Statements Analysis. 3 Hr. PR or CONC: BCOR 340. This course analyses financial accounting statements from the perspective of users for the purpose of making sound decisions in business and financial investment.

FIN 330. Financial Institutions. 3 Hr. PR or CONC: BCOR 340. The role of financial institutions in our nation’s financial markets and the economy. Analysis of interest rate, financial markets and federal revenue policy.

FIN 340. Real Estate. 3 Hr. Principles and practices of real estate business.

FIN 350. General Insurance. 3 Hr. PR: (ACCT 202 and ECON 202 and ECON 225 and ENGL 102) and (MATH 150 or MATH 155.) Theory of risk and its application to insurance; principles underlying insurance-life, property, casualty, fire, and surety.

FIN 351. Life and Health Insurance. 3 Hr. PR: ECON 201 and ECON 202. The basics of life and health scenarios.

FIN 410. Security Analysis and Portfolio Management. 3 Hr. PR: FIN 310. The systematic selection, assessment, and ranking of corporate securities in a portfolio framework through a synthesis of fundamental analysis, technical analysis, and the random walk perspective.

FIN 411. Derivatives. 3 Hr. PR: FIN 310. Examines derivatives markets with an emphasis on options. Introduces the concept of arbitrage and the implications for derivatives equilibrium pricing. Applications of derivatives in financial risk management.
FIN 420. Business Valuation. 3 Hr. PR: BCOR 340. Develop the basic knowledge necessary to value an entire company or division of a company using a variety of models. Extend the valuation techniques to project valuation.

FIN 421. Mergers and Acquisition. 3 Hr. PR: FIN 305. Mergers and acquisitions are value drivers in financial markets, allowing the companies to grow and reinvent themselves. This course provides students with the skills necessary to measure and enhance corporate valuation in equity markets.

FIN 451. Working Capital Management. 3 Hr. PR: BCOR 340 and ECON 225 and PR or CONC: FIN 305. Management of current assets and liabilities. Topics include the management of cash, marketable securities, accounts receivable, inventories, trade accounts payable, and short term bank borrowings. Decision models are used extensively.

FIN 452. Employee Benefit Plans. 3 Hr. PR: FIN 350. Use, design and regulation of group life insurance, health care and pensions, including their federal tax consequences. Study of the available contracts in each area and financing alternatives and practices.

FIN 453. Life Insurance and Estate Planning. 3 Hr. PR: FIN 350. Principles of life and health insurance protection; application of life insurance to individual, family, business, and societal needs; study of trusts, wills and estates, integrating of income programming into estate management.

FIN 454. Property and Liability Insurance. 3 Hr. PR: FIN 350. Study of the use and production of property and liability insurance, including evaluation of insurance contracts and current insurance practices; legal and regulatory environment affecting use and production of insurance.

FIN 455. Risk Management. 3 Hr. PR: FIN 350. Transferable risks with which the entrepreneur must deal. Emphasis on the process by which decisions are made for handling these risks, including an examination of contributions and limitations of insurance system.

FIN 460. Bank Management. 3 Hr. PR: BCOR 340 and PR or CONC: FIN 305. (May not be taken for both undergraduate and graduate credit.) Management of bank funds. Principles of organization lending and investment. Policy relationships to bank productivity, organization, and profitability; preparation of financial reports; management of a simulated bank in a changing environment.

FIN 461. Advanced Bank Management. 3 Hr. PR: FIN 460. An advanced course in commercial banking involving problems of management of the money position, loan and investment portfolio and capital adequacy. The student simulates actual bank operation, conducts case studies, and analyzes bank performance.

FIN 470. Advanced Finance. 3 Hr. PR: FIN 305, and PR or CONC: BCOR 460. Integrative course in finance to be taken during the final semester before graduation.

FIN 480. International Finance. 3 Hr. PR: BCOR 340. Course extends standard corporate finance concepts to the global arena, helping to understand the additional opportunities and challenges faced by a global firm.

FIN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FIN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FIN 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FIN 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.
FIN 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

FIN 496. Senior Thesis. 1-3 Hr. PR: Consent.

FIN 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Food Science and Technology (FDST)**

FDST 200. Food Science and Technology. 3 Hr. Up-to-date basics of food science and technology, including: food industry outlook, degrees and careers, food chemistry, food processing and engineering, food microbiology and food safety, food biotechnology, and sensory evaluation of foods.

FDST 308. Food Plant Sanitation. 3 Hr. PR: CHEM 111 or CHEM 115. Students will learn basic concepts of food processing and the laws and regulations governing it as well as good manufacturing practices involved in order to ensure the quality of food that is sold to the public.

FDST 365. Muscle Foods Technology. 3 Hr. Emphasis on muscle of slaughtering, cutting, breaking, manufacturing, structure and composition, conversion of muscle to muscle food, processing food animals (cattle, sheep, hogs, poultry, and fish) and products to ensure quality and safety from processing through storage, fresh and value-added processing and nutritional value.

FDST 367. Muscle Foods Technology Laboratory. 1 Hr. CoReq: FDST 365. Laboratory training in the processing of carcasses derived from food animals including red meat, poultry, and fish species. Microbiology, cookery, and storage of fresh products. Basic techniques in processed muscle foods production.

FDST 445. Food Microbiology. 3 Hr. PR: ENVM 341. The relationships of microorganisms to food-borne illness and intoxications, microbial food safety and food quality, food spoilage, food preservation and bio-processing. The emerging food preservation technologies and predictive microbiology will be introduced.

FDST 449. Food Microbiology Lab. 1 Hr. PR: FDST 445. Laboratory training in methods used in microbiological examination of foods. This laboratory will provide a hands-on experience for students who take or have taken FDST 445.

FDST 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FDST 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FDST 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FDST 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

FDST 496. Senior Thesis. 1-3 Hr. PR: Consent.

FDST 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

**Foreign Culture (FCLT)**

FCLT 160. Spanish Civilization/Literature. 3 Hr. This course provides students with an understanding of and an appreciation for Spanish literature as it relates to the social, historical, and cultural developments within Spain from the sixteenth century to today.
FCLT 161. The Many Latin Americas. 3 Hr. Introduction to Latin American studies. Surveys primary documents from Latin American history and a range of disciplinary perspectives on Latin America’s past and present.

FCLT 206. Introduction to Japanese Culture. 3 Hr. A survey course taught in English that introduces Japanese institutions, language, philosophy, religion, theater, family and marriage, and Japanese social etiquette.

FCLT 210. Chinese Civilization and Culture. 3 Hr. This is a survey course taught in English that introduces Chinese institutions, language philosophy, religion, art, literature, family and marriage, and Chinese social etiquette.

FCLT 240. Italian-American Experience. 3 Hr. This course will investigate literary and historical perspectives on the experience of Italians in the United States and their contributions to U.S. culture. The approach will be multidisciplinary. This class will be taught in English.

FCLT 250. Russian Fairy Tales. 3 Hr. Introduces a wide selection of Russian fairy tales and examines the aesthetic, social, and psychological values that they reflect, a general introduction to the study of folklore with a broad spectrum of approached (psychoanalysis, structuralism, feminism).

FCLT 260. Cultures of Mexico. 3 Hr. An in-depth survey of contemporary Mexican culture, including Mexico’s complex history and regional subcultures, Mexican art and literature, linguistic diversity, geography, and politics.

FCLT 280. SciFi: East/West. 3 Hr. Comparison of science fiction texts, and TV from Eastern and Central Europe and the US and UK, analyzing works that posit “Fantastic” spatial, temporal, social, and biological explorations beyond those currently verified by science.

FCLT 281. Vampire: Blood and Revolution. 3 Hr. This course examines the phenomenon of vampirism in verbal and visual culture, vampirism is examined from different periods in various cultures and from a variety of critical perspectives. It contextualizes the works in the cultures that produce them.

FCLT 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FCLT 298. Honors. 1-3 Hr. PR: Student in Honors Program and consent by the honors director. Independent reading, study or research.

FCLT 306. Japanese Culture and Cinema. 3 Hr. An overview of Japanese cinema. This course will discuss the development of Japanese cinema as an art form and the social influences that affected it.

FCLT 310. Chinese Cinema. 3 Hr. A study of representative Chinese films from the early twentieth century to the present; films subtitled, readings and discussion in English.

FCLT 340. Italian Cinema 1945 to Present. 3 Hr. Introduces students to key topics of modern Italian culture and history as explored through cinema. It will focus on a selection of Italian films from World War II to the present.

FCLT 380. Holocaust: East Europe Film and Literature. 3 Hr. PR: (ENGL 101 and ENGL 102) or ENGL 103. Extending beyond familiar representations of the Holocaust in the context of several nations of Eastern Europe.

FCLT 381. Contemporary Polish Cinema. 3 Hr. This course studies contemporary Polish cinema from World War II to present, examining films in both their aesthetic and sociohistorical contexts as part of European and Polish national cinematic traditions.
FCLT 382. Polish Cinema: Kieslowski. 3 Hr. Studies the cinematic career of one of Poland’s most important directors of the past 50 years; designed to allow both cinema devotees and untrained filmgoers to appreciate Kieslowski’s oeuvre.

FCLT 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FCLT 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FCLT 491. Professional Field Experience. 1-18 Hr. PR: Consent (may be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FCLT 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FCLT 498 A-Z. Honors. 1-6 Hr. PR: Student in Honors Program and consent by the honors director. Independent reading, study or research.

*Foreign Literature in Translation (FLIT)*

FLIT 135. Introduction to French Literature. 3 Hr. Major writers and representative movements in French literature from its beginning to present.

FLIT 200. Latin Literature Translation 1. 3 Hr.

FLIT 201. Latin Literature Translation 2. 3 Hr.

FLIT 203. Japanese Literature Translation. 3 Hr. Survey of selected works of Japanese literature from ancient period to the mid-nineteenth century and an introduction to a few works of the modern period.

FLIT 216. Chinese Literature Translation 1. 3 Hr. Readings in the literature of China from its beginnings through the end of the imperial era in 1922; attention to major writers and genres; focus on literary history. Readings, and discussion in English.

FLIT 217. Chinese Literature in Translation 2. 3 Hr. Selected Chinese literary works since 1911; attention to major writers and genres; readings and discussion in English.

FLIT 218. German Literature in Translation 1. 3 Hr. Selected German works from 800 A.D. to the period of Naturalism. Readings and discussion in English.

FLIT 228. German Literature in Translation 2. 3 Hr. Selected German works from the period of Naturalism to the present. Readings and discussion in English.

FLIT 229. German Literature Since World War II. 3 Hr. Selected German literature from 1945 to present. Readings and discussion in English.

FLIT 235. French Literature in Translation 1. 3 Hr. Selected French works from the middle ages to the end of the eighteenth century. Readings and discussions in English.

FLIT 236. French Literature in Translation 2. 3 Hr. Selected French works from the beginning of the nineteenth to present. Readings and discussions in English.

FLIT 237. French Women Writers. 3 Hr. Selected works of French women writers.


FLIT 239. Francophone Literature in Translation. 3 Hr. Works by French-speaking authors from Africa and the Caribbean. French majors will read selections in the original.
FLIT 245. Italian Literature Translation 1. 3 Hr. Selected Italian works from the twelfth century to the end of the eighteenth century. Readings and discussion in English.

FLIT 246. Italian Literature Translation 2. 3 Hr. Selected Italian works from the nineteenth and twentieth centuries. Readings and discussion in English.

FLIT 256. Russian Literature Translation 1. 3 Hr. Major works of Russian authors from the beginning to 1880, including those of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, and Tolstoy. Russian major will read selections in the original.

FLIT 257. Russian Literature Translation 2. 3 Hr. Major literature of Russia/Soviet Union from 1880 to the present. Russian majors will read selections in the original.

FLIT 264. Spanish Literature Translation 1. 3 Hr. Selected Spanish works from the twelfth century to the end of the eighteenth century. Readings and discussions in English.

FLIT 265. Spanish Literature Translation 2. 3 Hr. Selected Spanish works from the nineteenth and twentieth centuries. Readings and discussion in English.

FLIT 266. Latin American Literature. 3 Hr. PR: ENGL 102 or ENGL 103. An introduction to the diverse literary traditions of Latin America, this survey explores the historical roots that gave rise to modern Latin American literature.

FLIT 267. Women Writers of Spain. 3 Hr. Major women writers of Spain from the earliest existing manuscripts to the present focus on 20th century works. Spanish majors will read selections in the original.

FLIT 268. Spanish American Literature in Translation 1. 3 Hr. Selected Spanish American works from the sixteenth century to the end of the nineteenth century. Readings and discussion in English.

FLIT 269. Spanish American Literature in Translation 2. 3 Hr. Selected Spanish American works from the nineteenth and the twentieth centuries. Readings and discussions in English.

FLIT 285. Brazilian Literature Translation. 3 Hr. Survey of Brazilian literary masterworks in English translation concentrating heavily on prose forms (novel, novelette, short shorty, play) dating from the mid-nineteenth century.

FLIT 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FLIT 298. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

FLIT 360. Discovering Mesoamerica. 3 Hr. PR: ENGL 102 and ENGL 103. Analyses cultural and linguistic diversity of Mesoamerica through in-depth study of the Aztec and Maya peoples, using literature and cultural artifacts, including pre-Colombian empires, wars of conquest, and centuries of resistance to Europeanization.

FLIT 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FLIT 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FLIT 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FLIT 493 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
FLIT 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

FLIT 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

FLIT 496. Senior Thesis. 1-3 Hr. PR: Consent.

FLIT 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Forensic and Investigative Science (FIS)

FIS 194. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FIS 201. Introduction to Forensic Identification. 3 Hr. A survey course in forensic science including overview of the history and components of fingerprint classification systems crime scene analysis, and death investigation. This course is open to non-majors.

FIS 286. Forensic ID Internship. 6-9 Hr. Students must pre-register and have consent of department field work coordinator. A full-time supervised field experience providing a setting for students to increase their professional effectiveness as a forensic identification examiner while dealing with relevant issues and concerns while functioning within an ethical framework.

FIS 301. Science/Technology of Fingerprint Identification 1. 1-3 Hr. PR: FIS 201. Introduces basics of fingerprint analysis and comparisons. Focuses on basis patterns used in fingerprint comparisons and classifications of each fingerprint type, including Henry, National Crime Information Center, Integrated Automated Fingerprint Identification System pattern classification codes.

FIS 302. Crime Scene Investigation 1. 3 Hr. PR: FIS 335. An introductory course providing basic competencies required for crime scene examiners. The course will focus on developing a consistent approach to the processing of a crime scene with a major focus on recovery/processing evidence.

FIS 304. Latent Fingerprint. 3 Hr. PR: FIS 301 and in the major. A course designed to teach identification techniques used in fingerprint development for processing crime scenes and evidence for latent prints, focusing on latent print development and preservation, including crime scene processing and blood prints.

FIS 314. Introduction to Microscopy. 3 Hr. PR: CHEM 116 and PHYS 102 or PHYS 112. Laboratory-based introduction to theory and practice of light microscopy, polarizing light microscopy, imaging, particle manipulation, comparison microscopy, and simple microscopy. Open to non-FIDP majors and pre-admits on space available basis. (3 hr. lab.)

FIS 335. Forensic Photography. 3 Hr. PR: FIS 201. Students focus on the fundamentals of photography, how to handle a camera, and expose film correctly. Include unique forensic environments encountered in forensic work includes fingerprints, crime scenes, and disaster scenes.

FIS 386. Forensic Identification Internship. 6-9 Hr. PR: FIS 201 and must have consent of department. A full- time supervised field experience providing a setting for students to increase their professional effectiveness as a forensic identification examiner while dealing with relevant issues and concerns while functioning within an ethical framework.

FIS 401. Professional Forensic Communication. 3 Hr. PR: ENGL 103 or (ENGL 101 and ENGL 102) and FIS 201. Familiarizes students with forensic literature, literature searching techniques, bibliographic software; and provides students with the writing and presentation skills essential to forensic professionals.
FIS 402. Crime Scene Investigation 2. 3 Hr. PR: FIS 302. An extension of FIS 302. This course will outline procedures for collection of biological and trace evidence using scientific and practical methods of securing, collecting, analyzing this evidence, in accordance with known standards.

FIS 404. Law and Evidence. 3 Hr. PR: FIS 201. This course presents a comprehensive review of criminal law relating to evidence in court cases and the student’s ability to relate legal precedents to procedures in collecting, processing, and securing evidence used in criminal cases.

FIS 406. Court Testimony. 3 Hr. PR or CONC: FIS 404. A skills intensive course that combines in-class instruction with practical experience in the area of court testimony, legal writing presentation, and creation and presentation of exhibits in an actual court setting.


FIS 410. Forensic Capstone. 3 Hr. An inquiry based experience facilitating the transition from student to professional. Students will review and integrate all aspects of forensic science including professional ethics and will take written and proficiency tests modeled on professional certifications.

FIS 435. Advanced Forensic Photography. 3 Hr. PR: FIS 201. A more in-depth photography course for students who wish to pursue forensic photography as a possible employment option upon graduation.

FIS 480. Forensic Quality Assurance. 2 Hr. PR: FIS 201. Quality assurance in a laboratory setting to include quality control/assurance, management, and application of statistics. ASCLD-LAB and ISO accreditation and professional certification procedures.

FIS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FIS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FIS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

FIS 497. Research. 1-6 Hr. PR: Consent. Independent research projects.

FIS 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Forest Hydrology (FHYD)

FHYD 444. Watershed Management. 3 Hr. PR: FMAN 212 and FMAN 311. (Primarily for forest management majors.) Influences of silvicultural practices and forest management activities on the hydrology of forested catchments.

FHYD 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FHYD 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FHYD 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
FHYD 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

FHYD 496. Senior Thesis. 1-3 Hr. PR: Consent.

FHYD 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

**Forest Management (FMAN)**

FMAN 212. Forest Ecology. 3 Hr. PR: FOR 205. Forest and environment factors; site and type characteristics.

FMAN 222. Forest Mensuration. 4 Hr. PR: MATH 155 and STAT 211. Estimating volume and growth of trees and forest stands with emphasis on the mathematical and statistical techniques involved. Laboratories include practical field experience.

FMAN 251. Forest Fire Protection. 2 Hr. Prevention, detection, and control of wildfires. Forest fuels, fire weather, and wildfire behavior. Use of fire for forest management purposes.

FMAN 311. Silvicultural Systems. 4 Hr. PR: FOR 205 and ((FMAN 212 and FMAN 222)or WMAN 313). The theory and practice of controlling forest stand establishment, composition, structure, and growth. Systems include: reproduction methods, release operations, and intermediate treatments. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

FMAN 315. Survey of Arboriculture. 1 Hr. PR: HORT 260 or FOR 205. A self-study seminar that surveys the principles and practices involved in the field of arboriculture with major emphasis on the urban landscape.

FMAN 322. Advanced Forest Measurements. 3 Hr. PR: FMAN 222 or equivalent. Measurement and computer simulation of forest growth; principles of growth and yield; statistical methods applied to forest measurement problems.

FMAN 330. Principles of Forestry Economics. 4 Hr. PR: (ECON 201 or ARE 150) and ECON 202. Production, distribution and use of forest goods and services. Emphasis on methods and problem solving techniques in the economic aspects of forestry.

FMAN 400. Forest Resources Management Field Practice. 6 Hr. PR: CE 200 and FMAN 322. Application and study of forest management practices with emphasis on field problems, including a one-week trip to observe forestry outside the Appalachian hardwood region. (Course will be taught during five consecutive six-day weeks.)


FMAN 434. Forest Resources Management Planning. 3 Hr. PR: FMAN 322 and FMAN 400 and FMAN 311 and PR or CONC: (ENTO 470 or PPTH 470) and FMAN 330. Integrated planning of long-term management of forest resources. Development of a management plan for an actual forest tract. Emphasis on biological, social, economic and ethical considerations in decision-making.

FMAN 440. Forestry Consulting. 3 Hr. PR: FMAN 311 and FMAN 330 or consent. The application of forest management principals and business concepts to the consulting forestry profession. Topics include: Natural resource inventories, timberland appraisals, timber sale administration, and forest management planning.

FMAN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FMAN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FMAN 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FMAN 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

FMAN 496. Senior Thesis. 1-3 Hr. PR: Consent.

FMAN 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Forestry (FOR)
FOR 101. Careers in Natural Resources Management. 1 Hr. (Required only for students who rank as freshman in the Division of Forestry.) An introduction to professional activities in forest resources management, recreation and parks management, wildlife and fisheries management, and wood science and utilization. Survey of major issues in natural resources management and conservation.

FOR 140. West Virginia’s Natural Resources. 3 Hr. Survey of policies and practices in development and use of soil, water, forest, wildlife, mineral, and human resources in West Virginia.

FOR 203. Careers in Natural Resources 2. 1 Hr. Planning a career in forestry and natural resources professions. Developing a career strategy, resume building, and conducting a successful job search.

FOR 205. Dendrology. 3 Hr. Classification and silvical characteristics of North American forest trees.

FOR 240. Introduction to Computing in Natural Resources. 3 Hr. Introduction to computer applications in natural resource management. Emphasis on MS Excel statistical analysis tools, MS Access, Visual Basic Programming, hand held PCs and application examples.

FOR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FOR 310. Elements of Silviculture. 4 Hr. PR: FOR 205 and WMAN 234. Basics of mensuration, site quality, tree and stand growth, forest structure, and development, intermediate treatments, natural disturbances and regeneration ecology, silviculture systems. (2 hr. lec., 4 hr. lab.)

FOR 326. Remote Sensing of Environment. 3 Hr. PR: (MATH 126A or MATH 126B or MATH 126C) and MATH 128. Measurement and interpretation of natural resources and environment from photography and radar, infrared, and microwave imagery.

FOR 340. Natural Resource Entrepreneurship. 3 Hr. Principles of small business start-up, organization, marketing, finance, and management with an emphasis on natural resource-based enterprises.

FOR 421. Renewable Resources Policy & Governance. 3 Hr. PR: Consent. Forest, wildlife, fisheries, and recreation resource policies of world, with an emphasis on the U.S.: Important federal and state laws; governance of public and private lands and renewable natural resources. (Crosslisted with WMAN 421.)

FOR 424. Vegetation of West Virginia. 3 Hr. PR: FOR 205. Basics of plant taxonomy and community ecology use of technical field keys, study of selected plant families, field trips to unusual and/or important plant communities and forest types in West Virginia. (Summer, off campus.)
FOR 425. Global Forest Resources. 3 Hr. Significance of renewable natural resources on a global scale and the ecological, economic, and social contexts in which they are managed. Emphasis is on world forest resources, including timber, wildlife, and social uses.

FOR 426. Global Forest Resources Practicum. 3 Hr. PR: Consent. An intensive field practicum abroad provides students with experiential learning opportunities of global approaches to forest management, and imparts the historical context necessary for an appreciation of cultural diversity.

FOR 438. Human Dimensions Natural Resource Management. 3 Hr. This class is designed to provide junior- and senior-level forestry and natural resource management majors with a repertoire of social and communication knowledge and skills such as public facilitation, public participation, social impact assessment, conflict management, and collaborative planning techniques.

FOR 470 A-Z. Problems in Forestry, Wood Science, Wildlife, or Recreation. 1-4 Hr. PR: Forestry senior or consent.

FOR 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FOR 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FOR 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

FOR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FOR 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

FOR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

FOR 496. Senior Thesis. 1-3 Hr. PR: Consent.

FOR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

French (FRCH)

FRCH 100. Intensive Elementary French. 6 Hr. PR: Appropriate score on the Departmental Placement Test or departmental consent. Equivalent of FRCH 101 and 102 combined into one course. (Course presumes no prior knowledge of the language.)

FRCH 101. Elementary French 1. 3 Hr. PR: Appropriate score on the Departmental Placement Test or departmental consent. Introduction to the sound and writing systems of the language, with emphasis on listening, speaking, reading, and writing within an authentic cultural context. (Course presumes no prior knowledge of the language.)

FRCH 102. Elementary French 2. 3 Hr. PR: FRCH 101 or appropriate score on the Departmental Placement Test or departmental consent. Continuation of French 101.

FRCH 200. Intensive Intermediate French. 6 Hr. PR: FRCH 102 or FRCH 100 or appropriate score on the Departmental Placement Test. FRCH 203 and FRCH 204 combined into one course. Last course in the basic French curriculum sequence and foundation for advanced French study. Emphasis on written and oral communication within an authentic cultural context.

FRCH 203. Intermediate French 1. 3 Hr. PR: FRCH 102 or appropriate score on the Departmental Placement Test.
FRCH 204. Intermediate French 2. 3 Hr. PR: FRCH 203 or appropriate score on the Departmental Placement Test. This is the last course in the basic French curriculum sequence and serves as the foundation for advanced French study. Emphasis on written and oral communication within an authentic cultural context.

FRCH 274. Virtual Vendee. 3 Hr. PR: FRCH 203 or appropriate score on the Departmental Placement Test. Taught on-line in conjunction with WVU-Vendee. Can count as FRCH 204 or as elective for French major/minor. French culture through podcasts, readings, and writings. Taught in French.

FRCH 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FRCH 301. Language Through Civilization. 3 Hr. PR: FRCH 204 or FRCH 274 or adequate score on the Departmental Placement Test. Development of oral and written communicative skills in the context of the origins, development, and contributions of French and Francophone civilizations.

FRCH 302. Language Through Culture. 3 Hr. PR: FRCH 204 or FRCH 274 or adequate score on the Departmental Placement Test. Development of oral and written communicative skills in the context of contemporary values, institutions, and contributions of the French and Fracophone world.

FRCH 303. Structure and Communication. 3 Hr. PR: FRCH 204 or FRCH 274 or adequate score on the Departmental Placement Test. Development of communicative competencies with emphasis on French language structures, speaking, and writing within an authentic cultural context.

FRCH 304. Advanced Readings. 3 Hr. PR: FRCH 204 or FRCH 274 or adequate score on the Departmental Placement Test. Development of communicative competencies with emphasis on authentic texts and documents from the French-speaking world.

FRCH 331. Survey of Literature 1. 3 Hr. PR: Six hours of upper-division French. A cultural and historical survey from its beginnings to the end of the eighteenth century.

FRCH 401. Oral Expression. 3 Hr. PR: Six hours at the 300-level, including either FRCH 301 or FRCH 302 or consent. Course not open to graduate students. Intensive practice of oral skills with emphasis on discussion, debate, recitation, reading aloud, etc.

FRCH 402. Phonetics and Pronunciation. 3 Hr. PR: Six hours at the 300-level, including either FRCH 301 or FRCH 302 or consent.

FRCH 421. Survey of Literature 1. 3 Hr. PR: Six hours at the 300-level, including either FRCH 303 or FRCH 304 or consent. Course not open to graduate students. A cultural and historical survey from its beginning to the end of the eighteenth century.

FRCH 422. Survey of Literature 2. 3 Hr. PR: Six hours at the 300-level, including either FRCH 303 or FRCH 304 or consent. Course not open to graduate students. A cultural and historical survey from the beginning of the nineteenth century to the present.

FRCH 431. French Civilization. 3 Hr. PR: Six hours at the 300-level, including either FRCH 301 or FRCH 302 or consent. A survey of major themes, movements, ideas, and figures in the development of French civilization from prehistory to the twentieth century.

FRCH 432. Contemporary Culture. 3 Hr. PR: Six hours at the 300-level, including either FRCH 301 or FRCH 302 or consent.

FRCH 450. French Cinema. 3 Hr. PR: Six hours at the 300-level, including either FRCH 301 or FRCH 302 or consent. Film literacy, vocabulary, and technique in the context of French cinema. Emphasis may vary among origins, poetic realism, surrealism, film noir, nouvelle vague, current movements. May be repeated with permission. Taught in French.
FRCH 461. Commercial French 1. 3 Hr. PR: Six hours at the 300-level, including either FRCH 301 or FRCH 302 or consent. Development of advanced speaking, reading and writing skills appropriate for business contexts within the French-speaking world.

FRCH 470. Culture En Direct. 3 Hr. PR: Six hours of 300-level French and consent. Study of French civilization through visits of cultural monuments and sites, and interaction with native informants in France. Themes covered include national and historical identity of France. Course offered only through study abroad.

FRCH 471. Communication En Direct. 3 Hr. PR: Six hours of 300-level French and consent. Development of written and oral communication skills through a series of classroom activities and/or outside of class assignments. Coursework involves interaction with native informants. Course offered only through study abroad.

FRCH 472. WVU-Vendee Pre-Departure. 1 Hr. PR: Consent. Preparation for WVU-Vendee program. Teaching of cultural and technological skills necessary to participate in the program. Taught in French. (Graded pass/fail.)

FRCH 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

FRCH 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

FRCH 492 A-Z. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

FRCH 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

FRCH 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

FRCH 495. Independent Study. 1-3 Hr. Faculty supervised study of topics not available through regular course offerings.

FRCH 496. Senior Thesis. 1-3 Hr. PR: Consent.

FRCH 498. Honors. 1-3 Hr. PR: Students in the Honors Program and consent by the honors director. Independent reading, study or research.

Genetics (GEN)

GEN 101. Beginner’s Guide to Genetics. 3 Hr. General introduction to concepts in genetics for non-majors, examining the role of molecules, genes and chromosomes on inheritance, aging, disease, and gender. Case studies show application to agriculture, ecological/environmental issues, medicine, and forensics.

GEN 120. Genetics and Society. 3 Hr. Origin of life, selection, mutation, eugenics, genetic engineering, genetics and evolution, genetics and medicine, genetics and politics, decision making, social, and ethical issues in human genetics. For students interested in heredity and heritage.

GEN 371. Principles of Genetics. 4 Hr. PR: 8 hr. biological science. The fundamentals of inheritance.

GEN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

GEN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.
GEN 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GEN 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

GEN 496. Senior Thesis. 1-3 Hr. PR: Consent.

GEN 497. Research. 1-6 Hr. Independent research projects.

GEN 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Geography (GEOG)**

GEOG 102. World Regions. 3 Hr. Comparison and relationships of world regions. Geographical perspectives of contemporary global problems. Developing regions contrasted with modernized regions and the consequences of their interactions.

GEOG 106. Physical Geography Laboratory. 1 Hr. PR or CONC: GEOG 107.

GEOG 107. Physical Geography. 3 Hr. Introduction to global environmental systems operating on the earth's surface, emphasizing weather and climate, soils, natural vegetation, and geomorphology, and examination of human interaction with these natural processes.

GEOG 108. Human Geography. 3 Hr. Introduction to geographical dimension in human behavior and the human altered landscape including social, demographic, economic, and political attributes of societies.

GEOG 110. Environmental Geoscience. 3 Hr. Physical aspects of the earth with emphasis on natural resources, environmental degradation and hazards. Registration in GEOG 111 meets requirements for a 4-hr. credit in laboratory science. (Also listed as GEOL 110.) (Students may not receive credit for GEOG 110 and GEOL 101 or GEOL 110.)

GEOG 111. Environmental Geoscience Laboratory. 1 Hr. PR or CONC: GEOG 110. (Also listed as GEOL 111.) (Students may not receive credit for GEOG 111 and GEOL 102 or GEOL 111.)

GEOG 150. Digital Earth. 3 Hr. Recent advances in technology and data availability have increased our knowledge about the world. This class surveys key concepts of geospatial technologies (GIS, remote sensing, spatial analysis) in the context of social and environmental change.

GEOG 199. Orientation to Geography. 1 Hr. For majors, pre-majors, and potential majors; discussion of the discipline, curriculum requirements, areas of specialization, internships and career opportunities. (1 hr. lec., pass/fail only.)

GEOG 201. Map and Image Interpretation. 3 Hr. PR: (GEOL 101 and GEOL 102) or (GEOL 110 and GEOL 111) or (GEOG 110 and GEOG 111). Analysis of physical and cultural landscapes using maps and remote sensing images. (1 hr. lec., 4 hr. lab.)

GEOG 205. Natural Resources. 3 Hr. Introduces the concept of natural resources and surveys such topics as land, soil, rangeland, forests, water, atmosphere, minerals, and energy. Emphasis is on the United States within the context of the global environment.

GEOG 207. Climate and Environment. 3 Hr. Examination of atmospheric processes and the impact of human activity on climate.

GEOG 209. Economic Geography. 3 Hr. PR: GEOG 108. Examination of the world economy particularly the spatial patterns of agriculture, manufacturing and services.

GEOG 210. Urban Geography. 3 Hr. PR: GEOG 101 or GEOG 102 or GEOG 108. Introduction to the geography of the city incorporating consideration of urban systems and city-region linkages, patterns and processes of urban land use, the social geography of the city, and contemporary urban problems.
GEOG 215. Population Geography. 3 Hr. PR: GEOG 107. Study of the geographic distribution of population and population characteristics including density, age, fertility, mortality, and settlement patterns. Problems of migration and population/resource issues are also covered, with an emphasis on developing countries.

GEOG 240. United States and Canada. 3 Hr. Regional study of the United States and Canada emphasizing such geographic features as climate, natural vegetation, topography, natural resources, population distribution and trends, agriculture, manufacturing, transportation systems, and regional culture.

GEOG 241. Geography of Europe. 3 Hr. PR: GEOG 108. Study of contemporary human and physical geography of Europe. Insight to political, economic and social dimensions of transition in this region.

GEOG 243. Geography of Africa. 3 Hr. Systematic and regional characteristics and geographic problems of political, social, and economic development.

GEOG 244. Geography of the Middle East. 3 Hr. This course is designed to provide students with a detailed understanding and ability to analyze the geography of the Middle East (including North Africa). Special topics on current geographical issues will also be covered.

GEOG 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GEOG 300. Geographical Data Analysis. 3 Hr. Quantitative techniques for collection, classification, and spatial analysis of geographical data with emphasis on map analysis and application of spatial statistics.

GEOG 302. Political Geography. 3 Hr. Examines the interrelationship between politics and the environment, human territoriality, the political organization of space, geopolitical aspects of the nation-state and international problems.

GEOG 307. Biogeography: Theory and Method. 3 Hr. PR: GEOG 107. An introduction to the field of biogeography including the study of the distribution and diversity of life, how species migrate, the importance of natural and human disturbances in ecosystems.

GEOG 310. Global Issues. 3 Hr. PR: GEOG 102 or GEOG 108. Themes of spatial equity and justice in an increasingly interdependent world system. Contemporary issues concerning location, place, movement, and region.

GEOG 321. Geomorphology. 3 Hr. PR: GEOL 101 and GEOL 102. An examination of earth-surface processes and landforms, with emphasis on environmental geomorphology, streams, floods, glaciers, and landslides. (Required field trip at student's expense; also listed as GEOL 321.)


GEOG 361. Cartography. 3 Hr. An introduction to mapping from concepts to production, including historical developments, coordinate systems, projections, generalization, symbolization, map design and computer-assisted mapping. (2 hr. lec., 1 hr. lab.)

GEOG 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GEOG 407. Environmental Field Geography. 3 Hr. PR: GEOG 107 and GEOG 307. An introduction to field methods used in environmental and physical geography. Course uses a problem-based approach.

GEOG 411. Rural and Regional Development. 3 Hr. PR: GEOG 102 or GEOG 108. An investigation into rural and regional development in developed and underdeveloped regions. The relationship between development theory and policy is explored.
GEOG 412. Geography of Gender. 3 Hr. PR: GEOG 108 or consent. An exploration of how gender affects spatial patterns and processes. Theoretical and empirical aspects of feminism are analyzed including women and employment, third world feminism, sexuality and space, and gender in academia.

GEOG 415. Global Environmental Change. 3 Hr. PR: GEOG 107 or equivalent or consent. A geographic analysis of the Earth system emphasizing the interdependence and feedback mechanisms of the hydrologic cycle, ecosystems, climate, and human activities.

GEOG 425. Urban and Regional Planning. 3 Hr. PR: GEOG 210 or POLS 220 or consent. Explores concepts, techniques, and processes of physical and socioeconomic planning and their application to urban and regional problems.

GEOG 443. African Environment & Development. 3 Hr. Detailed examination of the intersection of environmental and development studies in sub-Saharan Africa with critical assessments of current practice.

GEOG 452. Geographic Information Science: Applications. 3 Hr. PR: GEOG 350. GIS uses, needs, analysis, design, and implementation. Operational institutional and management topics of GIS for planning, locational decision making in business, government, and research contexts. (2 hr. lec., 1 hr. lab.) (Also listed as GEOL 452.)

GEOG 453. Geographic Information Science: Design and Implementation. 3 Hr. PR: GEOG 350 and consent. Geographic database design and implementation using contemporary GIS software.

GEOG 455. Introduction to Remote Sensing. 3 Hr. Theory, technology and applications of photo-interpretation and digital image analysis of aerial photography and multispectral images. (2 hr. lec., 1 hr. lab.) (Also listed as GEOL 455.)

GEOG 456. Remote Sensing Applications. 3 Hr. PR: GEOG 455 or GEOL 455 or consent. Survey of remote sensing applications, focusing on the type of information obtained and methods used.

GEOG 462. Digital Cartography. 3 Hr. PR: GEOG 361 or consent. Computer-assisted mapping emphasizing the appropriate uses of software in thematic and topographic map design, annotation, symbolization, color, design, display and reproduction.

GEOG 485. Methods of Geographic Research. 3 Hr. PR: Consent. Geographic analysis as problem-solving activity. Practical experience in field techniques, library research, hypothesis formation and testing, and report preparation and presentation. Students will acquire skills in literary and numerical approaches to geographic data analysis.

GEOG 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

GEOG 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

GEOG 492 A-Z. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

GEOG 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GEOG 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

GEOG 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

GEOG 496. Senior Thesis. 1-3 Hr. PR: Consent.
GEOG 497. Research. 1-15 Hr. PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.)

GEOG 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

GEOG 499. Honors Thesis. 3-6 Hr. PR: Departmental consent. Thesis proposal, writing, and defense for students admitted to the Honors Program.

Geology (GEOL)

GEOL 101. Planet Earth. 3 Hr. Composition and structure of the Earth and the physical processes that change Earth's surface. GEOL 102 not required with GEOL 101. (Accompanied by registration in GEOL 102, class meets requirements for 4 hr. credit in a laboratory science in geology.) (Students cannot receive credit for GEOL 101 and GEOL 110 or GEOG 110.)

GEOL 102. Planet Earth Laboratory. 1 Hr. PR or CONC: GEOL 101. Laboratory study of the Earth using rocks, minerals and maps. (2 hr. lab.) (Students cannot receive credit for GEOL 102 and GEOL 111 or GEOG 111.)

GEOL 103. Earth Through Time. 3 Hr. PR: GEOL 101 or GEOL 110 or GEOG 110. Evolution of the Earth and its inhabitants. (Accompanied by registration in GEOL 104, class meets requirements for 4 hr. credit in a laboratory science in geology.)

GEOL 104. Earth Through Time Laboratory. 1 Hr. PR or CONC: GEOL 103. Laboratory study of sedimentary rocks, fossils, and geologic maps and their use in interpreting Earth history. (2 hr. lab.)

GEOL 110. Environmental Geoscience. 3 Hr. Physical aspects of the Earth with emphasis on natural resources, environmental degradation and hazards. (Accompanied by GEOL 111 meets requirements for a 4 hr. credit in laboratory science.) (Also listed as GEOG 110). (Students may not receive credit for GEOL 110 and GEOG 110 or GEOL 101.)

GEOL 111. Environmental Geoscience Laboratory. 1 Hr. PR or CONC: GEOL 110. (Also listed as GEOG 111.) (Students may not receive credit for GEOG 111 and GEOL 102 or GEOG 111.)

GEOL 200. Geology for Environmental Scientists. 4 Hr. PR: (GEOL 110 and GEOL 111) or (GEOG 110 and GEOG 111) or (GEOL 101 and GEOL 102 and GEOL 103 and GEOL 104). Fundamentals of mineralogy, sedimentation, stratigraphy, petrology, and structural geology needed by environmental scientists to understand earth materials. (Required field trips partial student expense.) (3 hr. lec., 1 hr. lab.)

GEOL 203. Physical Oceanography. 3 Hr. (Not open to upper division geology majors.) The geography and geology of ocean basins and margins, the chemical and physical properties of sea water, and the examination of the source and location of resources in the sea.

GEOL 230. Fossils and Evolution. 3 Hr. PR: GEOL 101 or BIOL 101. Evolutionary history of plants, marine invertebrates, fish, amphibians, reptiles, dinosaurs, birds, and mammals; emphasis on unique contribution of fossil record to evolutionary theory. (2 hr. lec., 1 hr. lab.) (Credit cannot be obtained for both GEOL 103 and GEOL 230.)

GEOL 284. Mineralogy. 3 Hr. PR: GEOL 101 and GEOL 102 and PR or CONC: CHEM 111 or CHEM 115. Elements of crystallography and the systematic study of minerals, identification of minerals in hand specimens according to physical properties. (Required weekend field trip covered by the lab fee.)

GEOL 285. Introductory Petrology. 3 Hr. PR: GEOL 284. Introduction to the study of igneous, sedimentary and metamorphic rocks, including mineralogy, processes of formation, tectonic setting, and description and identification of rocks in hand specimens. (Required weekend field trip. Students will be required to pay a portion of the expenses.)

GEOL 311. Stratigraphy and Sedimentation. 3 Hr. PR: GEOL 103 and GEOL 104 and GEOL 285 and GEOL 321. Study of sediments and sedimentary rocks with an emphasis on the analysis of facies. (Required field trips at student's expense.)
GEOL 321. Geomorphology. 3 Hr. PR: (GEOL 101 and GEOL 102) or (GEOL 110 and GEOL 111) or (GEOG 110 and GEOG 111). An examination of earth-surface processes and landforms, with emphasis on environmental geomorphology, streams, floods, glaciers, and landslides. (Required field trip at student’s expense; also listed as GEOG 321.)

GEOL 331. Paleontology. 3 Hr. PR: GEOL 103 and GEOL 104 and STAT 211. Uses of paleontologic data in geology; biostratigraphy, paleoecology, evolution, extinction, and biogeography; lab emphasis on identification and utilization of marine invertebrate fossils. (Required weekend field trip at student’s expense.)

GEOL 341. Structural Geology. 4 Hr. PR: GEOL 103 and GEOL 104 and GEOL 284 and GEOL 285 and PHYS 101. Introduction to rock deformation processes and the interpretation of geologic structure, with applications to the structure and tectonic evolution of the Appalachian Mountains. (Several one-day field trips required.)

GEOL 342. Structural Geology for Engineers. 3 Hr. PR: GEOL 101 and GEOL 102 and PHYS 111. Introduction to rock deformation processes and the development and interpretation of geologic structures. (Several one-day field trips required.)

GEOL 351. Geomathematics. 3 Hr. PR: GEOL 101 and (MATH 150 or MATH 155). Mathematical methods and applications in geology, geochemistry, geophysics, and environmental science. Review of integral calculus, differential equations, and non-linear systems. Use of computers as geological problem-solving tools.

GEOL 365. Environmental Geology. 3 Hr. PR or CONC: GEOL 321. Principles, practice, and case histories in application of earth science to environmental problems. Includes: water quality; landslides; subsidence; waste disposal; legal aspects; and geological aspects of land-use planning. (Field trips and independent field project required.)

GEOL 400. Environmental Practicum. 4 Hr. PR: GEOL 200. Practical experience in collecting and evaluating data required to address the complex environmental issues facing environmental geoscientists. (Required field trip during spring break).

GEOL 404. Geology Field Camp. S. 6 Hr. PR: GEOL 285 and GEOL 341 and GEOL 311 and Consent. Practical experience in detailed geological field procedures and mapping. (Living expense in addition to tuition must be paid at time of registration.)

GEOL 454. Environmental and Exploration of Geophysics 1. 3 Hr. PR: PHYS 102 and (MATH 156 or GEOL 351). Basic theory, computer modeling, and use of gravitational, magnetic, resistivity, and electromagnetic methods in the evaluation or shallow targets of interest to environmental, hydrological, and hazardous waste site investigations.

GEOL 455. Introduction to Remote Sensing. 3 Hr. Theory, technology and applications of photo-interpretation and digital image analysis of aerial photography and multispectral images. (2 hr. lec., 1 hr. lab.) (Also listed as GEOG 455.)

GEOL 462. Introductory Hydrogeology. 3 Hr. PR: GEOL 101 and GEOL 102 or (GEOL 110 and GEOL 111) or (GEOG 110 and GEOG 111) and (MATH 126 and MATH 128) and (CHEM 110 or CHEM 111 or CHEM 115). Basic principles of hydrogeology, emphasizing geologic occurrence of ground water, vadose (soil) water, wells, springs, ground water interaction with streams, and ground-water chemistry, pollution, and pollution restoration.

GEOL 463. Physical Hydrogeology. 3 Hr. PR: GEOL 101 and MATH 126. Principles of groundwater hydrology, emphasizing the physical occurrence and movement of ground water. Topics include aquifer properties, flow net analysis, and hydraulic aquifer testing.

GEOL 466. Cave and Karst Geology. 3 Hr. PR: (GEOL 101 and GEOL 102) or (GEOL 110 and GEOL 111) or (GEOG 110 and GEOG 111) and (CHEM 110 or CHEM 111 or CHEM 115). Study of the nature and origins of cave and karst landforms, terrains, geomorphology, hydrogeology, environmental hazards, and petroleum and mineral ore deposits. (Two required field trips.)
GEOL 469. Applied Hydrogeology Seminar. 1 Hr. A review of professional practices and opportunities in hydrogeology. Seminar talks by hydrogeological professionals from WVU, industry, and government agencies. Field trips to examine hydrogeological practices and techniques.

GEOL 470. Mineral Resources. 3 Hr. PR: GEOL 101 and GEOL 284. Description, mode of occurrence, and principles governing the formation of ore deposits.

GEOL 472. Petroleum Geology. 3 Hr. PR: GEOL 341 or GEOL 342. Origin, geologic distribution, methods of exploration and exploitation, uses and future reserves of petroleum and natural gas in the world.

GEOL 479. Log Analysis-Reading the Rocks. 3 Hr. PR: Consent. The geosciences require knowledge of the sub-surface properties. Students learn the theory and practice behind a range of subsurface methods. Experience with challenges in geology.

GEOL 484. Minerals and the Environment. 3 Hr. PR: GEOL 284 or GEOL 200. Study of the importance of minerals in human health and the environment. Includes examples of environmental problems that are caused by minerals and solutions to environmental problems that involve minerals.

GEOL 488. Environmental Geochemistry. 3 Hr. PR: GEOL 351 and CHEM 116. Basic review of physical and aqueous chemistry, discussion of basic geochemical processes; calcium carbonate chemistry, diagenetic processes, weathering, the silicate and iron system.

GEOL 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

GEOL 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

GEOL 492. Directed Study. 1-6 Hr. Directed study, reading or research.

GEOL 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GEOL 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics on mutual concern to students and faculty.

GEOL 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

GEOL 496. Senior Thesis. 1-3 Hr. PR: Consent.

GEOL 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

German (GER)

GER 101. Elementary German 1. 3 Hr. PR: Score of G1 on placement test or no prior study of the language or departmental consent. Introduction to the sound of language or departmental consent. Introduction to the sound and writing systems of the language, with emphasis on listening, speaking, reading, and writing within authentic cultural context. (Course presumes no prior knowledge of the language.)

GER 102. Elementary German 2. 3 Hr. PR: GER 101. Continuation of GER 101. Introduction to the sound and writing systems of the language, with emphasis on listening, speaking, reading, and writing within an authentic cultural context.

GER 203. Intermediate German 1. 3 Hr. PR: GER 102 or GER 100.
GER 204. Intermediate German 2. 3 Hr. PR: GER 203, or consent. Continuation of GER 203.

GER 222. German Pronunciation. 3 Hr. PR or CONC: GER 203. Designed to strengthen pronunciation through listening and speaking exercises focusing on intonation and diction. Students will improve their ability to hear differences in sounds, understand sound formation, and reproduce sounds in their own speech.

GER 246. Introduction to German Film. 3 Hr. PR or CONC: GER 203. Historical overview of German cinema through viewing films (in German) and reading supplementary theoretical texts, students will learn about the history of film-making in Germany during the twentieth and twenty-first centuries.

GER 271. The German Experience 1. 3 Hr. Beginning to intermediate culture course that practices speaking and writing skills while documenting the study abroad experience and increases students understanding of the target culture.

GER 272. German Grammar 1. 3 Hr. Review of basic elements of German grammar while studying abroad.

GER 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GER 301. Advanced German Conversation 1. 3 Hr. PR: GER 204. Content-based conversation course with grammar review.

GER 302. Advanced German Conversation 2. 3 Hr. PR: GER 301. Content-based conversation course with grammar review.

GER 303. Advanced German Composition 1. 3 Hr. PR: GER 302. Content-based composition course with grammar review.

GER 304. Advanced German Composition 2. 3 Hr. PR: GER 303. Content-based composition course with grammar review.

GER 331. Survey of German Literature 1. 3 Hr. PR: GER 204. Readings of representative selections from major periods through Romanticism.

GER 332. Survey of German Literature 2. 3 Hr. PR: GER 204. Readings of representative selections from major periods since Romanticism.

GER 341. German Cultural History. 3 Hr. PR: GER 204. A study of cultural, political, social and economic developments in the German-speaking countries.

GER 361. Commercial German 1. 3 Hr. PR: GER 204 or consent. Practical speaking, writing, and reading experience in German as it relates to business, commerce, and industry.

GER 362. Commercial German 2. 3 Hr. PR: GER 361 or consent. Continuation of GER 361. Preparation for Diplom Wirtschaftsdeutsch.

GER 435. The New German Cinema. 3 Hr. A study of representative German films from 1962 to the present. (May be crosslisted with FLIT 435.)

GER 441. German Culture Since 1945. 3 Hr. PR: Consent. An exploration of postwar German culture with a focus on the contemporary situation since unification.

GER 471. The German Experience 2. 3 Hr. PR: GER 204 or consent. Advanced culture course that practices speaking and writing skills while documenting the study abroad experience and increases students’ understanding of the target culture.

GER 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.
GER 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

GER 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

GER 493 A-Z. Special Topics 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GER 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

GER 495. Independent Study. 1-3 Hr. Faculty supervised study of topics not available through regular course offerings.

GER 496. Senior Thesis. 1-3 Hr. PR: Consent.

GER 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Gerontology (GERO)**

GERO 212. Introduction to Gerontology. 3 Hr. Survey of biological, psychological and sociological issues and problems associated with human aging. Selected social policies impacting quality of life for the elderly are presented.

GERO 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GERO 310. The Aging Women. 3 Hr. Does gender make a difference in the aging process? This course examines the female experience of growing older. Lecture, discussion, review of literature, with focus on selected works of literature and the creative arts.

GERO 312. Issues in Gerontology. 3 Hr. This course introduces students to a broad spectrum of topics and issues related to aging by focusing on current issues and controversies associated with a rapidly aging world and the implications that follow.

GERO 410. Rural Gerontology. 3 Hr. Overview of health, social, and policy issues that impact the quality of life of older adults living in rural environments, contrasted with those in urban areas. (Equivalent to GERO 681.)

GERO 412. Public Policy of Aging. 3 Hr. Policy analysis of major public programs for senior citizens - Older American Act, Medicare-Medicaid and Social Security. Discussion of future of these programs and societal response. Emphasis on senior programs in West Virginia. (Equivalent to GERO 512.)

GERO 418. Aging, Women and Culture. 3 Hr. This course will use a multidisciplinary approach to examine the impact of gender, race/ethnicity, and culture on aging, the aging population and individual experiences of aging.

GERO 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experimental learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

GERO 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

GERO 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.
History (HIST)
HIST 101. Western Civilization: Antiquity to 1600. 3 Hr. (HIST 101 does not have to precede HIST 102.) A survey of the major developments in Western civilization beginning with the ancient Mediterranean world and concluding with Reformation Europe.

HIST 102. Western Civilization: 1600 to Present. 3 Hr. (HIST 102 may precede HIST 101.) A survey of major developments in Western civilization from 1600 to the present with attention to Europe's emerging industrial society and changing role in world affairs.

HIST 104. Latin America: Past and Present. 3 Hr. Introduction to Latin American history, stressing the relationship between the past and present. Special emphasis is given to economic problems, political development, and social change in modern Latin America.

HIST 105. The Middle East. 3 Hr. History of the Middle East from the rise of Islam (610 C.E.) to twentieth century. Special attention given to religion, gender issues, political developments, economic problems, relations with the West, cultural patterns and changes in the modern era.

HIST 106. East Asia: An Introduction. 3 Hr. Focuses on modern China, Japan, and Korea. Consideration of important problems facing each nation today together with the cultural and historical developments which help explain contemporary affairs in East Asia.

HIST 108. North America: Past and Present. 3 Hr. Introduction to the history of Canada, Mexico, and the United States, emphasizing selected social, economic, and political developments and how they have influenced the present.

HIST 152. Growth of the American Nation to 1865. 3 Hr. (HIST 152 does not have to precede HIST 153.) Examines the basic political, economic, and social forces in formation and development of the United States before 1865. Emphasis on national development from independence through the Civil War.

HIST 153. Making of Modern America: 1865 to the Present. 3 Hr. (HIST 153 may precede HIST 152.) Continues the examination of basic political, economic, and social forces in the development of the United States since the Civil War.

HIST 179. World History to 1500. 3 Hr. Comparative history of Africa, Asia, and Europe from earliest times until 1500. Political, economic, social, and religious developments with emphasis on patterns of authority, the individual, nature, and society.

HIST 180. World History Since 1500. 3 Hr. Comparative history of Africa, Asia, and Europe 1500 to the present. Political, economic, and social developments with emphasis on patterns of authority, the individual, nature, society, and the impact of the West.

HIST 199. Orientation to History. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

HIST 201. History of Ancient Times: Stone Age to the Fall of Rome. 3 Hr. Ancient civilizations of the Near East and the Mediterranean.

HIST 202. King Tut's Egypt. 3 Hr. Surveys ancient Egyptian history from late pre-dynastic era (4500 BCE) through New Kingdom (1090 BCE). Examines culture, society, religion, art, architecture, and archaeology of ancient Egypt before, during, and after the time of King Tutankhamon.

HIST 203. Introduction to Medieval Europe. 3 Hr. Treats the emergence of the distinctive culture of Western Europe from the Fall of Rome to the Renaissance, considering the transformation and interaction of politics, economics, society, religion, and ideas.

HIST 204. Renaissance & Reformation. 3 Hr. Medieval antecedents; humanism and the new learning; renaissance art; Machiavellian politics; demographic and social trends; Luther and Calvin, Radical reformers, Council of Trent; popular culture; wars of religion.
HIST 205. Absolutism & Enlightenment. 3 Hr. Europe from 1600-1800. End of religious wars; emergence of absolutism; nobility and court life; mercantilism; expansion; theological and philosophical crisis; empiricism and scientific revolution; philosophes and Enlightenment; French Revolution.

HIST 207. Revolutionary Europe. 3 Hr. Traces the development of European history from the reign of Louis XV to the end of the Franco-Prussian War. Political and social history emphasized.

HIST 209. Twentieth Century Europe. 3 Hr. Traces the major political, economic, and social developments of Europe from World War I to the present.

HIST 210. Modern Military History. 3 Hr. Military history from the American Revolution to the present, stressing the evolution of warfare with particular attention to strategy, tactics, weaponry and the consequences of war.

HIST 217. History of Russia to 1917. 3 Hr. Medieval Russia and the development of autocracy; imperial expansion and serfdom; response to the West from Peter I to Alexander II; Great reforms, economic transformations, revolutionary movement; complex of crises after 1900.

HIST 218. History of Russia: 1900-Present. 3 Hr. Revolution and reform to 1914; World War, 1917 revolutions; NEP and Stalinism to 1939; World War II and postwar Stalinism; reform under Khrushchev and Brezhnev; Gorbachev and dissolution of USSR; post-Soviet trauma.

HIST 220. The Holocaust. 3 Hr. The origins and development of Nazi genocide against European Jews, focusing on the experience of the victims, the motives of the killers, and the inaction of bystanders.

HIST 221. History of Modern Germany. 3 Hr. German history from Congress of Vienna to the end of World War II. Student gains special knowledge of more specialized topics by selecting literature and writing essays on these topics.

HIST 225. Modern South Asia. 3 Hr. History of India, Pakistan, and Bangladesh from the Medieval period to the present; traditional background, Muslim conquests, British Raj, nationalistic and independence movements, partitions, independent states, and current issues.

HIST 241. Latin America: Culture, Conquest, Colonization. 3 Hr. History of the formative period of Latin America, emphasizing the social and economic interaction between Indians, Europeans, and blacks from the conquest to the wars for independence in the early nineteenth century.

HIST 242. Latin America: Reform and Revolution. 3 Hr. History of modern Latin America, concentrating on the durability of nineteenth-century social, economic, and political institutions, and the twentieth-century reformist and revolutionary attempts to change those institutions.

HIST 250. West Virginia. 3 Hr. Historical foundations and development of West Virginia, with particular emphasis upon the growth of the government, the economy, and the traditions of the state.

HIST 255. History of American Colonial Society: 1607-1763. 3 Hr. The planting and maturation of the English colonies of North America. Relationships between Europeans and Indians, constitutional development, religious ferment, and the colonial economy are studied.

HIST 256. History of the American Revolution: 1763-1790. 3 Hr. The immediate origins and long-range consequences of the movement for independence from Great Britain; includes the 1775-1780 controversy over the charter of new state and federal governments.

HIST 257. Antebellum America: 1781-1861. 3 Hr. (Completion of HIST 152 is advised.) American history from the Revolution to the Civil War is examined in detail, with particular attention to the key personalities of the era, the development of political parties, the movement westward, the beginnings of industrialization, and the sectional struggles that culminated in war.
HIST 259. The United States: 1865-1918. 3 Hr. Development of the United States during the most intensive phase of American industrialization; special emphasis on ideas of selected Americans on how to cope with the increase in poverty and social malaise which accompanied economic development; attention is also given to the roots of American imperialism.

HIST 261. Recent America: The United States since 1918. 3 Hr. (Primarily for non-history majors.) The 1920’s, the New Deal, World War II, and a survey of developments since World War II.

HIST 264. American Indian History. 3 Hr. Surveys the history of Native peoples of what is now the United States, from pre-contact to the present. Ethnohistorical approach emphasizes cultural development as well as interactions with European and American peoples and policies.

HIST 271. Science/Religion and Myth. 3 Hr. Surveys human understandings of nature from prehistoric astronomies and Babylonian myths through ancient and medieval thought to the new sciences of Copernicus, Galileo, and Newton.

HIST 272. Science Since 1700. 3 Hr. Historical survey of major trends and critical events in science since the Scientific Revolution, including developments in the physical and biological sciences. Examines both the content and context of science.

HIST 275. The Coal Industry in America. 3 Hr. The historical development of the coal industry; the technology of extraction, the political and economic context, the United Mine Workers of America, and the particular social problems of the industry will be emphasized.

HIST 277. Revolutions in Science and Technology. 3 Hr. Examines particular periods of intensified change in science and technology, to develop general understanding of scientific and technical change. Episodes may include the Scientific, Industrial, Darwinian, or other revolutions.

HIST 281. The Agrarian Transformation. 3 Hr. Surveys the modernization of world agriculture from 17th century Europe to the Green Revolution, and its economic, social, and political consequences. (Alternate years.)

HIST 284. History of Environmental Sciences. 3 Hr. Physical environment of the Earth, from the Greek central Earth to plate tectonics. Historical perspectives on geology, geography, oceanography, and other Earth sciences. (Alternate years.)

HIST 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HIST 304. History of Sacred Places. 3 Hr. Begins by analyzing the meaning of sacred and then proceeds to a comparative historical, religious, and political discussion of selected sacred places.

HIST 316. World War 1 in Europe. 3 Hr. Impact of World War I in the trenches, on the home front, in the empires; the Peace Settlement and the legacy of Bolshevism, Fascism, cultural pessimism, and financial ruin.


HIST 331. History of Italy: 1800-2000. 3 Hr. Napoleonic occupation, regional states, Risorgimento, liberal democracy, emigration, industrialization, World War I, Mussolini and Fascism, postwar reconstruction, cinema, partyocracy, images of Italy, 1900s reforms.

HIST 346. Kinship in Premodern Europe. 3 Hr. Traces key shifts in the theory and practice of European family structure, gender roles, marriage, demography, inheritance, household labor, property holding, and child-rearing from 500 BC to 1700 AD.
HIST 350. The Aztec, Maya, and Inca. 3 Hr. Survey of political, religious, and social structures of the Aztec, Maya and Inca civilizations; exploring their origins, daily lives, cultural productions, understanding of the universe, and perspectives on Europeans.

HIST 353. 1920s America. 3 Hr. Analyzes the social, economic, political, and technical changes that transformed life and culture in the United States during the 1920s.

HIST 393 A-Z. Special Topics. 1-5 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HIST 400. Greece and Rome. 3 Hr. Covers the Minoan and Mycenean civilizations, Archaic and Classical Greece, Alexander the Great and the Hellenistic Age, the Roman Republic, the Etruscan and Carthaginian states, and the rise of the Roman Empire.

HIST 404. Ancient and Medieval Science. 3 Hr. Investigations of the natural world in classical antiquity and medieval Europe.

HIST 407. The Rise of Modern Science. 3 Hr. The emergence of the scientific world view from the Renaissance through the Enlightenment.

HIST 408. Science in Modern Europe. 3 Hr. Crystallization and generalization of scientific world view in Europe after the Scientific Revolution. Emphasizes the mutual interaction of science, society, and culture.

HIST 411. Industrial Revolution: 1600-1900. 3 Hr. Focuses on technical, economic, and social changes surrounding the Industrial Revolution in England and the United States. Examines also the expanding effects of the process of industrialization in continental Europe.

HIST 412. Introduction to Public History. 3 Hr. Introduction to a wide range of career possibilities for historians in areas such as archives, historical societies, editing projects, museums, business, libraries, and historic preservation. Lectures, guest speakers, field trips, individual projects.

HIST 413. France from the Renaissance to Napoleon. 3 Hr. French history from the end of the Hundred Years War to Napoleon’s defeat at Waterloo. Focus on the construction of the modern French state, the Enlightenment, the French Revolution, and Napoleon.

HIST 414. France since 1815. 3 Hr. French history from the Restoration of the Bourbon monarchy to the present. Will emphasize the development of a modern industrial society, the revolutions of the 19th century, the impact of the World Wars, and France’s role in the new Europe.

HIST 416. The French Wars of Religion 3 Hr. Detailed analysis of the tangled roots of this conflict (1562-1629), the salient events of the period, and their long-term impact. Popular culture, military developments, theology, and court politics.

HIST 417. World War II in Europe. 3 Hr. PR: 6 hours history or consent. Impact of World War II on political culture and moral fabric; emphasis on themes of invasion, occupation, collaboration, resistance, survival, and retribution. (Alternate years.)

HIST 418. Eastern Europe since 1945. 3 Hr. The social, economic, intellectual, cultural, and political history of Eastern Europe since the Second World War. Special emphasis on the causes of the East European revolutions of 1989 and the problems of post-communist transition. (Offered every third semester.)

HIST 419. Revolutionary Russia: 1900-1953. 3 Hr. Crisis of late Imperial Russia, Silver Age, World War, 1917 revolutions; Civil War, renewed empire, crisis of 1921; NEP, policy debates, succession; Stalinism to 1939; World War II, post war Stalinism; initial repudiation of Stalin.

HIST 420. U.S.S.R. and After: 1953 to Present. 3 Hr. Crisis of late Stalinism; Khrushchev, de-Stalinization, reforms; Brezhnev, stabilization, militarization, corruption, stagnation; Gorbachev, Perestroika, glasnost, disintegration; Yeltsin, shock therapy, criminalization, decline.

West Virginia University Undergraduate Catalog
HIST 421. Hitler and the Third Reich. 3 Hr. PR: Junior, senior, or graduate standing. Myths and realities of Hitler’s public and personal life; emphasis on rise to power, party, ideology, and propaganda techniques; position and policies as Fuehrer.

HIST 422. Twentieth-Century Germany from Weimar to Bonn. 3 Hr. The Weimar Republic, the Third Reich, and the two German states created after World War II.

HIST 423. History of Fascism. 3 Hr. Examines history of fascism in interwar Europe and postwar neo-fascism, using scholarship, art, propaganda, and film. Topics include origins, regime culture, the totalitarian state, and violence.

HIST 424. 15th and 16th Century England. 3 Hr. England from Richard II to Elizabeth I, covering developments in politics, religion and society, ranging from the War of the Roses and the plague to Protestantism and Shakespeare. (Alternate years.)

HIST 425. History of Modern China. 3 Hr. Introduction to modern China (since 1839) with attention to China’s Confucian heritage; the Chinese effort to modernize in the face of Western diplomatic and economic pressure; specific attention to China’s nationalistic and communist revolutionary traditions.

HIST 426. History of Modern Japan. 3 Hr. Modern Japan (since 1868) with attention to development of Japanese institutions and ideas in earlier periods, especially the Tokugawa Era (1600-1868); examines the rapid pace of economic change in the nineteenth and twentieth centuries along with the important social, political, and diplomatic implications of this change.

HIST 427. East Africa to 1895. 3 Hr. East Africa from earliest times to the beginning of European control. Population movement and interaction, development of varying types of policy, revolutionary change, and the European scramble for East Africa form the major focus.

HIST 428. East Africa Since 1895. 3 Hr. History of colonial rule and movement to independence in East Africa. Political, economic, and social changes will be examined with particular emphasis on the rise and triumph of African nationalism.

HIST 429. History of Africa: Pre-Colonial. 3 Hr. History of Africa from earliest times to the middle of the nineteenth century. Particular emphasis on population and interaction, state formation, and the development of trade in sub-Saharan Africa as well as the impact of such external influences as Christianity and Islam.

HIST 430. History of Africa: European Dominance to Independence. 3 Hr. History of Africa from the middle of the nineteenth century to the 1960s. Political and economic trends will form major focus.

HIST 432. Eighteenth Century Britain: 1715-1832. 3 Hr. The “Age of Aristocracy,” the political, social, religious, economic, and intellectual impact of the Industrial, Agricultural, American, and French revolutions.

HIST 433. West Africa to 1885. 3 Hr. West Africa from the earliest times to the imposition of colonial rule. Examines social, economic, political developments and interactions, and European scramble for West Africa. (Alternate years.)

HIST 434. West Africa from 1885. 3 Hr. Abolition of the transatlantic slave trade, imposition of colonial rule, colonial economic, social and administrative systems, the rise and triumph of African nationalism, West Africa since independence.

HIST 438. Women in Colonial Latin America. 3 Hr. Explores women’s roles in the formation of Latin America examining how women in the colonial era challenged gender norms, contributed to, and subverted colonial society.

HIST 441. 17th Century Colonial America. 3 Hr. The establishment of England’s American colonies and their development during a century of political, social, religious, and economic change and the interaction between events in Old and New Worlds. (Alternate years.)
HIST 442. 18th Century America. 3 Hr. The social, political, and economic maturation of England's American colonies, the move toward independence, and the establishment of government at state and federal levels. (Alternate years.)

HIST 445. History of American Women. 3 Hr. Examination of the history of American women from 1607 to the present, with emphasis on working conditions, women's rights, development of feminism, women's role in wartime, and women in the family.

HIST 449. Women's Movements Since 1960. 3 Hr. Comparison of U.S. “Second wave” and “Third Wave” feminisms; validity of the concepts of “waves” of feminism; and impact of race, class, sexual orientation on perspectives on women's status.


HIST 452. African-American History Since 1900. 3 Hr. Reconstruction, the age of reaction and racism, black migration, black nationalism, blacks in the world wars, and desegregation.

HIST 453. Civil War and Reconstruction. 3 Hr. Causes as well as constitutional and diplomatic aspects of the Civil War; the role of American black in slavery, in war, and in freedom; and the economic and political aspects of Congressional Reconstruction.

HIST 454. Antebellum America 1800-1860. 3 Hr. Analyzes social and economic transformations in the early American republic through an examination of the ideological heritage of the Revolution, capitalism, slavery, reform movements, immigration, popular culture, and political conflict before the Civil War.

HIST 456. The Gilded Age in U.S. History. 3 Hr. Examines responses of the American people and institutions to opportunities and problems of the late nineteenth century. Emphasis on rise of big business; labor organization; immigration; regular, reform, and radical politics; disappearance of the frontier; farm crisis; and origins of imperialism.

HIST 457. The United States From McKinley to the New Deal, 1896 to 1933. 3 Hr. American national history from William McKinley to Franklin D. Roosevelt. Particular attention is given to great changes in American life after 1896; national political, economic, social, and cultural development; the Progressive Era in American politics; and alterations in American foreign relations resulting from the Spanish-American War and World War I.

HIST 459. United States History: New Deal to Great Society. 3 Hr. Covers New Deal; World War II; Cold War, with emphasis on American social, political, technological, and cultural developments; United States domestic problems and foreign relations from 1945 to 1968.

HIST 460. World War II in America. 3 Hr. Examines the American experience in World War II; with an emphasis on the economic, social, and political impact of war on American society.

HIST 463. American Diplomacy to 1941. 3 Hr. (HIST 152 and HIST 153 are recommended.) American foreign policy and diplomacy from the adoption of the Constitution to the beginning of World War II.

HIST 464. American Diplomacy since 1941. 3 Hr. (HIST 152 and HIST 153 are recommended.) America's foreign policy and growing involvement in international relations including the U.S. role in World War II, the Korean War, and Vietnam.

HIST 465. The Vietnam War. 3 Hr. United States participation in the 1946-1975 fighting in Indochina. United States involvement in the political and military conflict, and the impact of the war on the United States. (Alternate years.)

HIST 466. American Economic History to 1865. 3 Hr. Origins and development of American business, agricultural, and labor institutions, problems, and policies, from 1600 to 1865; influence of economic factors upon American history during this period.
HIST 467. American Economic History Since 1865. 3 Hr. Scope similar to HIST 466.

HIST 468. The Old South. 3 Hr. (For advanced undergraduate and graduate students.) History of the South exploring peculiar differences that led to an attempt to establish a separate nation. The geographical limitation permits a detailed study of economic and social forces within the context of the larger national history.

HIST 469. The New South. 3 Hr. Integration of the South into the nation after the Civil War. Emphasis on southern attitudes toward industrialization, commercial agriculture, organized labor, and African-Americans. Special attention to the southern literary renaissance and conservative and progressive politics of the southern people.

HIST 473. Appalachian Regional History. 3 Hr. Historical survey of Central Appalachia’s three phases of development: traditional society of the nineteenth century, the transformation of a mountain society by industrialization at the turn of the twentieth century, and contemporary Appalachia.

HIST 474. The City in American History. 3 Hr. A survey of urban history in the United States, including the colonial period, with emphasis on the nineteenth and twentieth centuries, focusing on physical development of cities (planning, transportation, architecture, suburbanization) and social history.

HIST 475. Hollywood and History. 3 Hr. Examines twentieth century American culture, politics, and society through film. It explores the relationship between film and history using films as primary sources for understanding the past.

HIST 477. Working Class America. 3 Hr. This course is designed to introduce students to issues surrounding the American working class. It will explore changes in the modes of production, the impact of labor migrations, the emergence of working-class organizations, and the political and social ideologies of working people. Particular attention will be given to the impact of racial, ethnic and gender-based conflict on the emergence of working-class movements. Students will be encouraged to interpret historical material in the context of current workplace relations.

HIST 480. History of the Alps. 3 Hr. Examines the peoples, lands, culture, and politics of the Alpine arc (France, Switzerland, Italy, Austria, Germany, and Slovenia) in comparative perspective. Mountain democracy, commerce, banditry, transportation, tourism, mining.

HIST 481. The Mediterranean: 1200-1800. 3 Hr. Interactions between societies surrounding the Mediterranean (Christians, Muslims, and Jews from Europe, the Ottoman Empire, Egypt, the Maghrib) from the late Abbasids to Napoleon. Trade, warfare, family life, religion.

HIST 484. Historical Research-Capstone. 3 Hr. PR: History major or consent. Capstone course which introduces historical research techniques. Completion and presentation of major research paper required.

HIST 489. Introduction to Historic Preservation. 3 Hr. Introduction to historic preservation issues, including law, economics, not-for-profit organizations, site interpretation, architectural history, industrial archeology, federal programs, downtown revitalization, and landmarks commissions.

HIST 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

HIST 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

HIST 492 A-Z. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

HIST 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
HIST 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

HIST 495. Independent Study. 1-6 hr. Faculty supervised study of topics not available through regular course offerings.

HIST 496. Senior Thesis. 1-3 Hr. PR: Consent.

HIST 497. Research. 1-6 Hr. PR: Consent. Independent research projects

HIST 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

HIST 499 A-Z. Global Service Learning 3 Hr. PR: Consent.

Honors (HONR)

HONR 199. Orientation to Honors. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

HONR 201. Peer Leadership. 1-2 Hr. PR: Students must be Honors College members in good academic standing. This course is a forum for the exchange of ideas and an environment where tutors learn effective tutoring strategies.

HONR 205. English Ritual Drama and Dance. 3 Hr. Morris dance and Mummers plays are an important part of the culture and heritage of working-class England. This class looks at their origins, and their impact on society and politics. Participation in dance required.

HONR 210. City-As-Text-Morgantown. 3 Hr. National Collegiate Honors Council’s framework City-As-Text uses Morgantown as the basis for an interactive course which uses primary document and physical structures to investigate the historical, political, cultural and social aspects of place.

HONR 215. Confronting Pseudoscience. 3 Hr. Using the tools of evidential reasoning and critical thinking this course examines the difference between a true scientific endeavor and pseudoscientific belief systems.

HONR 285. Summer Guided Reading. 3 Hr. Students will explore various reading topics. They will be required to complete assigned readings and submit review papers on the readings.

HONR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HONR 297. Research. 1-6 Hr. Independent research projects.

HONR 298 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

HONR 301. Advanced Peer Leadership. 1-2 Hr. PR: Students must be members of the Honors College in good academic standing and have completed HONR 201. This course is designed as a forum for the exchange of ideas and an environment where advanced peer tutors can learn and discuss effective strategies for helping their University peers study various subjects.

HONR 401. Peer Leadership Practicum. 1-2 Hr. PR: Students must be members of the Honors College in good academic standing and have completed HONR 201 and HONR 301. This course is designed as a forum for the exchange of ideas and an environment where advanced peer tutors can learn and discuss effective strategies for helping their University peers study various subjects.

HONR 402. Foundations of Peer Mentoring. 3 Hr. PR: Students must be in good academic standing with the Honors College to enroll in this course. This course is designed to develop mentors who will lead HONR 199. The course will focus on strategies and tactics used by successful university instructors, practice of these techniques, and the production of materials.
HONR 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

HONR 491. Professional Field Experience. 1-9 Hr. PR: Consent. (May be repeated up to a maximum of 9 hours.) Prearranged experimental learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

HONR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HONR 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

HONR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

HONR 496. Senior Thesis. 1-3 Hr. PR: Consent.

HONR 497. Research. 1-6 Hr. Independent research projects.

HONR 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Horticulture (HORT)
HORT 220. General Horticulture. 3 Hr. PR: BIOL 101 and BIOL 103 or consent. Principles underlying present-day horticulture practice with special emphasis on how basic discoveries in plant science have been applied in horticulture.

HORT 251. Floral Design. 3 Hr. Basic course in flower arrangement to cover occasions for the home and retail flower shop.

HORT 260. Woody Plant Materials. 3 Hr. PR: BIOL 101 and BIOL 103 or equiv. Common ornamental woody plants, their identification, cultural needs, and evaluation of use; some outdoor study and a one-day nursery trip. (2 - 3 hr. lab.)

HORT 262. Herbaceous Plant Materials. 3 Hr. Identification, description, adaptability, and evaluation of selected herbaceous annuals and perennials with emphasis on their use as design elements.

HORT 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HORT 310. Vines to Wines. 2 Hr. Introduction and overview of the principles underlying present-day grape and wine production with special emphasis on origins, botany, appreciation, historical and cultural significance.

HORT 320. Cut Flower Production. 3 Hr. Introduction to basic cut flower production principles and practice.

HORT 360. Landscape Management. 3 Hr. PR: (HORT 220 and HORT 260 and HORT 262) or consent. Introduction to basic landscape management principles and practices including landscape design, installation and maintenance.

HORT 420. Plant Propagation. 3 Hr. PR: PLSC 206 or consent. Study of practices of plant propagation and factors involved in reproduction in plants.

HORT 441. Garden Center Management. 3 Hr. PR: PLSC 206 and HORT 220 or consent. Principles of the operation and management of nursery, garden center, and landscape installation businesses with an emphasis on current issues.
HORT 443. Vegetable Crops. 3 Hr. PR: PLSC 206 or consent. Botanical and ecological characteristics influencing the production of vegetable crops. (One three-day field trip required.)

HORT 444. Handling and Storage of Horticultural Crops. 3 Hr. PR: PLSC 206 and CHEM 116. Characteristics of perishable crops. Methods and materials used to maintain quality.

HORT 445. Greenhouse Management. 3 Hr. PR: Two semesters of inorganic chemistry and HORT 220 or consent. Greenhouse as a controlled plant environment. How to regulate factors influencing plant growth and development within specialized environments of greenhouses.

HORT 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

HORT 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

HORT 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HORT 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

HORT 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

HORT 496. Senior Thesis. 1-3 Hr. PR: Consent.

HORT 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Human Nutrition and Foods (HN&F)

HN&F 126. Society and Food. 3 Hr. Exploration on a global basis of interactions of man and environment as reflected in food production systems. Relation of food supply and use to development or maintenance of social and political institutions.

HN&F 171. Introduction to Human Nutrition. 3 Hr. Nutrient structure, metabolism, integrated function and their importance to human well-being during all stages of the life cycle. Current concerns and those of special interest to college students in meeting nutrient needs.


HN&F 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HN&F 348. Science of Food Preparation. 3 Hr. PR: BIOL 102 and BIOL 104 and CHEM 115. To explore functional properties of ingredients and applied scientific theories to food preparation.

HN&F 350. Cross-Cultural Dietary Patterns. 3 Hr. PR: BIOL 102 and BIOL 104 and CHEM 115 and HN&F 171. Contempoary United States models for menu planning, meal service, and mealtime etiquette; factors affecting evolution of American regional/ethnic/dietary patterns; international dietary patterns; integration of current nutritional recommendations into ethnic dietary practices. (3 hr. lec., 3 1/2 hr. lab.)

HN&F 353. Food Service Systems Management. 4 Hr. PR: (MATH 126 or HN&F 350) and PR or CONC: AEM 341. Introduction to food service systems and systems management. Field experience in institutional and commercial food services.
HN&F 401. Senior Seminar in Nutrition. 2 Hr. The course provides an integrative approach to various topics related to the practice of dietetics by challenging students to read, critique/evaluate, present, and discuss current research.


HN&F 472. Community Nutrition. 3 Hr. PR: HN&F 171. Beginning planning for community nutrition to individuals and families at various stages of the life cycle. Roles of concerned agencies and professional groups. Clinical experience in community facilities.

HN&F 474. Nutrition in Disease. 4 Hr. PR: HN&F 171; physiology or consent. Nutritional care aspects of patients. Modification of diet to meet human nutrition needs in various medical conditions.

HN&F 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

HN&F 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Preactarranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

HN&F 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HN&F 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

HN&F 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

HN&F 496. Senior Thesis. 1-3 Hr. PR: Consent.

HN&F 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Human Resource Management (HRMG)
HRMG 440. Training and Development. 3 Hr. PR: MANG 330. This course provides a theoretical and practical understanding of the field of training and development and offers some practical approaches to conducting training programs.

HRMG 450. Staffing and Selection. 3 Hr. PR: MANG 330. This course focuses on the management of employee staffing and selection and includes such topics as government regulations affecting selection processes, reliability and validity of selection measures, and the measurement of actual job performance.

HRMG 460. Compensation & Benefits. 3 Hr. PR: MANG 330. Designing and implementing total compensation systems in both private and public sectors. The emerging elements of total compensation systems are included providing insights into problems and opportunities for personnel.

HRMG 470. Conflict Management. 3 Hr. This course focuses on the management of conflict in an organizational setting. The topics covered include foundations of individual behavior, styles for managing conflict, negotiations, mediation, and arbitration.
HRMG 480. Collective Bargaining and Labor Relations. 3 Hr. Examination of the theory and practice of collective bargaining. Topics include economics and historical environment, labor law, unionization, contract negotiation, contract content patterns, conflict resolution, grievance handling, and an introduction to arbitration.

**Humanities (HUM)**

HUM 101. Introduction to Western Civilization 1. 3 Hr. Presents the high points of Greco-Roman and Medieval European civilizations: their art, architecture, philosophy, religion, literature and music.

HUM 102. Introduction to Western Civilization 2. 3 Hr. Presents the art, architecture, philosophy, religion, literature and music of the following periods in Western civilization: the Renaissance, the Age of Classicism and the revolutionary nineteenth and twentieth centuries.

HUM 103. Honors Seminar in Humanities 1. 3 Hr. Honors courses for selected students mirroring HUM 101. Affords participants a wider opportunity for discussion than in HUM 101 and for reading the classic statements on the nature of civilization.

HUM 104. Honors Seminar in Humanities 2. 3 Hr. Honors courses for selected students mirroring HUM 102. Affords participants a wider opportunity for discussion than in HUM 102 and for reading the classic statements on the nature of civilization.

HUM 106. Promethean Myth, Modern Arts. 3 Hr. Introduces theme of “Promethean” individuality at the limits of humanistic pursuit, surveys archetypal characters as they have developed to the present, considering how skepticism had inspired art in diverse forms.

HUM 107. The Humanities of Egypt. 3 Hr. This course will focus on the cultural history of Egypt from ancient until modern times.

HUM 109. The Italian Renaissance. 3 Hr. Introduction to artistic and cultural developments during the Renaissance. In addition, the class will appreciate cross-cultural influences and examine the impact that the Renaissance had on nineteenth-century writers.

HUM 112. Humanities of Greece. 3 Hr. Presents the art, architecture, philosophy, religion, literature, and history of Greece.

HUM 113. Faculty Led Travel: Greece. 1 Hr. Learn about the art, architecture, philosophy, religion, literature, and history of Greece, through faculty-led travel.

HUM 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HUM 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

HUM 492. Directed Study. 1-3 Hr. Directed study, reading and/or research.

HUM 493 A-Z. Special Topics. 3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

HUM 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

HUM 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Industrial Engineering (IENG)**

IENG 200. Fundamentals of Industrial Engineering. 1 Hr. PR: Sophomore standing. An introduction to the basic principles of industrial engineering.
IENG 213. Engineering Statistics. 3 Hr. PR: MATH 156. The use of basic statistical analysis in engineering decision making, including common statistical distributions encountered in engineering, test of hypotheses, confidence intervals, and introduction to simple linear regression.


IENG 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

IENG 301. Materials and Costing. 1 Hr. PR: IENG 377 and PR or CONC: MAE 243. Utilize a problem-based approach to materials selection considering material properties.

IENG 302. Manufacturing Processes. 2 Hr. PR: IENG 343 or IENG 301. Lectures and demonstrations relating to materials, properties, parameters, design, equipment, economics and computer control of processing systems emphasizing casting, machining, joining, and forming operations.

IENG 303. Manufacturing Processes Laboratory. 1 Hr. CoReq: IENG 302. Laboratory experiments and demonstrations of the basic manufacturing operations of casting, machining and joining. Process parameter measurement, inspection techniques and CNC programming are performed and laboratory report writing is emphasized.

IENG 305. Introduction to Systems Engineering. 2 Hr. PR: IENG 213 and IENG 377. This course focuses on systems engineering and analysis. It covers the development and implementation of systems, and their continuous improvement.

IENG 314. Advanced Analysis of Engineering Data. 3 Hr. PR: IENG 213. Introduction to linear statistical models. Design and analysis of simple experimental configurations occurring frequently in engineering studies. Similarities and differences between regression and experiment design models emphasized in a vector-matrix setting.

IENG 316. Industrial Quality Control. 3 Hr. PR: IENG 213. Principles and methods for controlling the quality of manufactured products, with emphasis on both economic and statistical aspects of product acceptance and process control.

IENG 331. Computer Applications in Industrial Engineering. 3 Hr. PR: ENGR 102. Introduction to computer applications in manufacturing. Emphasis on system design and analysis and the role of computers in productivity improvement.

IENG 343. Production Planning and Control. 3 Hr. PR: IENG 220 and PR or CONC: IENG 314. Principles and problems in forecasting, aggregate planning, material management, scheduling, routing, and line balancing.

IENG 350. Introduction to Operations Research. 3 Hr. PR: IENG 213. An introduction to the basic principles and techniques of operations research. Topics include linear programming, integer programming, transportation and assignment problems, project scheduling, queuing theory, and computer applications.

IENG 360. Human Factors Engineering. 3 Hr. PR: IENG 213. Includes the study of ambient environment, human capabilities and equipment design. Systems design for the human-machine environment interfaces will be studied with emphasis on health, safety, and productivity.

IENG 377. Engineering Economy. 3 Hr. Basic concepts of financial analysis, investment planning and cost controls as they apply to management technology investment in manufacturing; financial planning and budgeting as applied to an engineering function.

IENG 405. Design for Manufacturability. 3 Hr. PR: IENG 302 and IENG 303. Aspects of design, manufacturing and materials; emphasis on design for manufacturability and assembly, including material selection and manufacturing processes on product cost.

IENG 423. Designing Decision Support System. 3 Hr. PR: IENG 331. Basic concepts of software design of decision support systems that can be used by non-technical personnel in management positions.


IENG 446. Plant Layout/Material Handling. 3 Hr. PR: IENG 220 and IENG 350. Facility design and economic selection of material handling equipment in a production/service facility. Emphasizes optimization of materials and information flow.

IENG 455. Simulation by Digital Methods. 3 Hr. PR: IENG 213 and IENG 331 or consent. Introduction to Monte Carlo simulation methods and their application to decision problems. Student identifies constraints on problems, collects data for modeling and develops computer programs to simulate and analyze practical situations. Interpretation of results emphasized.

IENG 461. System Safety Engineering. 3 Hr. PR: Consent. The concepts of hazard recognition, evaluation analysis and the application of engineering design principles to the control of industrial hazards.

IENG 471. Design of Productive Systems 1. 3 Hr. PR: Senior standing and 21 hours of required IENG courses in industrial engineering. The integration of industrial engineering principles in the design of productive systems. Emphasis will be on analysis of different systems for productivity management.

IENG 472. Design of Productive Systems 2. 3 Hr. PR: IENG 471 and senior standing in industrial engineering. Continuation of IENG 471.

IENG 473. Team Facilitation. 3 Hr. This course prepares students to facilitate continuous improvement teams. Students learn basics of team operations, facilitation tools and facilitation practices.

IENG 474. Technology Entrepreneurship. 3 Hr. Basic concepts and practices necessary to convert a technology idea into an entrepreneurial business.

IENG 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

IENG 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

IENG 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

IENG 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

IENG 496. Senior Thesis. 1-3 Hr. PR: Consent.

IENG 498. Honors. 1-3 Hr. PR: Student in Honors Program and consent by the honors director. Independent reading, study or research.
Industrial Hygiene and Safety (IH&S)
IH&S 490. Teaching Practicum. 1-3 Hr. PR: Consent. Supervised practice in college teaching of occupational hygiene and safety. Note: This course is intended to insure that graduate assistants are adequately prepared and supervised when they are given college teaching responsibility. It will also present a mechanism for students not on assistantships to gain teaching experience. (Grading may be S/U.)

IH&S 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a max of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves placement with public or private enterprise for professional competence development.

IH&S 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

IH&S 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

IH&S 494. Seminar. 1-3 Hr. PR: Consent Presentation and discussion of topics of mutual concern to students and faculty.

IH&S 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

IH&S 496. Senior Thesis. 1-3 Hr. PR: Consent.

IH&S 497. Research. 1-6 Hr. Independent research projects.

IH&S 498. Honors. 1-3 Hr. PR: Student in Honors Program and consent by the honors director. Independent reading, study or research.

Instructional Design and Technology (IDT)
IDT 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

IDT 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

IDT 430. Women in International Development. 3 Hr. To examine the cultural diversities in the definition of women’s roles and status, to investigate women’s access to education, health, income, credit and technology, and to study women’s contributions in third-world development.

IDT 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

Interdisciplinary Studies (INDS)
INDS 115. Creativity in the Modern Arts. 3 Hr. An examination of the role creativity plays in generating art. This team-taught course uses materials from music, theatre, and the visual arts to illustrate principles and to analyze Modernism and its place in American History.

Interior Design (ID)
ID 100. Interior Design Peer Mentoring. 1 Hr. PR: ID major. New students in interior design participate with upper division mentors in a variety of activities designed to acquaint the students with peers and faculty and to enhance their understanding of the field of interior design.

ID 110. Introduction to Interior Design. 3 Hr. Introduction to design philosophy, elements and principles, universal and sustainable design, and aesthetic and functional evaluation in the context of interior environments using design as a methodology and problem-solving process.

ID 125. Design Foundations. 3 Hr. PR or CONC: ID 110. Application of the theoretical elements and principles of design to two-and three-dimensional compositions.
ID 155. Interior Design Graphics 1. 3 Hr. Studio experience reading and drafting architectural plans, elevations, sections, details, and paralines.

ID 200. Interior Materials and Structures. 3 Hr. PR: ID 110 and ID major. Interior design materials including types, qualities, and uses, and calculations of quantities; basic architectural elements related to interior design.

ID 225. Space Planning. 3 Hr. PR: ID 110. Studio experience using two- and three-dimensional techniques to increase understanding of spatial relationships; emphasis on ergonomics, anthropometrics, and proxemics.

ID 230. History of Interiors and Furniture 1. 3 Hr. The course examines the history of western European design from antiquity through the neoclassical periods as situated within the larger content of the contemporary globe.

ID 235. Interior Design Graphics 2. 3 Hr. PR: ID 155. Studio course in spatial graphics; experience in constructing and using perspective grids; perspective sketching and basic color rendering.

ID 240. Codes and Interior Construction. 2 Hr. This course addresses construction issues, building codes, and life safety codes as they relate to both the commercial and residential built interior environment.

ID 260. History of Interiors and Furniture 2. 3 Hr. PR: ID 230. Interiors, furniture, and decorative arts of Europe and America in the nineteenth and twentieth centuries.

ID 270. Interior Lighting Design. 3 Hr. PR: ID 200. General concepts of light quality, quantity, distribution, and color rendering for residential and contract spaces; practical applications using lighting calculations and graphic illustrations for lighting design.

ID 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ID 325. Computer-Aided Drafting and Design. 2 Hr. PR: ID 376. Lecture/studio using computer-aided drafting and design for interior design; emphasis on CADD as a drafting tool.

ID 330. Design for Quality of Living. 3 Hr. Introduces the concept and methodology of design thinking and the theoretical base of “quality of living” through design programming to enhance quality of living.

ID 355. Contract Interior Design 1. 3 Hr. PR: ID 375 and ID 376. Studio experience in contract interior design and problems; emphasis on design of offices as work experience.

ID 375. Residential Interior Design. 3 Hr. PR: ID 270 and ID 260 and TXCL 240. Studio experience in residential interior design problems; emphasis on design process, problem solving, functional and aesthetic considerations, critiquing and graphic presentations.

ID 376. Interior Design Graphics 3. 2 Hr. PR: ID 155. Studio course to strengthen drafting, detailing, and presentation skills; production of typical design construction drawings.

ID 400. Interior Design Internship. 3-6 Hr. PR: ID 375 and consent. Supervised, direct experience with a practicing designer or other closely allied professional in a career environment.

ID 420. Interior Design Professional Practices. 3 Hr. PR: ID 375. Relationships between marketing/management functions and the design process; problem-solving approach to completion of a design installation.

ID 450. Interior Design Seminar. 1 Hr. PR: ID 420. Professionals in interior design discuss professional organizations, ethics, entry-level positions, and business practices.

ID 455. Contract Interior Design 2. 3 Hr. PR: ID 355. Studio experience in solving design problems related to public spaces, hotels, restaurants, department stores, specialized retail outlets, or health care facilities.
ID 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ID 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ID 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ID 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ID 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

ID 496. Senior Thesis. 1-3 Hr. PR: Consent.

ID 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

International Business (INBS)
INBS 310. Global Business Communication. 3 Hr. PR or CONC: BCOR 370. This course focuses on developing skills to communicate effectively in the cross-cultural context of the current international business environment. The focus is on interpersonal, team- and organizational-level communication in diverse cultural situations.

INBS 480. Global Strategic Issues. 3 Hr. PR or CONC: BCOR 460. An integrated, multifunctional approach for focuses on how globalization affects strategy, organization and control of a firm. Students are introduced to global strategic management and organization issues in the context of current theory, research and practice.

International Studies (INTS)
INTS 199. Orientation to International Studies. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

INTS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

INTS 488. Capstone International Studies. 3 Hr. Capstone experience required for all majors. Options include study abroad, internships, simulations, and senior research projects.

INTS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

Italian (ITAL)
ITAL 101. Elementary Italian 1. 3 Hr.


ITAL 203. Intermediate Italian 1. 3 Hr. PR: ITAL 102. Continuation of ITAL 102.

ITAL 204. Intermediate Italian 2. 3 Hr. PR: ITAL 203. Continuation of ITAL 203.

ITAL 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ITAL 301. Language Through Culture. 3 Hr. PR: ITAL 204. Analyzes key topics in contemporary Italian popular culture, including the Italian family, young people, the role of women in Italian society, multiethnic Italy, and Italian fashion. Taught in Italian.
ITAL 302. Italian Through Film. 3 Hr. PR: ITAL 204. Provides students with opportunity to improve their Italian conversational and writing skills through discussion of a variety of topics as they are represented in Italian cinema. Taught in Italian.

ITAL 303. Composition and Conversation. 3 Hr. PR: ITAL 204.

ITAL 304. Advanced Conversation. 3 Hr. PR: ITAL 204.

ITAL 331. Survey of Italian Literature 1. 3 Hr. PR: ITAL 204. Overview of the history and key themes of Italian literature from the thirteenth through the eighteenth centuries. Taught in Italian.

ITAL 332. Survey of Italian Literature 2. 3 Hr. PR: ITAL 204. Overview of the history and key themes of Italian literature from the nineteenth century to present. Taught in Italian.

ITAL 371. L'Italia Dal Vivo. 3 Hr. PR: ITAL 204 or consent. This course allows students to improve their ability to communicate effectively in Italian with native speakers, orally and in writing, through a full-immersion experience in Italy. Can count for the Italian studies minor.

ITAL 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ITAL 431. Italian Folktales. 3 Hr. PR: Six credits of 300 level ITAL courses. Overview of Italian popular culture through the analysis of Italo Calvino's collection of folktales within a comparative European perspective, using semiotic, linguistic, and psychoanalytic approaches. Taught in Italian.

ITAL 432. Modern Italian Civilization. 3 Hr. PR: Six credits of 300 level ITAL courses. Overview of Italian civilization and its manifestations in various cultural fields (history, literature, and cinema) from Fascism to the present. Taught in Italian.

ITAL 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ITAL 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ITAL 493 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ITAL 496. Senior Thesis. 1-3 Hr. PR: Consent.

ITAL 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Japanese (JAPN)

JAPN 101. Elementary Japanese 1. 3 Hr.


JAPN 204. Intermediate Japanese 2. 3 Hr. PR: JAPN 203.

JAPN 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

JAPN 301. Conversation and Composition 1. 3 Hr. PR: JAPN 204. Continued development of oral and written communicative skills in Japanese.

JAPN 302. Conversation and Composition 2. 3 Hr. PR: JAPN 301. Continued development of oral and written communicative skills in Japanese.
JAPN 303. Advanced Structure. 3 Hr. PR: JAPN 301. Development of communicative skills, with emphasis on polite speech and review of Japanese language structures.

JAPN 304. Advanced Reading. 3 Hr. PR: JAPN 301. Development of communicative skills, with emphasis on reading authentic texts and review of Japanese language structures.


JAPN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

JAPN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to maximum of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

JAPN 493 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

JAPN 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

JAPN 496. Senior Thesis. 1-3 Hr. PR: Consent.

JAPN 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Journalism (JRL)**

JRL 101. Introduction to Mass Communication. 3 Hr. (Recommended for all University students.) Mass communicator's role in developing political, social, and economic fabrics of a democratic society. Organization and function of newspapers, magazines, broadcast stations, and other principal media, including the role of advertising and public relations.

JRL 115. Journalism Orientation. 1 Hr. Support first-year students to make successful transition from high school to college, introduce students to careers, majors in journalism, develop a better understanding of the learning process, and acquire basic academic and personal "survival skills."

JRL 210. Visual Journalism and New Media. 3 Hr. PR: JRL 101 or consent. Theory and principles of visual communication and image culture. Visual literacy, critical thinking, and ethics by visual journalists in digital media. Software applications for photography, graphic design, video, and Web publishing.

JRL 215. Media Writing. 3 Hr. PR: Satisfactory score on Journalism Qualifying Exam. Introduction to the fundamental writing and fact-gathering skills of journalism and public relations for the print and electronic media. Lab fee assessed.

JRL 279. Documentary Film in America. 3 Hr. This course, through viewings, readings, lectures and speakers will survey the history of documentary film in America and the ever-growing diversity of documentaries, influenced by the political, economic and social forces of their day.

JRL 293 A-Z. Advanced Journalism Problems. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

JRL 298. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

JRL 318. Reporting for Print Media. 3 Hr. PR: JRL 215 (C or better). Essentials of developing and covering a news beat. Students generate stories, cultivate sources, and discover their community. News and feature stories include police, courts, budgets, meetings, and speeches. A departmental honors section, available to students possessing superior writing skills, requires the instructor’s course approval signature. (Lab fees will be assessed for this course.)
JRL 319. Copy Editing. 3 Hr. PR: JRL 318. Students develop the skills necessary for the modern newspaper copy desk, including copy editing, working with wire service copy, headline writing, page layout and desktop production. (Lab fees will be assessed for this course.)

JRL 320. Advanced Photojournalism. 3 Hr. PR: JRL 220 or consent. Introduction to advanced techniques and concepts in visual journalism for print and electronic media. Color, lighting, studio and digital camera techniques.

JRL 361. Media Relations In Sport. 3 Hr. This online course provides an understanding of the role that effective public relations plays in sports organizations.

JRL 412. Sport Journalism. 3 Hr. PR: ADV 201 or ADV 215 or PR 215. Online class develops skills in sport journalism reporting and writing in mass/digital media for a variety of distinct sport audiences.

JRL 426. Public Affairs Reporting. 3 Hr. PR: JRL 319 or TVJ 319 or BN 319 and admission to the School of Journalism. Students take skills learned in other News Editorial classes writing, researching, and interviewing and apply them to the agencies, structures, and programs that make society work. They also work with local newspapers to develop and publish stories about public agencies, including circuit court and police. (Lab fees will be assessed for this course.)

JRL 428. Law of the News Media. 3 Hr. (For journalism senior and graduate students.) PR: Foundation courses for other sequences. The law as it affects the mass media. Considered are such areas as libel, privacy, public records, criminal pre-trial publicity, freedom of information, obscenity.

JRL 431. Multimedia Reporting. 3 Hr. PR: JRL 220 or consent. Reporting/production for online media. Ethics and role of visual journalist. Software basics and use of audio, video and still photography in online reporting.

JRL 440. Visual Storytelling for the Media. 3 Hr. PR: JRL 220 or consent. Development of advanced practical and analytical skills in digital photojournalism, photo editing and cross-media design. Analysis of images, visual narratives, new media storytelling, digital imaging, media asset management, and ethical and social issues.

JRL 441. Internship. 3 Hr. PR: Journalism majors only and foundation courses in one of the sequences. Full-time employment for a minimum of 10 weeks under a signed contract detailing the terms of the experience. (Graded pass/fail.)

JRL 442. Practicum. 1-2 Hr. Journalism majors only. PR: Foundation courses in one of the sequences. Students must have a signed contract detailing terms of the learning experience. Eight to 20 hours per week for a minimum of 10 weeks while taking other courses. (Graded on a pass/fail basis.)

JRL 445. International Media 1. 1-3 Hr. PR: Consent. A combination of classroom theory and practical application of the function of media in an international setting.

JRL 446. International Media 2. 1-6 Hr. PR: Consent. Centers around a trip that involves the study of media in the country students are visiting. Usually a continuation of International Media 1.

JRL 450. Writing for Health Promotion. 3 Hr. PR: JRL 101 and PR 215 or ADV 215. Online class develops skills in health promotion writing in mass/digital media for a variety of distinct audiences.

JRL 452. Applied Health Promotion. 3 Hr. PR: JRL 101 and PR 215 or ADV 215. Online class examines strategies and theories used to target and influence health promotion audiences using mass and digital messages.

JRL 454. Health Promotion Campaigns. 3 Hr. PR: JRL 101 and PR 215 or ADV 215. Students in this online course will apply IMC principles, theories, and techniques for multifaceted campaigns designed for health promotion.
JRL 456. West Virginia Uncovered. 3 Hr. PR: Consent. Student teams will work with the instructor and editors at a regional publication to report and produce multimedia news-feature packages.

JRL 459. Multimedia Bureau Reporting. 3 Hr. PR: Consent. In this lab/workshop-style class, students will produce stories and multimedia packages for publication and broadcast at regional media outlets.

JRL 489. Media Issues and Ethics. 3 Hr. PR: JRL 215. In-depth study of contemporary media issues such as right of access to media and morality and ethics in news and advertising; new FTC and FCC regulations; media responsibility to society; social responsibility of media professionals.

JRL 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant. (Graded on a pass/fail basis.)

JRL 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours). Prearranged experiential learning program, to be planned; supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development. (Graded on a pass/fail basis.)

JRL 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

JRL 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

JRL 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

JRL 496. Senior Thesis. 1-3 Hr. PR: Consent.

JRL 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Landscape Architecture (LARC)
LARC 105. Introduction to Landscape Architecture. 3 Hr. A general overview of the field of landscape architecture, environmental design and planning.

LARC 120. Landscape Architectural Drawing. 3 Hr. PR: For landscape architecture majors only. Introduction to elements of visual techniques in drafting, basic design, and environmental systems. (Two 3-hr. studios.)

LARC 121. Landscape Architectural Graphics. 3 Hr. Introduction to design and graphic methodology with applications to current standards. Development of principles of communication in two- and three-dimensional visual thinking applicable to environmental design professions. (Two 3-hr. studios.)

LARC 212. History of Landscape Architecture. 3 Hr. A broad survey of the history of the designed human environment with emphasis on the development of landscape architecture. (Does not fulfill Cluster A for landscape architecture students.)

LARC 223. Computer Graphics in Landscape Architecture. 3 Hr. PR: LARC 121. Application of basic computer graphics to include drafting, rendering, and visualization software used in developing landscape architectural plans and environment analysis. (Two 3-hr. studios.)

LARC 229. Landscape Architecture. 3 Hr. PR: For non-landscape architecture majors only. An appreciation of the basic principles of planting design and information pertaining to the use of ornamental plants around the home. (2 hr. lec., one 2-hr. studio.)

LARC 231. Landscape Construction Materials and Methods. 3 Hr. PR: LARC 250. A study of materials used in landscape architectural construction with emphasis on methods of construction and the preparation of construction drawings for design implementation. (2 hr. lec., one 2-hr. studio.)
LARC 250. Theory of Landscape Architectural Design. 3 Hr. PR: LARC 121 or equiv. Application of elements and principles of art and design to landscape architecture. (1 hr. lec., two 2-hr. studios.)

LARC 251. Landscape Architectural Design. 3 Hr. PR: LARC 250 or equiv. Investigation and application of various factors which play a role in the design of natural and man-made environment. (1 hr. lec., two 2-hr. studios.)

LARC 260. Ornamental Woody Plants and Groundcovers. 3 Hr. PR: BIOL 101 and BIOL 103 or equiv. Design uses, ornamental qualities, cultural requirements and identification of woody plants and groundcovers in West Virginia. Field course. (One day field trip required at student’s expense). (Two 3-hr. studios.)

LARC 261. Planting Design. 3 Hr. PR: LARC 250 and LARC 260. Study of planting design theory and practice, including uses of plants in site and environmental design, planting design techniques and preparation of planting plans, construction details, and technical specifications. (1 hr. lec., two 2-hr. studios.)

LARC 271. Portfolio Design. 1 Hr. PR: LARC 121 and LARC 250 and LARC 260. Introduction to graphic design and presentation formals and their application for the preparation of the second year portfolio. (One 2-hr. studio.)

LARC 330. Landscape Architectural Construction 1. 4 Hr. PR: (CE 200 or equiv.) and (MATH 126 or MATH 126A or MATH 126B or MATH 126C) and (MATH 128 or MATH 129 or equiv.) The study of the technical principles of grading design, their application to site planning, and preparation of land form grading plans. (1 hr. lec., two 3-hr. studios.)

LARC 331. Landscape Architectural Construction 2. 4 Hr. PR: LARC 330. Study and preparation of parkway plans (road alignment), surface and sub-surface drainage plans, advanced grading plans, and cost estimates. (2 hr. lec., two 2-hr. studios.)

LARC 350. Landscape Architectural Design 2. 4 Hr. PR: LARC 223 and LARC 251 and LARC 261. Study of medium scale site design with emphasis on site analysis, design methodology and presentation. (1 hr. lec., two 3-hr. studios.)

LARC 351. Landscape Architectural Design 3. 4 Hr. PR: LARC 330 and LARC 350 and LARC 360. Site-design problems dealing with complex environmental systems emphasizing rural and urban design. Projects are integrated with landscape architectural construction. (1 hr. lec., two 3-hr. studios.)

LARC 360. Natural Systems Design. 4 Hr. PR: LARC 251 and LARC 261 and PR or CONC: LARC 350. Study of native and naturalized plants of this region and their ecological tolerances, importance to site analysis, and use in planting design. (1 hr. lec., two 3 hr. studios.) (Two-day field trip required at student’s expense.)

LARC 361. Interior Plantscaping. 2 Hr. PR: BIOL 101 and BIOL 103 or PLSC 206. The study of plants appropriate to interior plantscaping and their special needs and uses in design situations. (One day field trip required at student's expense.) (1 hr. lec., one 3 hr. studio.)

LARC 423. Advanced CAD. 2 Hr. PR: LARC 223 or equivalent. Study and application of advanced computer techniques including Land Development Desktop and AutoCAD. (Two 2 hr. studios.)

LARC 448. Design Analysis. 2 Hr. PR: Consent. Analysis of planning and design projects to offer solutions to a given problem.

LARC 450. Advanced Landscape Architectural Design 1. 5 Hr. PR: LARC 331 and LARC 351 and LARC 360. Comprehensive design problems integrating all aspects of site design, planting design and construction. Includes advanced projects for urban and rural sites. (2 hr. lec.; two 3-hr. studios.)

LARC 451. Advanced Landscape Architectural Design 2. 5 Hr. PR: LARC 450. A comprehensive problem in landscape architecture in which the student demonstrates proficiency acquired from their program of study. (2 hr. lec., two 3-hr. studios.)
LARC 452. Contemporary Issues in Landscape Architecture. 2 Hr. PR: LARC 250 and PR or CONC: LARC 251. A series of seminar discussions exploring current and future trends in the practice of landscape architectural design, planning, and management. (2 hr. lec.)

LARC 465. Regional Design. 3 Hr. PR: Consent. Consideration of regional landscapes in order to effectively relate design to the ecology and development of a region.

LARC 466. Introduction to Urban Design Issues. 3 Hr. PR: Consent. Community analysis methods, city and small town planning and management of community growth. The course focus is on understanding community and urban design issues and growth management. (Offered in fall of odd years.)

LARC 484. Professional Practice. 3 Hr. PR: Consent. Procedures in preparation of contract documents, fees, estimates, operation of an office, and relationship to clients and contractors. (3 hr. lec.)

LARC 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

LARC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

LARC 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

LARC 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

LARC 496. Senior Thesis. 1-3 Hr. PR: Consent.

LARC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Language Teaching Methods (LANG)

LANG 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

LANG 322. Second Language Acquisition. 3 Hr. PR: LING 101 or LING 311 or equivalent. Study of linguistic concepts, development patterns, and contributing factors relevant to second language acquisition.

LANG 421. The Teaching of Foreign Languages. 3 Hr. PR: Consent. Required of all students who are prospective foreign language teachers on the secondary level.

LANG 422. Second Language Reading. 3 Hr. PR: LING 101 or LING 311 or equivalent. Study of the second language reading process, relevant research findings, curricular issues, and classroom instructional practices.

LANG 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

LANG 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

LANG 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

LANG 493 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
LANG 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

LANG 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

LANG 496. Senior Thesis. 1-3 Hr. PR: Consent.

LANG 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Leadership Studies (LDR)
LDR 201. Principles of Leadership. 3 Hr. This course serves as an introduction to leadership theory and practice. The course will examine various aspects of the literature on leadership; provide practice for developing leadership skills; and offer personal experiences for self-reflection.

LDR 301. Problems in Leadership. 3 Hr. PR: LDR 201. Students will survey a series of case studies, both historical and imagined, in which leadership either succeeds or fails.

LDR 382. Readings in Leadership. 1-3 Hr. PR: LDR 201. This course allows students to read several books on the subject of leadership and to continue developing their knowledge and understanding of the subject.

LDR 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

LDR 401. Leadership in Action. 3 Hr. PR: LDR 201 and LDR 301. This course serves to demonstrate that students have learned how strong, innovative leadership leads to organizational change. Students will tailor this capstone-level/service-learning course to suit their own major and interests.

LDR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

LDR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

LDR 498 A-Z. Honors. 1-3 Hr. PR: Students in the Honors program and consent by the honors director. Independent reading, study or research.

Library Instruction (ULIB)
ULIB 101. Introduction to Library Research. 1 Hr. Focuses on the concepts and logic of information access including using the libraries' online catalog, various databases and the Internet to find quality information. Incorporates hands-on practice with electronic resources for term paper preparation.

ULIB 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ULIB 300. Film & Media Literacy. 3 Hr. Introduction to media literacy, film vocabulary, criticism, databases, conventions, cliches, and characteristics of genre films to guide evaluating and critiquing films. Online course; films on media library reserve.

ULIB 301. Gender and the Research Process. 3 Hr. This course teaches the research process through the lens of gender. Students decide on a subject, write a research question, develop a working knowledge, search for information, select appropriate sources, and present results.

ULIB 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
Library Science (LS)

LS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

LS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

LS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

LS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

LS 496. Senior Thesis. 1-3 Hr. PR: Consent.

LS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Linguistics (LING)
LING 101. Introduction to Language. 3 Hr. General introduction to the nature of human language, its sounds, structure, mechanisms, and forms (oral/sign); its evolution and variation, how it is learned and stored, and how it differs from animal communications systems.

LING 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

LING 311. Introduction to Structural Linguistics. 3 Hr. PR: FRCH 203 or GER 203 or JAPN 203 or RUSS 203 or SPAN 203 or equivalent. Required for foreign language majors. A detailed examination of language structure (phonology, morphology, syntax, and semantics) and its relation to language use (sociolinguistics).

LING 401. Structure of Spanish. 3 Hr. PR: 18 hr. of Spanish and LING 311 or consent. Description of the phonological or grammatical systems of Spanish, with emphasis on contrastive analysis (Spanish/English) and applied linguistics.

LING 402. Structure of Modern French. 3 Hr. PR: 18 hr. of French and LING 311 or consent. Study of phonology, morphology, and syntax of modern French together with a contrastive analysis of French and English.

LING 411. Phonology. 3 Hr. PR: LING 101 or LING 311. Description of sounds and sound systems in language. Articulatory phonetics. Structuralist and generative approaches to phonemics.

LING 412. Syntax. 3 Hr. PR: LING 311 or consent. Emphasis on generative syntax in English, German, Romance and Slavic languages.

LING 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

LING 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

LING 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

LING 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
LING 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

LING 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

LING 496. Senior Thesis. 1-3 Hr. PR: Consent.

LING 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Management (MANG)
MANG 310. Management of Small Business. 3 Hr. PR: BCOR 370. Focusing on the management of small business, the course is designed both for those seeking employment in small business, and for those entering large organizations which deal with small firms as suppliers, customers, and competitors.

MANG 330. HR Management Fundamentals. 3 Hr. PR: BCOR 370. Fundamental principles and practices related to the procurement, development, maintenance, and utilization of human resources. Focus on areas such as human resource planning, selection training, performance appraisals, compensation, safety and health and labor relations.

MANG 351. Database Management Systems. 3 Hr. PR: BCOR 330. Introduction to database theory, design, implementation, management, and models; development of database applications for management systems.

MANG 352. Business Applications Programming. 3 Hr. PR: BCOR 330. Provides an understanding of fundamental programming required to develop end-user business applications in an object-oriented, event-driven environment. These skills will be utilized in the systems design and development course.

MANG 353. Advanced Information Technology. 3 Hr. PR: BCOR 330 and MANG 420. Presents the student with a fundamental knowledge of hardware and software technologies, including emerging technologies, focusing on the functionality and management of the technology in a business organization.

MANG 355. Data Communications. 3 Hr. PR: BCOR 330. Provides an overview of the TCP/IP model and related technologies of the data communications corporate infrastructure as well as a survey of the essential tools and strategies for the effective management of business networks.

MANG 356. Network Security. 3 Hr. This course focuses on the managerial and technical aspects of information security in networks. The course covers security issues in information systems, information assurance management and policy, network security planning, technologies, implementation, and security strategy.

MANG 357. Information Ethics. 3 Hr. This course introduces the student to the field of information ethics, including such topics as privacy, accessibility, censorship, intellectual property, accuracy, virtual reality and artificial intelligence.

MANG 360. International Business. 3 Hr. PR: BCOR 370. The course explores the cultural, economic, and political environments of business. Other topics include globalization, import and export, foreign direct investment, foreign currency exchange, regional economic cooperation, and the multinational enterprise.

MANG 376. Hospitality & Tourism Leadership. 3 Hr. This course provides an understanding of lodging, food service, and tourism industries by examining the development of each industry. Focus is on management and leadership.

MANG 420. Business Information Systems. 3 Hr. PR: BCOR 330 and BCOR 370. Use of EDP for decision making with emphasis on application in the functions of finance, marketing, personnel, accounting, and operations management.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANG 422</td>
<td>The Individual and the Organization</td>
<td>3</td>
<td>BCOR 370</td>
<td>Examination of how the individual, the group, and the organization interact to influence the behavior of the business organization and that of its human resources.</td>
</tr>
<tr>
<td>MANG 434</td>
<td>Business Research Methods</td>
<td>3</td>
<td>MANG 330 or consent</td>
<td>Research methods and measurement in human resources management; philosophy of science, ethics in research, research design, and analytical methods.</td>
</tr>
<tr>
<td>MANG 438</td>
<td>Entrepreneurship</td>
<td>3</td>
<td>BCOR 370</td>
<td>The role of the entrepreneur in business and society; includes an analysis of the individual entrepreneur, and investigates the nature and problems of establishing a new business enterprise.</td>
</tr>
<tr>
<td>MANG 440</td>
<td>Practicum in Small Business</td>
<td>3</td>
<td>BCOR 370</td>
<td>A practical training ground in the identification and solution of small business problems. Through interaction with the business community, students are exposed to the opportunities and difficulties of small business entrepreneurship.</td>
</tr>
<tr>
<td>MANG 450</td>
<td>Systems Analysis</td>
<td>3</td>
<td>BCOR 330</td>
<td>Emphasizes the systems approach, concentrating on the first half of the systems development cycle: feasibility studies, cost/benefit analysis, organizational analysis, assessment of information needs, and project planning. Effective teamwork and communications are stressed.</td>
</tr>
<tr>
<td>MANG 452</td>
<td>Systems Design and Development</td>
<td>3</td>
<td>MANG 351 and MANG 352 and MANG 450</td>
<td>Follows the Systems Analysis course with the second half of the systems development cycle; user interface design, data design, process design, system specifications, use of software development tools, documentation, testing, conversion, and maintenance.</td>
</tr>
<tr>
<td>MANG 470</td>
<td>Tourism Management</td>
<td>3</td>
<td>MANG 375</td>
<td>This course is an introduction to the characteristics of tourism management. Organizational, operational, social and cultural aspects of state/local, regional, national, and international tourism will be examined.</td>
</tr>
<tr>
<td>MANG 471</td>
<td>Restaurant Operations Management</td>
<td>3</td>
<td>MANG 375</td>
<td>This course provides a basic overview of restaurant operations using an applied concept as a model.</td>
</tr>
<tr>
<td>MANG 480</td>
<td>Corporate Social Responsibility</td>
<td>3</td>
<td>BCOR 370</td>
<td>Provides an overview of personal support and involvement in not-for-profit organizations in meeting community needs.</td>
</tr>
<tr>
<td>MANG 490</td>
<td>Teaching Practicum</td>
<td>1-3</td>
<td>Consent</td>
<td>Teaching practice as a tutor or assistant.</td>
</tr>
<tr>
<td>MANG 491</td>
<td>Professional Field Experience</td>
<td>1-18</td>
<td>Consent</td>
<td>Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.</td>
</tr>
<tr>
<td>MANG 493</td>
<td>Special Topics</td>
<td>1-6</td>
<td>Consent</td>
<td>Investigation of topics not covered in regularly scheduled courses.</td>
</tr>
<tr>
<td>MANG 494</td>
<td>Seminar</td>
<td>1-3</td>
<td>Consent</td>
<td>Presentation and discussion of topics of mutual concern to students and faculty.</td>
</tr>
<tr>
<td>MANG 495</td>
<td>Independent Study</td>
<td>1-6</td>
<td>Consent</td>
<td>Faculty supervised study of topics not available through regular course offerings.</td>
</tr>
<tr>
<td>MANG 496</td>
<td>Senior Thesis</td>
<td>1-3</td>
<td>Consent</td>
<td></td>
</tr>
<tr>
<td>MANG 497</td>
<td>Research</td>
<td>1-6</td>
<td>Consent</td>
<td>Independent research projects.</td>
</tr>
</tbody>
</table>
MANG 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Marketing (MKTG)

MKTG 315. Consumer Behavior. 3 Hr. PR: BCOR 350. The consumer decision process in a marketing framework. Emphasis on psychological and sociological concepts which influence the decision process.

MKTG 320. Personal Selling. 3 Hr. PR: BCOR 350. Deals with interpersonal communication, influencing, and persuasion processes designed to satisfy customer and company needs; stresses the structure of sound sales presentations through lectures, persuasive presentations, and appraisal and correction of common selling errors.

MKTG 325. Marketing Research. 3 Hr. PR: MKTG 315. Scientific approach to the solution of marketing problems with emphasis on research methods and techniques.

MKTG 330. Distribution Channels. 3 Hr. PR: BCOR 350. Management of channel systems with emphasis on retail distribution, channel choice, strategies, control, and optimization within the context of role, power, conflict, and communications.

MKTG 350. Product and Price Policies. 3 Hr. PR: BCOR 350. Deals with the company’s product offering as economic and marketing variables influencing product’s price; stress on determination of product and price objectives, planning, implementation, and evaluation of results.

MKTG 380. Integrated Promotions. 3 Hr. PR: BCOR 350. Marketing promotions can dramatically influence the relative success of firms and their brands. As such, we seek to understand the processes and approaches that organizations use in developing and sustaining effective promotional strategies.

MKTG 410. Retail Management. 3 Hr. PR: BCOR 350. The organization and operating environment of retail firms. Special emphasis placed on consumer market segmentation and the marketing variables of merchandise mix, effective pricing, store location, and communication with suppliers and consumers.

MKTG 420. Sales Management. 3 Hr. PR: BCOR 350. Concentrates on the managerial responsibilities of sales managers for directing, motivating, and controlling a sales force plus the techniques of selling, including objections and closing.

MKTG 430. Business Logistics Management. 3 Hr. PR: MKTG 330. Examination of transportation, warehousing, materials handling, containerization, inventory control, purchasing, and warehouse location. Significant use made of problem solving with analytical tools.

MKTG 440. Export Management. 3 Hr. Student teams work directly with participating companies to develop export business plans for specific products and specific countries.

MKTG 455. Societal Issues in Marketing. 3 Hr. PR: BCOR 350. An inquiry-based study of current societal issues in marketing including ethical, regulatory, and legal issues, along with social and global trends and events impacting marketing and marketing environments.

MKTG 460. Business to Business Marketing. 3 Hr. PR: BCOR 350. A study of marketing to three classes of customers: the commercial market, the institutional market, and government agencies.

MKTG 470. Marketing Management. 3 Hr. PR: BCOR 350 and MKTG 310 and MKTG 315, and six hours of marketing or consent. Simulation, through live and written case study, should sharpen skills as the student makes analytical evaluations of marketing problems.

MKTG 480. Services Marketing. 3 Hr. PR: BCOR 350 plus four MKTG courses. Services marketing gives students an appreciation of the challenges of marketing and managing services and strategies for addressing these challenges. The course features a combination of lectures, in-class exercises and projects (including class presentations).
MKTG 485. Global Marketing. 3 Hr. PR: MKTG 325 plus six additional hours in marketing. Evaluation and analysis of marketing strategies in a global environment, examination of the relationship between international buyer behavior and the elements of the marketing mix.

MKTG 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

MKTG 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

MKTG 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MKTG 494 A-Z. Seminar. 1-6 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

MKTG 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

MKTG 496. Senior Thesis. 1-3 Hr. PR: Consent.

MKTG 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Mathematics (MATH)

MATH 121. Introductory Concepts of Mathematics. 3 Hr. (Designed for non-science majors who do not need the techniques of mathematics for other course work in their programs.) Topics in modern mathematics.

MATH 126A. College Algebra 5-Day. 3 Hr. PR: Two units of algebra, one unit of geometry, and satisfactory performance on departmental placement examination or successful completion of the pre-college algebra workshop or its equivalent. (This course is not open to students who have credit for MATH 129 or its equivalent.) Review of the real number system and algebraic expressions, equations, inequalities, graphing, functions, polynomials. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

MATH 126B. College Algebra 4-Day. 3 Hr. PR: Two units of algebra, one unit of geometry, and satisfactory performance on departmental placement examination or successful completion of the pre-college algebra workshop or its equivalent. (This course is not open to students who have credit for MATH 129 or its equivalent.) Review of the real number system and algebraic expressions, equations, inequalities, graphing, functions, polynomials. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

MATH 126C. College Algebra 3-Day. 3 Hr. PR: Two units of algebra, one unit of geometry, and satisfactory performance on departmental placement examination or successful completion of the pre-college algebra workshop or its equivalent. (This course is not open to students who have credit for MATH 129 or its equivalent.) Review of the real number system and algebraic expressions, equations, inequalities, graphing, functions, polynomials. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

MATH 128. Plane Trigonometry. 3 Hr. PR: A grade of C or better in MATH 126A or MATH 126B or PR or CONC: MATH 126C or two units of algebra, or one unit of geometry and satisfactory performance on departmental placement examination. (This course is not open to students who have credit for MATH 129 or equivalent.) Trigonometric functions, identities, vectors, complex numbers, and trigonometric equations. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

MATH 129. Pre-Calculus Mathematics. 4 Hr. PR: Two units algebra and one unit geometry, and satisfactory performance on departmental placement test. Not open to students who have credit for the equivalent of either MATH 126 or 128. A treatment of algebra, analytic geometry, and trigonometry. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.
MATH 150. Introduction to Calculus. 3 Hr. PR: A grade of C or better in Math 124 or Math 126 or Math 129 or satisfactory performance on a departmental placement test. For students in other disciplines needing calculus for applications. Limits of sequences and functions, continuity derivatives, and integrals of polynomials, rational functions, and exponential and logarithmic functions, partial derivatives, maxima and minima. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

MATH 153. Calculus 1a with Precalculus. 4 Hr. Introduction to limits, continuity, derivatives, and applications of derivative.

MATH 154. Calculus 1b with Precalculus. 4 Hr. PR: A grade of C or better in MATH 153. Introduction to applications of derivatives, antiderivatives, and definite integrals.

MATH 155. Calculus 1. 4 Hr. PR: Satisfactory performance on departmental placement test; or a grade of C or better in (MATH 124 and MATH 128) or ((MATH 126A or MATH 126B or MATH 126C) and MATH 128) or in MATH 129. Introduction to limits, continuity, derivatives, antiderivatives, definite integrals, and applications of the derivative. Not open to students who have earned credit in MATH 153 and/or MATH 154.

MATH 156. Calculus 2. 4 Hr. PR: A grade of C or better in MATH 154 or MATH 155. Techniques of integration, application of the definite integral, polar coordinates, indeterminate forms, infinite series.

MATH 218. History of Mathematics. 3 Hr. PR: MATH 155. Development of mathematics through calculus, with emphasis on mathematical theories and techniques of each period and their historical evolution. (Not offered on a regular basis.)

MATH 222. Numerical and Symbolic Methods in MATH/STAT. 3 Hr. PR: MATH 156. Data manipulation, data visualization in two and three dimensions including animation, scientific programming using a high level language, symbolic manipulators and other packages. Applications to problems in mathematics and statistics. (Equiv. to STAT 222.)

MATH 231. Algebra and Geometry for Elementary Teachers. 3 Hr. PR: MATH 126. (For elementary education majors only.) Algebra, real numbers, and geometry applied to graphing, problem solving, probability and statistics, calculations, and the computer.

MATH 232. Number and Algebra for Teachers. 3 Hr. PR: MATH 126A or MATH 126B or MATH 126C with a C or better. (Open to pre-service elementary education majors only.) Use of properties of real numbers and algebra to illuminate conceptual understanding and enhance problem solving techniques. The use of technology and manipulatives is infused throughout the course.

MATH 233. Measurement and Geometry for Teachers. 3 Hr. PR: MATH 126A or MATH 126B or MATH 126C and MATH 232 with a C or better. (Open to pre-service elementary education majors only.) Use of properties of real numbers, algebra, measurement and geometry to illuminate conceptual understanding and enhance problem solving techniques. The use of technology and manipulatives is infused throughout the course.

MATH 238. Modern Geometry for Teachers. 3 Hr. PR: MATH 156 or consent. (For prospective high school mathematics teachers.) Foundations of geometry. Special topics from Euclidean, projective, and non-Euclidean geometries.

MATH 251. Multivariable Calculus. 4 Hr. PR: A grade of C or better in MATH 156. Introduction to solid analytic geometry, vector algebra, calculus of several variables.

MATH 261. Elementary Differential Equations. 4 Hr. PR: A grade of C or better in MATH 251. Ordinary differential equations, Laplace transforms, partial differential equations, Fourier series, applications.

MATH 280. Mathematical Logic 1. 3 Hr. PR: PHIL 260 or consent. The axiomatic method, naive, and axiomatic set theory, Russell’s Paradox, infinity and unaccountability, the “reduction” of mathematics to set theory, introduction to the consistency and completeness of logic, and Godel’s proof of the incompleteness of arithmetic. (Equiv. to PHIL 360.) (Not offered on a regular basis.)
MATH 283. Introduction to the Concepts of Mathematics. 3 Hr. PR: MATH 156 or consent. Elementary logic, basic theory, relations and functions, equivalence relations and decomposition of sets, order relations, cardinality. Emphasis on learning to prove theorems.

MATH 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MATH 341. Introduction to Algebraic Structures. 3 Hr. PR: MATH 283 or consent. A study of groups, rings, and fields together with their substructures, quotients and products, morphisms; the fundamental homomorphism theorems.

MATH 343. Introduction to Linear Algebra. 3 Hr. PR: MATH 156. Introduction to vector spaces as an algebraic system. Emphasis on axiomatic development and linear transformation. Examples from geometry and calculus.

MATH 364. Mathematics of Compound Interest. 3 Hr. PR: MATH 156 or MATH 150. A problem-solving course focusing on the measurement of interest, annuities, amortization schedules, and sinking funds, and the valuation of bonds and other securities.

MATH 367. Applied Mathematical Analysis. 3 Hr. PR: MATH 261. The algebra and differential calculus of vectors, solution of the partial differential equations of mathematical physics, and application of functions of a complex variable.

MATH 373. Introduction to Cryptography. 3 Hr. PR: MATH 155. Introduces students to the art of confidential communication the mathematical background and the practical skills in making and breaking secret codes.

MATH 375. Applied Modern Algebra. 3 Hr. PR: MATH 156. Finite fields, algebraic coding theory, Boolean algebras, monoids, finite state, and Turing machines.

MATH 378. Discrete Mathematics. 3 Hr. PR: MATH 283. Permutations, combinations, binominal theorem, inclusion-exclusion formula, recurrence relations, generating functions, elementary graph theory (connectivity, paths, circuits, trees, vertex and edge coloring, graph algorithms) matching theory, and discrete optimization. (Equiv. to CS 426.)

MATH 381. Intro Analysis & Topology. 3 Hr. PR: MATH 283 or consent. Introduction to metric and topological spaces. Topics include: Continuity, convergence, separation, compactness, and connectedness.

MATH 420. Numerical Analysis 1. 3 Hr. PR: MATH 251 and (either a programming language or MATH 222.) Computer arithmetic, roots of equations, interpolation, Gaussian elimination, numerical integration and differentiation. Numerical solution of initial value problems for ordinary differential equations. Least square approximations. (Equiv. to CS 460.)

MATH 421. Numerical Analysis 2. 3 Hr. PR: (MATH 420 or CS 460) and (MATH 441 or MATH 343). Solutions of linear systems by direct and iterative methods. Calculation of eigenvalues, eigenvectors, and inverses of matrices. Applications to ordinary and partial differential equations.

MATH 441. Applied Linear Algebra. 3 Hr. PR: MATH 251. Matrix algebra with emphasis on algorithmic techniques and applications to physical models. Topics include solution of large systems of equations, orthogonal projections and least squares, and eigenvalue problems.

MATH 451. Introduction to Real Analysis 1. 3 Hr. PR: MATH 283. A study of sequences, convergence, limits, continuity, definite integral, and derivative, differentials, functional dependence, multiple integrals, sequences, and series of functions.

MATH 452. Introduction to Real Analysis 2. 3 Hr. PR: MATH 451. A study of sequences, convergence, limits, continuity, definite integral, derivative, differentials, functional dependence, multiple integrals, sequences and series of functions.
MATH 456. Complex Variables. 3 Hr. PR: MATH 261. Complex numbers, functions of a complex variable; analytic functions; the logarithm and related functions; power series; Laurent series and residues; conformal mapping and applications.

MATH 464. Deterministic Math Modeling. 3 Hr. PR: MATH 222 and MATH 261 and MATH 420; or consent. An introduction to mathematical modeling of deterministic systems. Topics include growth and decay models, equilibrium models, optimal control and utility, and model validation. Applications from chemistry, physics, biology, economics, and the environment will be considered.

MATH 465. Partial Differential Equations. 3 Hr. PR: MATH 261. Introduces students in mathematics, engineering, and the sciences to methods of applied mathematics. First and second order equations, canonical forms, wave, heat, and Laplace’s equations, representation of solutions.

MATH 469. Seminar in Applied Mathematics. 1-12 Hr. PR: Consent. Selected topics in applied mathematics.

MATH 480. Mathematical Logic 2. 3 Hr. PR: MATH 280 or PHIL 360.

MATH 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

MATH 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

MATH 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MATH 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

MATH 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

MATH 496. Senior Thesis. 1-3 Hr. PR: Consent.

MATH 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

McNair Research Internship (MCNR)
MCNR 470. McNair Research Internship. 1 Hr. PR: Current WVU McNair Scholars. This course familiarizes scholars with the process of preparing a research project and applying for graduate school.

MCNR 471. McNair Research Internship 2. 1 Hr. PR: MCNR 470. and current WVU McNair Scholars. This course familiarizes scholars with the process of completing a research paper. Students will make an oral presentation of completed research at the end of the semester.

Mechanical and Aerospace Engineering (MAE)
MAE 211. Mechatronics. 3 Hr. PR: ENGR 102. Selection of mechanical and electronic components and integration of these components into complex systems. Hands-on laboratory and design experiments with components and measurement equipment used in the design of mechatronic products. (2 hr. lec., 3 hr. lab.)

MAE 215. Introduction to Aerospace Engineering. 3 Hr. PR: MATH 155 and ENGR 102. Fundamental physical quantities of a flowing gas, standard atmosphere, basic aerodynamic equations, airfoil nomenclature, lift, drag, and aircraft performance. Digital computer usage applied to aerodynamic and performance problems and aircraft design. (3 hr. lec.)
MAE 241. Statics. 3 Hr. PR: Grade of C or better in PHYS 111 and grade of C or better in MATH 155. Engineering applications of force equilibrium. Vector operations, couples and moments, resultants, centers of gravity and pressure, static friction, free-body diagrams, trusses and frames.

MAE 242. Dynamics. 3 Hr. PR: MATH 156 with grade of C or better and MAE 241. Newtonian dynamics of particles and rigid bodies. Engineering applications of equations of motion, work and energy, conservative forces, impulse and momentum, impulsive forces, acceleration in several coordinate systems, relative motion, instantaneous centers, and plane motion. (3 hr. lec.)

MAE 243. Mechanics of Materials. 3 Hr. PR: MATH 156 with a grade of C or better and MAE 241. Stress deformation, and failure of solid bodies under the action of forces. Internal force resultants, stress, strain, Mohr’s circle, and mechanical properties of materials, generalized Hooke’s law. Axial bending and buckling loads, and combinations. (3 hr. lec.)

MAE 244. Dynamics and Strength Laboratory. 1 Hr. PR or CONC: MAE 242 and MAE 243. Experiments in dynamic and strength of materials. Mechanical properties and stress-strain curves of materials for tension, compression, shear, and torsion. Hardness, fatigue, and fracture of metals. Vibration.

MAE 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MAE 312. Introduction to Mechanical Design. 3 Hr. Introduction to the process of designing mechanical objects and machines composed of multiple objects. Basics of engineering graphics, and creation of computer-based models of machine components and assemblies.

MAE 316. Analysis of Engineering Systems. 3 Hr. PR: MATH 261 with a grade of C or better and ENGR 102 and MAE 242. Analytical, numerical, and computational techniques to analyze and solve engineering problems. Mathematical modeling, solution strategies, and analysis of results. Statistical techniques including probability distribution functions, regression analysis, and curve fitting.

MAE 320. Thermodynamics. 3 Hr. PR: PHYS 111 and MATH 156. Principles of thermodynamics; properties of ideal gases and vapors; first and second laws of thermodynamics; basic gas and vapor cycles; basic refrigeration. (3 hr. lec.)

MAE 321. Applied Thermodynamics. 3 Hr. PR: MAE 320. Applications to mechanical systems of fundamentals from thermodynamics; availability analysis; applied gas and vapor power cycles; applied refrigeration and psychrometry; mixtures of real gases and vapors; combustion; choked flow nozzles. (3 hr. lec.)

MAE 322. Thermal and Fluids Laboratory. 1 Hr. PR: MAE 320. Experiments demonstrating fundamental concepts of thermal-fluid systems; hydrostatics, dynamic pressure forces, dimensional analysis, pipe pressure losses, drag on external bodies, flow measurements devices, engine performance, fan and turbine performance, saturated vapor curve determination. (3 hr. lab.)

MAE 331. Fluid Mechanics. 3 Hr. PR: MATH 251 with grade of C or better and MAE 241. Fluid statics, laminar and turbulent flow of compressible and incompressible fluids, flow measurements, open channel flow, and kinetics of fluids. (3 hr. lec.)

MAE 335. Incompressible Aerodynamics. 3 Hr. PR: MATH 251 and (MAE 215 or MAE 331). Dynamics of vector fluid flow fields. Ideal fluid flow. Introduction to viscous boundary layers. Airfoil theory. Finite-wing theory.


MAE 342. Dynamics of Machines. 3 Hr. PR: MAE 242 and PR or CONC: MATH 261. Analysis of motion and forces in linkages, cams, and gears. Fundamentals of free and forced, undamped and damped, vibration of mechanical systems.


MAE 370. Aviation Ground School. 3 Hr. Nomenclature of aircraft, aerodynamics, civil air regulations, navigation, meteorology, aircraft, and aircraft engines. May serve as preparation for private pilot written examinations. (2 hr. lec., 2 hr. lab.) (Not approved as a technical elective.)

MAE 411. Advanced Mechatronics. 3 Hr. PR: MATH 261 with a grade of C or better and MAE 211 and EE 221 and EE 222. Instrumentation and measurements emphasizing systems that combine electronics and mechanical components with modern controls and microprocessors. First and second order behavior, transducers and intermediate devices, measurement of rapidly changing engineering parameters, microcontrollers and actuators. (2 hr. lec., 3 hr. lab.)

MAE 415. Balloon Satellite Project 1. 1 Hr. Student teams propose, design, construct, and test experimental packages, launched as payloads via a weather balloon that is tracked and recovered. Data acquired by the experimental payloads is analyzed.

MAE 417. Balloon Satellite Project 2. 2 Hr. PR: MAE 415. Student teams propose, design, construct, and test complex experimental packages, launched as payloads via a weather balloon that is tracked and recovered. Data acquired by the experimental payloads is analyzed.

MAE 421. Problems in Thermodynamics. 3 Hr. PR: MAE 321 or consent. Thermodynamic systems with special emphasis on actual processes; problems designed to strengthen the background of the student in the application of the fundamental thermodynamic concepts. (3 hr. lec.)

MAE 423. Heat Transfer. 3 Hr. PR: MATH 261 with grade of C or better and MAE 320 and (MAE 331 or MAE 335). Steady state and transient conduction. Thermal radiation Boundary layer equation for forced and free convection. WVUIT students must also register for MAE 419.

MAE 424. Applications in Heat Transfer. 3 Hr. PR: MAE 423. Application of basic heat transfer theory and digital computation techniques to problems involving heat exchangers, power plants, electronic cooling, manufacturing processes, and environmental problems. (3 hr. lec.)

MAE 425. Internal Combustion Engines. 3 Hr. PR: MAE 320. Thermodynamics of the internal combustion engine; Otto cycle; Diesel cycle, gas turbine cycle, two- and four-cycle engines, fuels, carburetion and fuel injection; combustion; engine performance, supercharging. (3 hr. lec.)


MAE 427. Heating, Ventilating, and Air Conditioning. 3 Hr. PR: MAE 320 or consent. Methods and systems of heating, ventilating, and air conditioning of various types of buildings, types of controls and their application. (3 hr. lec.)

MAE 430. Microgravity Research 1. 3 Hr. Student team conceives and proposes a unique research experiment, to be flown on NASA microgravity research aircraft. Team also begins design, construction, and testing of apparatus.
MAE 431. Microgravity Research 2. 3 Hr. PR: MAE 430. Student team completes design, construction, and testing of research experiment; that is then flown on NASA microgravity research aircraft. Data required from experiment is analyzed and reported.

MAE 432. Engineering Acoustics. 3 Hr. PR: MATH 261 or consent. Theory of sound propagation and transmission. Important industrial noise sources and sound measurement equipment. Selection of appropriate noise criteria and control methods. Noise abatement technology. Laboratory studies and case histories. (3 hr. lec.)

MAE 433. Computational Fluid Dynamics. 3 Hr. PR: MAE 316 and (MAE 331 or MAE 335) with a grade of C or better or consent. Introduction to modern computational fluid dynamics. Development and implementation of finite-difference schemes for numerical flow solution. Grid generation. Explicit, implicit, and iterative techniques. Emphasis on applications. Validation and verification of solution. (3 hr. lec.)

MAE 434. Experimental Aerodynamics. 2 Hr. PR: MAE 336. Aerodynamic testing and instrumentation. Supersonic and low-speed wind tunnel testing including shock waves, aerodynamic forces, pressure distribution on an airfoil and boundary layers. Application of schlieren optics, thermal anemometry and laser doppler velocimetry. (1 hr. lec., 3 hr. lab.)

MAE 437. V/STOL Aerodynamics. 3 Hr. PR: MAE 336. Fundamental aerodynamics of V/STOL aircraft. Topics include propeller and rotor theory, helicopter performance, jet flaps, ducted fans, and propeller-wing combinations. (3 hr. lec.)

MAE 438. Introduction to Gas Dynamics. 3 Hr. PR: MAE 331 or consent. Fundamentals of gas dynamics, one-dimensional gas dynamics and wave motion, measurement, effect of viscosity and conductivity, and concepts of gas kinetics. (3 hr. lec.)

MAE 439. Hypersonic Gas Dynamics. 3 Hr. PR: MAE 336 or consent. Hypersonic shock and expansion wave relations; hypersonic inviscid flowfields: Approximate and numerical methods, blast wave theory; hypersonic boundary layers and aerodynamic heating. (3 hr. lec.)

MAE 443. Mechanical Behavior and Materials. 3 Hr. PR: MAE 343 or consent. Reveal the mechanical behavior of materials, including elastic behavior, plastic deformation, high temperature deformation and deformation of non-crystalline materials like polymer and composites. It also covers the materials microstructures and their effects on mechanical properties.

MAE 446. Mechanics of Composite Materials. 3 Hr. PR: MATH 251 and MAE 243. Fundamental methods for structural analysis of fiber reinforced composites. Particularities of composite applications in design and manufacturing of structural components: performance tailoring, failure criteria, environmental effects, joining and processing. (3 hr. lec.)

MAE 447. Aeroelasticity. 3 Hr. PR: MAE 345. Vibrating systems of single degree and multiple degrees of freedom, flutter theory and modes of vibration, torsional divergence and control reversal. (3 hr. lec.)

MAE 454. Machine Design and Manufacturing. 3 Hr. PR: MATH 261 with a grade of C or better and MAE 342 and MAE 343. Mechanical design of mechanical elements such as shaft systems, bearings, gears, screws, and fasteners, clutches and brakes, and flexible drive elements. Design for manufacturability considerations.

MAE 456. CAD and Finite Element Analysis. 3 Hr. PR: MATH 261 with a grade of C or better and MAE 343 and (MAE 342 or MAE 345). Computer-aided design fundamentals, finite element concepts and solution techniques. Exposure to CAD and finite element packages. Design case studies.

MAE 461. Applied Feedback Control. 3 Hr. PR: MAE 460 or Consent. Application of automatic control theory. Transfer functions and block diagrams for linear physical systems. Proportional, integral, and derivative controllers. Transient and frequency response using Laplace transformation. (3 hr. lec.)

MAE 462. Design of Robotic Systems. 3 Hr. PR: Consent. Mechanical automation design associated with robotic systems, including economic justification and ethics. Geometric choices and controller specifications for programmable manipulators. Workstation strategies such as CNC and CIM for computer-based flexible manufacturing. (3 hr. lec.)

MAE 465. Flight Mechanics 2. 3 Hr. PR: MAE 365. Fundamental concepts of feedback control system analysis and design. Automatic flight controls, and human pilot plus airframe considered as a closed loop system. Stability augmentation. (3 hr. lec.)

MAE 467. Introduction To Flight Simulation. 3 Hr. PR: MAE 365. Fundamental concepts of flight simulation are introduced through interaction with tools of different complexity from simplified linear and non-linear models to a six degrees-of-freedom motion based flight simulator.

MAE 470. UAV Design/Build/Fly Competition 1. 1 Hr. PR: Consent. Hands-on applications of concepts learned in other courses to meet specified flight performance and competition criteria. Advanced aerodynamic and material concepts are utilized by an integrated sophomore, junior, senior team.

MAE 471. Principles of Engineering Design. 3 Hr. PR: MAE 320 and MAE 331 and MAE 342 and MAE 343. Topics include design problems in mechanical engineering, deal with analytical and experimental methodologies in fluid, thermal, and structural areas, decision-making techniques, optimization, computer aided design and economic consideration.

MAE 472. Engineering Systems Design. 3 Hr. PR: MAE 471. Identification and solution of challenging engineering problems through rational analysis and creative synthesis. Planning, designing, and reporting on complex systems on individual and group basis. (6 hr. lab.)

MAE 473. Bioengineering. 3 Hr. PR: MAE 243 or consent. Introduction to human anatomy and physiology using an engineering systems approach. Gives the engineering student a basic understanding of the human system so that the student may include it as an integral part of the design. (3 hr. lec.)

MAE 474. UAV Design/Build/Fly Comp. 1-3 Hr. PR: Consent. Hands-on applications of concepts learned in other courses to meet specified flight performance and competition criteria. Advanced aerodynamic and materials concepts are utilized by an integrated sophomore-junior-senior team.

MAE 475. Flight Vehicle Design-Capstone. 3 Hr. PR: ENGL 102 and MAE 215 and MAE 365 or consent. Preliminary design of flight vehicles; with regard for performance and stability requirements, considering aerodynamics, weight and balance, structural arrangement, configuration, cost safety, guidance, and propulsion effects. (1 hr. lec., 6 hr. lab.)

MAE 476. Space Flight and Systems. 3 Hr. PR: MAE 316. Introduction to fundamental concepts of space flight and vehicles, emphasizing performance aspects and basic analytical expressions. Common analysis methods and design criteria for launch vehicles, orbital mechanics, atmospheric re-entry, stabilization, thermal, power, and attitude control.

MAE 477. Space Systems Design. 3 Hr. PR: MAE 475 or MAE 471. Conceptual and/or preliminary design of space vehicles and/or systems including structures, CAD, orbital mechanics, propulsion, thermal control, life support, power systems, communications, system integration and cost analysis. (1 hr. lec., 6 hr. lab.)

MAE 479. Space Mechanics. 3 Hr. PR: MATH 261 and MAE 242. Flight in and beyond earth's atmosphere by space vehicles. Laws of Kepler and Orbital theory. Energy requirements for satellite and interplanetary travel. Exit from and entry into an atmosphere. (3 hr. lec.)

MAE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

MAE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

MAE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MAE 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

MAE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

MAE 496. Senior Thesis. 1-3 Hr. PR: Consent.

MAE 497. Research. 1-6 Hr. Independent research projects.

MAE 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Medical Technology (MTEC)

MTEC 100. Medical Technology. 1 Hr. Introduction to the profession of medical technology and the clinical laboratory specialties. (Pass/fail grading only.)

MTEC 101. Medical Technology 2. 1 Hr. Continuation of MTEC 100.

MTEC 200. Medical Technology Terminology. 1 Hr. General medical and basic medical technology terminology.

MTEC 201. Basic Medical Technology. 1 Hr. Basic medical technology laboratory techniques and professional issues related to medical technology. (Course will be graded pass/fail only.)

MTEC 302. Laboratory Math, Quality Control, Computers. 2 Hr. Lectures and practice sessions in laboratory mathematics, techniques, and calculations in quality control, quality assurance. Computer acquisition and evaluation.

MTEC 310. Clinical Laboratory Mycology. 1 Hr. How to isolate and identify the more commonly encountered pathogenic fungi as well as those fungi frequently seen as laboratory contaminants. The course will include basic taxonomy, isolation procedures, and identifying characteristics.

MTEC 381. Research and Educational Methodology. 2 Hr. Lectures in ethics, techniques of research, and techniques of educational methodology for medical technology students.

MTEC 391. Research, Educational Methodology. 2 Hr. Lectures in ethics, techniques of research, and techniques of educational methodology for medical technology students.

MTEC 400. Orientation. 0 Hr. (For senior students). Principles and practices of medical technology in relation to the hospital and clinics. (Pass/fail grading only.)

MTEC 401. Phlebotomy. 1 Hr. PR: Enrollment in medical technology program and MTEC 300 and MTEC 301. Clinical laboratory practice, including venipuncture, finger sticks, and heel sticks; isolation, universal precaution and other safety techniques are included.

MTEC 403. Community Service Practicum. 1 Hr. PR: Senior year in medical technology program. Students will spend time performing community service projects. (Grading will be pass/fail.)
MTEC 404. Forensic Quality Assurance. 1 Hr. PR: Student currently enrolled in FIDP. Quality assurance in a laboratory setting to include quality control, quality assurance, and management techniques necessary to have an accredited laboratory.

MTEC 420. Immunohematology and Blood Banking. 3 Hr. Lectures on immunohematology and blood banking theory and practice.

MTEC 421. Immunohematology and Blood Banking Laboratory. Arranged. 3 Hr. Clinical laboratory practice in blood banking procedures. Emphasis on procedures required for collection and preparation of blood and blood components for transfusion, special techniques, antibody studies, and problem solving.

MTEC 430. Clinical Chemistry 2. 3 Hr. PR: MTEC 329. Continuation of MTEC 329, includes laboratory practice in methods of measurement.

MTEC 431. Clinical Chemistry Laboratory. 3 Hr. PR: MTEC 329 and MTEC 420. Application of clinical chemistry principles to laboratory medicine, to include routine and specialized procedures, specimen and result evaluation, and problem solving.

MTEC 440. Clinical Hematology. 3 Hr. Lectures in hematologic theory and practice, including coagulation and body fluids laboratory.

MTEC 441. Clinical Hematology Laboratory. 3 Hr. PR: MTEC 440. Application of hematological principles to laboratory medicine, including coagulation, urinalysis, and body fluids. Emphasis on routine and specialized procedures, evaluations, and problem solving.

MTEC 450. Clinical Microbiology. 3 Hr. Presentation and discussion of methodologies employed in the processing of clinical microbiology specimens, isolation, and identification of clinically significant microorganisms, and determination of antimicrobial susceptibilities with laboratory.

MTEC 451. Clinical Microbiology Laboratory. 3 Hr. PR: MTEC 450. Practice in the clinical microbiology laboratory to include isolation and identification of microorganisms, processing of specimens and antibiograms.

MTEC 460. Clinical Laboratory Instrumentation. 2 Hr. Principles of clinical laboratory instrumentation for medical technologists including principles of operation, maintenance, and troubleshooting.

MTEC 465. Clinical Laboratory Management. 2 Hr. Laboratory organization and principles of laboratory management.

MTEC 466. Laboratory Management Practicum. 1 Hr. PR: MTEC 465. Problem-based learning and clinical laboratory management rotation. Application of management learned in MTEC 465. (Course will be graded pass/fail.)

MTEC 470. Clinical Microscopy. 1 Hr. PR: Senior standing in medical technology program or consent. The analysis of body fluids (urine, fluids, etc.) for abnormalities.

MTEC 472. Urinalysis and Body Fluids Lab. 1 Hr. CoReq: MTEC 470 or consent. Clinical laboratory principles and procedures used in analysis of urine and body fluids.

MTEC 475. Medical Relevance. 2 Hr. Case studies of pathologic entities encountered in the clinical laboratory and a review of clinical laboratory science. Students will complete and give an oral presentation of the capstone experience and pass a comprehensive examination.

MTEC 480. Clinical Immunology. 2 Hr. Open only to MTEC students. Lectures in principles of immunological and serological procedures, immunological diseases, and significance of laboratory methods for diagnosis.
MTEC 481. Clinical Immunology Laboratory. 1 Hr. PR: Senior year Medical Technology Program. Clinical laboratory practice in immunological procedures. Emphasis on basic serological techniques, protein analysis, molecular methods, and tissue typing.

MTEC 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

MTEC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Preamrranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

MTEC 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MTEC 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

MTEC 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

MTEC 496. Senior Thesis. 1-3 Hr. PR: Consent.

MTEC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Microbiology and Immunology (MICB)
MICB 200. Medical Microbiology. 3 Hr. PR: CHEM 111 and CHEM 112.

MICB 323. Medical Microbiology/Lab. 5 Hr. (For medical laboratory science students; other students with consent.) Biochemistry. Basic microbiology. Emphasis on immunology, pathogenic microorganisms, and clinical laboratory techniques.

MICB 327. Parasitology. 2 Hr. (For medical technology students; other students with consent.) Study of animal parasites and disease vectors with emphasis on disease manifestations, parasite biology, and laboratory diagnosis.

MICB 492. Directed Study. 1-6 Hr. Directed study, readings, and/or research.

MICB 493 A-Z. Special Topics. 1-6 Hr. A study of contemporary topics selected from recent developments in the field.

MICB 494 A-Z. Seminar. 1-6 Hr. PR: Consent. Seminars arranged for advanced graduate students.

Military Science (MILS)
MILS 101. Military Science. 2 Hr. The organization and development of the U.S. Army and ROTC from its inception to the present. The structure and role of the U.S. defense establishment with emphasis on the broad range of America civil-military relations.

MILS 201. Military Science. 2 Hr. Introduction to basic leadership and management with emphasis on the fundamental concepts and skills required of today’s citizen-soldier.

MILS 202. Military Science. 2 Hr. Continued instruction in basic fundamentals of leadership and management, with emphasis on the military application of these fundamentals. Introduction to small unit tactics and organization.
MILS 301. Military Science. 3 Hr. PR: Basic course or equiv. (Equivalent credit may be granted by the WVU director of admissions and the professor of military science on the basis of prior military services, or ROTC training other than courses in military science taken at WVU.) Examines the requirements for military training and the psychological and technical aspects of effective instruction. Additionally, the military career system and the occupational specialties options available are reviewed.

MILS 401. Military Science. 3 Hr. PR: MILS 301 and MILS 302 or consent. Stresses the responsibilities of an officer and affords leadership experience as a cadet leader. Military staff procedures, military law, and military organizations, which prepare the student for future services, are studied.

MILS 402. Military Science. 3 Hr. PR: MILS 401 or consent. Advanced leadership techniques, unit operations, and personnel management problems are discussed in seminars. The military role in United States foreign policy and world affairs is examined.

MILS 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MILS 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

MILS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

Mining Engineering (MINE)

MINE 201. Mine Surveying. 3 Hr. PR: MATH 155 with a grade of C or better. Principles of surveying, field experience in underground and surface surveying with map work and calculations.

MINE 205. Underground Mining Systems. 3 Hr. PR or CONC: GEOL 101. Underground mining methods and equipment for bedded deposits and ore bodies; description and selection of mining methods, equipment requirements and selection, equipment design, and operational analysis.

MINE 206. Surface Mining Systems. 4 Hr. PR: GEOL 101. Surface mining methods, surface mining equipment, explosives and blasting design fundamentals, and slope stability.

MINE 261. Engineering CAD. 2 Hr. PR: ENGR 102. Engineering CAD concepts and techniques; implementing applications of engineering computer aided design for engineering graphics and plant design; introduction of geometry and calculation of engineering works.

MINE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MINE 305. Coal Mining. 3 Hr. PR: Junior standing or consent. (Not open to mining engineering students.) Introduction to elements of coal mining.

MINE 306. Mineral Property Evaluation. 3 Hr. PR: STAT 211 or STAT 215. Mineral exploration and reserve estimation, risk management, and engineering economy concepts applied to mineral deposits, including depreciation and depletion.

MINE 324. Special Subjects for Mining Engineering. 1-6 Hr. PR: Senior or graduate standing or consent. Special problems in mining engineering, including choices among operations research, mine systems analysis, coal and mineral preparation, and coal science and technology.

MINE 327. Coal Preparation. 4 Hr. PR: MATH 156 and CHEM 116. Coal formation, petrography and characteristics; principles of coal beneficiation, washability analysis and cooking; colloid characteristics and flotation; unit operations of concentration, flotation, agglomeration, dewatering and tailings disposals.
MINE 331. Mine Ventilation. 3 Hr. PR: MINE 205 and (MAE 331 or CE 321). Engineering principles, purposes, methods, and equipment applied to the underground environmental control including ventilation, illumination, and dust and noise control.

MINE 381. Applied Mineral Computer Methods. 3 Hr. PR: ENGR 102 and Math 156. Problem solving in mineral processing, mineral resources, mining, and petroleum engineering. Emphasis on applications using various computing technologies.

MINE 382. Mine Power Systems. 3 Hr. PR: PHYS 112 and MINE 205 and MINE 206 or consent. Comprehensive study of mine electrical power systems from theory to practice, covering the vital aspects that go into planning and designing a mine power system.

MINE 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MINE 407. Longwall Mining. 3 Hr. PR: MINE 205. Elements of longwall mining including panel layout and design considerations, strata mechanics, powered supports, coal cutting by shearer or plow, conveyor transportation, and face move.

MINE 411. Rock Mechanics/Ground Control. 4 Hr. PR: MINE 205 and MINE 206 and MAE 243 and PR or CONC: GEOL 342. Rock properties and behavior, in-situ stress field, mine layout and geological effects; design of entry, pillar, and bolt systems, convergence and stress measurements, surface subsidence, roof control plan, slope stability, and laboratory sessions.

MINE 425. Mineral Processing. 3 Hr. PR: CHEM 115 and MATH 261 and PR or CONC: MINE 427 and CoReq: MINE 426. Principles of physical and introductory chemical separation methods for concentration of non-mental and metal from minerals and ores. Unit operations include, communication, classification, gravity, electrostatic and magnetic separation, flotation, filtration, and thickening.

MINE 427. Coal Preparation. 4 Hr. PR: CHEM 115 and MATH 251 and MINE 261. Coal formation and characteristics; principles of coal beneficiation, washability analysis; colloid characteristics and flotation, unit operations for concentration, flotation, dewatering, material handlings, and mass balances.

MINE 461. Applied Mineral Computer Methods. 3 Hr. PR: MATH 251 with a grade of C or better. Problem solving in mineral processing, mineral resources, mining, and petroleum engineering. Emphasis on applications using various computing technologies.

MINE 471. Mine and Safety Management. 3 Hr. PR: MINE 205 and MINE 206. The nature of federal and state laws pertaining to coal mine and safety; emphasis on achieving compliance through effective mine planning, design, statistical quality control, and mine health and safety management.

MINE 480. Multidisciplinary Team Project. 1 Hr. Mining engineering designs often need to consider constraints from other engineering/non-engineering fields. This course provides a multidisciplinary team working environment for mining students to work with a selected non-mining major on a design project.

MINE 482. Mine Design. 4 Hr. PR: Senior standing and in final semester. Comprehensive design problem involving underground mining developments, surface plant, or both, as selected by the student in consultation with instructor. Preparation of a complete report on the problem required, including drawings, specifications, and cost analysis.

MINE 483. Mine Design-Exploration Mapping. 2 Hr. PR: MATH 261 and MAE 242 and MINE 261 and MINE 306 and PR or CONC: MINE 411. Student and instructor select a mineral or coal deposit for the capstone mine design project. Geologic, demographic, quality, and market data are integrated with computer mapping software into a map set and exploration report.
MINE 484. Mine Design-Report. 4 Hr. PR: MINE 483. Capstone mine design project report and presentation based on the mineral or coal reserve characterized in MINE 383. Includes an integrated mine plan, schedule, equipment selection, processing plant, mine services, product description and engineering economics.

MINE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

MINE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

MINE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MINE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

MINE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

MINE 496. Senior Thesis. 1-3 Hr. PR: Consent.

MINE 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Multidisciplinary Studies (MDS)**

MDS 130. Life Choices. 3 Hr. Students will examine lifestyle choices typically dictated by customs that are usually made unconsciously without research. Areas covered are attitude, relationship, physical lifestyle, health and spiritual choices. The class consists of lectures and requires participation.

MDS 199. Orientation to MDS. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

MDS 220. Introductory African and African-American Studies. 3 Hr. An interdisciplinary introduction to the histories, economics, cultural and artistic heritages; political and social formations of Africans and African-Americans; focusing on the relationships between the two experiences.

MDS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MDS 401. RBA Portfolio. 1 Hr. PR: ENGL 101 or equivalent. To prepare RBA students who plan to petition for college equivalent credits through the portfolio option, including course selection, verifications and narratives.

MDS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

MDS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

MDS 492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

MDS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MDS 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.
MDS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

MDS 496. Senior Thesis. 1-3 Hr. PR: Consent.

MDS 497. Research. 1-6 Hr. Independent research projects.

MDS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Music (MUSC)

MUSC 100. Band: Wind Symphony. 0-2 Hr. (May be repeated for credit.)

MUSC 100A. Band: Concert. 0-2 Hr. (May be repeated for credit.)

MUSC 100B. Band: Varsity. 0-2 Hr. (May be repeated for credit.)

MUSC 100C. Band: Symphonic. 0-2 Hr. (May be repeated for credit.)

MUSC 100D. Band: Marching. 0-2 Hr. (May be repeated for credit.)

MUSC 102. University Choral Union. 0-1 Hr. (May be repeated for credit.)

MUSC 103. Orchestra. 0-2 Hr. (May be repeated for credit.) University-community symphony orchestra, opera orchestra, musical theatre orchestra.

MUSC 104. Introduction to Opera Theatre. 0-4 Hr. (May be repeated for credit; max. 16 hr.) PR: Consent. Practical work in all aspects of lyric theatre production. Development of lyric theatre stage technique through movement studies, performance in major and minor roles and operatic scenes, and advanced production techniques.

MUSC 105. University Choir. 0-2 Hr. (May be repeated for credit.)

MUSC 105A. University Choir: Concert. 0-2 Hr. (May be repeated for credit.)

MUSC 110. Fundamentals of Music. 3 Hr. (Not open to music majors.) Introductory course designed to develop music reading skills through a systematic presentation of music notation and elementary compositional projects.

MUSC 111. Introduction to Music. 3 Hr. (Not open to music majors). Introductory course designed to develop an appreciation and understanding of the significance of music as a fine art, and to help the student develop intelligent listening habits.

MUSC 112. Great Composers in Performance. 3 Hr. (Not open to music majors.) A study of significant composers and their music. Lectures, in-class musical presentations, concert and rehearsal attendance will: (1) explore relationship of music to the development of society, (2) develop appropriate critical analysis and listening skills.

MUSC 113. 20th Century American Pop Music. 3 Hr. Introduction of history and development of American popular music.

MUSC 114. Music in the Modern Age. 3 Hr. PR: MUSC 111 or consent. (Not open to music majors.) A survey of western music of the twentieth century from Debussy to recent years, emphasizing stylistic, historical, and cultural facets.

MUSC 115. Introduction to History of Jazz. 3 Hr. PR: MUSC 111 or consent. (Not open to music majors.) An introduction to jazz, its characteristics, important performers, and their music, including an historical survey with attention to the changing style of the music.
MUSC 116. Music in World Cultures. 3 Hr. (Not open to music majors.) Examination of music from various cultures (e.g. Native America, South India, Japan, Africa) within their cultural contexts.

MUSC 117. Folk Music of the United States. 3 Hr. Introduction to the folk music of various American cultural groups in historical context. Comparative analysis of representative tunes and texts.

MUSC 118. Music in Appalachia. 3 Hr. (Not open to music majors.) Survey of traditional instrumental and vocal music of southern Appalachia. History, style characteristics, and performance techniques involving live and recorded examples emphasizing those found in West Virginia.

MUSC 119. Applied Music: Pipe Organ. 1-4 Hr. (May be repeated for credit.) Audition for placement required. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 120. History of Musical Theatre. 3 Hr. This course explores American musical theatre, one of this country's primary contributions to world culture, covering its origins, components, and its major creative figures.

MUSC 121. Applied Music: Euphonium. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 121A. Applied Music: Horn. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 121B. Applied Music: Trombone. 1-4 Hr. Audition for placement required. (May be repeated for max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 121C. Applied Music: Trumpet. 1-4 Hr. Audition for placement required. (May be repeated for max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 121D. Applied Music: Tuba. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 122. Applied Music: Jazz. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Weekly lesson and attendance at the jazz seminar addressing issues related to jazz performance, technology, pedagogy, and business aspects of music.

MUSC 123. Applied Music: Harpsichord. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 123A. Applied Music: Organ. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 123B. Applied Music: Piano. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 124. Applied Music: Percussion. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.
MUSC 124A. Applied Music: Drum Set. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 125. Applied Music: Cello. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 125A. Applied Music: Guitar. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 125B. Applied Music: String Bass. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 125C. Applied Music: Viola. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 125D. Applied Music: Violin. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 126. Applied Music: Voice. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 127. Applied Music: Bassoon. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 127A. Applied Music: Clarinet. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 127B. Applied Music: Flute. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 127C. Applied Music: Oboe. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 127D. Applied Music: Saxophone. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 130. Piano Class Level 0. 1 Hr.

MUSC 131. Piano Class Level 1/2. 1 Hr. Audition for placement is required.

MUSC 132. Piano Class Level 1. 1 Hr. Audition for placement is required.

MUSC 133. Piano Class Level 1 1/2. 1 Hr. Audition for placement is required.

MUSC 134. Piano Class Level 2-2 1/2. 1-2 Hr. (May be repeated for credit.) Audition for placement is required.

MUSC 138. Voice Class 1. 1-2 Hr. (May be repeated for credit).
MUSC 139. Voice Class 2. 1-2 Hr. (May be repeated for credit.) PR: MUSC 139 or permission.
MUSC 140. Chamber Music: Brass. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 141. Chamber Music: Guitar. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 142. Chamber Music: Piano-4 Hand. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 143. Chamber Music: Strings. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 144. Chamber Music: Woodwind. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 145. Chamber Music: Vocal. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 146. Chamber Music: Mixed Ensemble. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 147. Chamber Music: Mountaineer Singers. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 148. Chamber Music: New Music. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149A. Chamber Music: Brass Choir. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149B. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149C. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149D. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149E. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149F. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149G. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149H. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149I. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149J. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149K. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149L. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149M. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149N. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149O. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149P. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149Q. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149R. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149S. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 149T. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 149U. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 149V. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 149W. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 149X. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 149Y. Chamber Music: Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 149Z. Collegium Musicum. 1-2 Hr. (May be repeated for credit.) PR: Consent. Study of outstanding musical works not in the standard repertory. Performance of vocal and instrumental music, investigation of performance practices, preparation of editions, and direction of rehearsals under supervision.

MUSC 150. Chamber Music: Freshman Percussion. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 151. Chamber Music: Percussion 1. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 152. Chamber Music: Percussion 2. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 154. Chamber Music: Gamelan. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 155. Chamber Music: Steel Band 1. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 156. Chamber Music: African. 1 Hr. PR: Consent. (May be repeated for credit.) Performing ensemble focusing on music of Africa culminating in a semester concert.

MUSC 157. Chamber Music: Brazilian. 1 Hr. PR: Consent. (May be repeated for credit.) Performing ensemble focusing on music of Brazil culminating in a semester concert.

MUSC 158. Chamber Music: Ethnic. 0-1 Hr. (May be repeated for credit.) PR: Consent.

MUSC 159. Chamber Music: Taiko. 1 Hr. PR: Consent. (May be repeated for credit.) Performing ensemble focusing on Taiko music culminating in a semester concert.

MUSC 160. Introduction to Music Composition. 2 Hr. PR: Consent. (Open to music composition majors only.) Development of creativity in musical composition. May be repeated for credit. (2 hr. lec.)

MUSC 161. Aural Theory 1. 2 Hr. The four aural theory courses (MUSC 161, 163, 261, and 263) form a unit of instruction devoted to the development of aural skills such as sight-singing, melodic and harmonic dictation, identification of chords, chord progressions, modulations, and non-harmonic tones.

MUSC 162. Written Theory 1. 2 Hr. Elementary theory (scales, keys, intervals, triads, and dominant seventh chords) and introduction to diatonic harmony (part-writing and analysis.)


MUSC 164. Written Theory 2. 2 Hr. PR: MUSC 162. Continuation of MUSC 162. Diatonic harmony including part-writing, harmonization of melodies, and harmonic analysis with triads, seventh chords, secondary dominants, and modulation. Analysis of binary and ternary forms.

MUSC 169. Diction for Singers: French. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in various languages. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.
MUSC 169A. Diction for Singers: English. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in various languages. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169B. Diction for Singers: Italian. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in various languages. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169C. Diction for Singers: German. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in various languages. Other aspects of language that will aid comprehension of song, oratorio, and operatic texts considered.

MUSC 169D. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English; Italian, Latin, Spanish, German, and French. Other aspects of language that will aid comprehension of song, oratorio, and operatic texts considered.

MUSC 169E. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169F. Diction for Singers. 2 Hr. (May be repeated for credit, max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169G. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169H. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169I. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169J. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169K. Diction for Singers. 2 Hr. (May be repeated for credit; max. 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169L. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.
MUSC 169M. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169N. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169O. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169P. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169Q. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169R. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169S. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169T. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169U. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169V. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169W. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169X. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.
MUSC 169Y. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of language that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 169Z. Diction for Singers. 2 Hr. (May be repeated for credit; max 8 hr.) PR: Consent. Phonetics, phonetic symbols, and pronunciation in singing in alternating semesters in English, Italian, Latin, Spanish, German, and French. Other aspects of languages that will aid in comprehension of song, oratorio, and operatic texts considered.

MUSC 177. Introduction to Music Listening. 1 Hr. (For music majors only.) Guided listening to representative compositions of various traditions of Western Music. Development of ability to describe elements of compositions and style using a standard musical vocabulary.

MUSC 180. Introduction to Music Education. 1 Hr. Introduction to purposes of school music education, students as learners, content and structure of school music programs, and music teacher knowledge and skills.

MUSC 181. Fundamental Music Skills. 2 Hr. (Not open to music majors.) Development of skills for future classroom teachers. Basic understanding of rhythm, dynamics, tone color, pitch, and form.

MUSC 182. Music in the Elementary School. 3 Hr. (Not open to music majors.) Development of fundamental music skills and pedagogical strategies for integrating music into the elementary classroom.

MUSC 183. Chamber Music: Jazz Big Band 1. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 183A. Chamber Music: Jazz Big Band 2. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 183B. Chamber Music: Jazz Small Group 1. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 183C. Chamber Music: Jazz Small Group 2. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 183E. Chamber Music: Jazz and Ethnic. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 183G. Chamber Music: Jazz Vocal Ensemble. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 183H. Chamber Music: Jazz Other. 0-1 Hr. (May be repeated for credit.) PR: Consent.
MUSC 183I. Chamber Music: Jazz Vocal Ensemble. 0-1 Hr. (May be repeated for credit) PR: Consent.

MUSC 189. Music Convocation. 0 Hr. (Required for all music majors for six semesters. May be repeated.) Faculty, guest artist, and student performances, lectures and forums on major musical issues and topics.

MUSC 200. Fundamentals of Conducting. 2 Hr. PR: MUSC 163 and 164. Basic conducting skills, including beat patterns, expressive gestures, cues, and the fermata; terminology; tempo changes; and the mechanics of score reading. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

MUSC 201. Conducting and Score Interpretation. 2 Hr. PR: MUSC 200 or consent. Development of techniques of score study; rehearsal preparation. Rehearsals of laboratory ensemble. Study of string, wind, and choral scores.

MUSC 202. Conducting and Rehearsing. 2 Hr. PR: MUSC 201 or consent. Intensive study of wind, choral, and orchestral scores, rehearsed by the laboratory ensemble. Conducting of a major performance ensemble in rehearsal.
MUSC 221. Applied Music: Euphonium. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 121. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 221A. Applied Music: Horn. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 121A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 221B. Applied Music: Trombone. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 121B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 221C. Applied Music: Trumpet. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 121C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 221D. Applied Music: Tuba. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 121D. Credit and lesson length varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 222. Applied Music: Jazz. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 122. Credit and lesson length varies. Weekly lesson and attendance at the jazz seminar addressing issues related to jazz performance, technology, pedagogy, and business aspects of music.

MUSC 223. Applied Music: Harpsichord. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 123. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 223A. Applied Music: Organ. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 123A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 223B. Applied Music: Piano. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 123B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 224. Applied Music: Percussion. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 124. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 224A. Applied Music: Drum Set. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 124A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 225. Applied Music: Cello. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 125. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 225A. Applied Music: Cello. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 125A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 225B. Applied Music: String Bass. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 125B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 225C. Applied Music: Viola. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 125C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.
MUSC 225D. Applied Music: Violin. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 125D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 226. Applied Music: Voice. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 126. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 227. Applied Music: Bassoon. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 127. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 227A. Applied Music: Clarinet. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 127A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 227B. Applied Music: Flute. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 127B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 227C. Applied Music: Oboe. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 127C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 227D. Applied Music: Saxophone. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 127D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 261. Aural Theory 3. 2 Hr. PR: MUSC 163. Continuation of MUSC 163.

MUSC 262. Written Theory 3. 2 Hr. PR: MUSC 164. Continuation of MUSC 164. Diatonic and chromatic harmony including part-writing, harmonization of melodies, and harmonic analysis with seventh chords. Modulations, and foreign chords. Introduction to counterpoint.


MUSC 264. Written Theory 4. 2 Hr. PR: MUSC 262. Consideration of melody, rhythm, harmony, texture, form, etc., and how they function to produce an organic work of art. Analysis of larger musical forms and emphasis on twentieth century techniques.

MUSC 265. Instrumentation. 2 Hr. PR: MUSC 164. Study of characteristics of band and orchestral instruments and their use in scoring.

MUSC 266. Orchestration and Band Arranging. 2 Hr. PR: MUSC 265. Problems in scoring for orchestra and band.

MUSC 270. History of Western Musical Traditions 1. 3 Hr. PR: MUSC 177 or MUSC 170. Survey of Western musical traditions from the Christian era to c1800 in their stylistic, historic, and social settings.

MUSC 271. History of Western Musical Traditions 2. 3 Hr. PR: MUSC 270 and ENGL 102. Survey of Western musical traditions from c1800 to the present in their stylistic, historic, and social settings. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

MUSC 280. Woodwind Instrument Pedagogy. 2 Hr. Techniques of teaching woodwind instruments, including playing techniques, pedagogical techniques appropriate for young players, methods, materials, maintenance, and repairs.
MUSC 281. Brass Instrument Pedagogy. 2 Hr. Techniques of teaching brass instruments, including playing techniques, pedagogical techniques appropriate for young players, methods, materials, maintenance, and repair.

MUSC 282. String Instrument Pedagogy. 2 Hr. Techniques of teaching string instruments, including playing techniques, pedagogical techniques appropriate for young players, methods, materials, maintenance, and repair.

MUSC 283. Percussion Instrument Pedagogy. 2 Hr. Techniques of teaching percussion instruments, including playing techniques, pedagogical techniques appropriate for young players, methods, materials, maintenance, and repair.

MUSC 284. Vocal Pedagogy. 2 Hr. PR: MUSC 138 or MUSC 138 exemption. Techniques of voice culture; applicable to school choral activities and instruction of young singers.

MUSC 285. Introduction to Jazz Improvisation. 2 Hr. PR: MUSC 163 and MUSC 164 and Proficiency Level 4. Development of improvisatory skills in the jazz idiom using melodic, harmonic, and rhythmic motives and patterns, and the application of knowledge of tonal centers, chord progressions, and junctions.


MUSC 293 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

MUSC 298. Honors. 1-3 Hr. PR: Student in Honors Program and consent by the honors director. Independent reading, study or research.

MUSC 321. Applied Music: Euphonium. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 221. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 321A. Applied Music: Horn. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 221A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 321B. Applied Music: Trombone. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 221B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 321C. Applied Music: Trumpet. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 221C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 321D. Applied Music: Tuba. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 221D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 322. Applied Music: Jazz. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 222. Weekly lesson and attendance at the jazz seminar addressing issues related to jazz performance, technology, and business aspects of music.

MUSC 323. Applied Music: Harpsichord. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hr.) Continuation of MUSC 223. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 323A. Applied Music: Organ. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 223A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.
MUSC 323B. Applied Music: Piano. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 223B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 324. Applied Music: Percussion. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 224. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 324A. Applied Music: Drum Set. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 224A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 325. Applied Music: Cello. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 225. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 325A. Applied Music: Guitar. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 225A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 325B. Applied Music: String Bass. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 225B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 325C. Applied Music: Viola. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 225C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 325D. Applied Music: Violin. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 225D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 326. Applied Music: Voice. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 226. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 327. Applied Music: Bassoon. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 227. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 327A. Applied Music: Clarinet. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 227A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 327B. Applied Music: Flute. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 227B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 327C. Applied Music: Oboe. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 227C. Credit and length of lesson varies dependent on curriculum. Weekly lessons to develop technical, artistic and pedagogical aspects of music.

MUSC 327D. Applied Music: Saxophone. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 227D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 360. Composition. 2 Hr. PR: MUSC 264 or consent. (May be repeated for credit; max. 8 hr.) Creative writing.
MUSC 380. Instrumental Methods and Technology Applications. 3 Hr. PR: For music education majors, successful completion of all pre-professional requirements. Methods, materials, and administration of K-12 instrumental music programs and application of instructional technology. Bi-weekly laboratory.

MUSC 381. Choral Music Methods and Technology Applications. 3 Hr. PR: For music education majors, successful completion of all pre-professional requirements. Methods, materials, and administration of K-12 choral music programs and application of instructional technology. Bi-weekly laboratory.

MUSC 382. General Music Methods and Technology Applications. 3 Hr. PR: For music education majors, successful completion of all pre-professional requirements. Methods, materials, curriculum, and technology applications for elementary general music programs. Weekly practicum (arranged).

MUSC 383. Marching Band Techniques. 2 Hr.


MUSC 385. Survey of Wind Literature. 2 Hr. PR: MUSC 177. This course traces the development of wind instrument literature from the Renaissance period to present day, with particular emphasis on the twentieth-century American wind band.

MUSC 421. Applied Music: Euphonium. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 321. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 421A. Applied Music: Horn. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 321A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 421B. Applied Music: Trombone. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 321B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 421C. Applied Music: Trumpet. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 321C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 421D. Applied Music: Tuba. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 321D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 422. Applied Music: Jazz. 1-4 Hr. Audition for Placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 322. Weekly lesson and attendance at jazz seminar addressing issues related to jazz performance, technology, pedagogy and business aspects of music.

MUSC 423. Applied Music: Harpsichord. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 323. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 423A. Applied Music: Organ. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 323A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 423B. Applied Music: Piano. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 323B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.
MUSC 424. Applied Music: Percussion. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 324. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 424A. Applied Music: Drum Set. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 324A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 425. Applied Music: Cello. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 325. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 425A. Applied Music: Guitar. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 425A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 425B. Applied Music: String Bass. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 325B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic, and pedagogical aspects of music.

MUSC 425C. Applied Music: Viola. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 325C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 425D. Applied Music: Violin. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 325D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 426. Applied Music: Voice. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 326. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 427. Applied Music: Bassoon. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 327. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 427A. Applied Music: Clarinet. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 327A. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 427B. Applied Music: Flute. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 327B. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 427C. Applied Music: Oboe. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 327C. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 427D. Applied Music: Saxophone. 1-4 Hr. Audition for placement required. (May be repeated for a max of 8 hours.) Continuation of MUSC 327D. Credit and length of lesson varies dependent on curriculum. Weekly lesson to develop technical, artistic and pedagogical aspects of music.

MUSC 430. Piano Class Methods and Materials. 3 Hr. Methods, materials, and pedagogical techniques, including presentation of keyboard theory as used in functional piano. Practical organization of piano classes. Laboratory: Observation of experienced class teacher and student teaching.
MUSC 431. History of Keyboard Pedagogy and Technique. 3 Hr. Study of keyboard development and technique, including pedagogical works of the eighteenth through twentieth centuries and application to specific teaching problems. Laboratory: Student teaching and observation, emphasizing analysis and solution of technical problems.

MUSC 432. Methods and Pedagogy. 0-2 Hr. PR: Junior standing or consent.

MUSC 433. Methods and Pedagogy. 1-2 Hr. PR: MUSC 432 or consent.

MUSC 434. Repertoire. 0-2 Hr.


MUSC 435A. Repertoire: Piano. 0-2 Hr.

MUSC 435B. Repertoire: Other. 0-2 Hr.

MUSC 435 C-Z. Repertoire. 0-2 Hr.

MUSC 460. Upper-Division Composition. 2 Hr. (May be repeated for credit.) PR: Two semesters MUSC 360, or consent based on scores submitted. Creative writing with emphasis on practical composition for performance.

MUSC 461. Counterpoint. 2 Hr. PR: MUSC 264 or consent. Sixteenth century counterpoint.

MUSC 462. Counterpoint. 2 Hr. PR: MUSC 264 or consent. Eighteenth century counterpoint.

MUSC 463. Analysis of 18th-19th Century Music. 3 Hr. PR: MUSC 264 or consent. Detailed study of the materials and structure of European music of the eighteenth and nineteenth-centuries. (Alternate years.)

MUSC 464. Analysis of 20th-Century Art Music. 3 Hr. PR: MUSC 264 or consent. Detailed study of the materials and structure of Western Art Music of the twentieth century. (Alternate years.)


MUSC 467. Major Project in Theory, Composition, or Music History. 2 Hr. (Not available for graduate credit.) PR: MUSC 264.

MUSC 468. Jazz Harmony. 2 Hr. PR: MUSC 264 and MUSC 286 or consent. Advanced jazz theory and harmony. Ear training, keyboard skills, chord voicing, and substitutions.

MUSC 469. Introduction to Recording Technology. 3 Hr. Introduction to acoustics; hands-on approach to current recording technologies and methods through a variety of styles; audio production for broadcast and/or fixed media.

MUSC 470. European Music before 1500. 3 Hr. PR: MUSC 271 or consent. A study of European sacred and secular monophonic and polyphonic traditions in their stylistic, historic, and social settings to the end of the fifteenth century.

MUSC 471. Music of the Sixteenth and Seventeenth Centuries. 3 Hr. PR: MUSC 271 or consent. A study of European sacred and secular, instrumental and vocal traditions in their stylistic and social settings from c1500 to c1700.
MUSC 472. Music of the Eighteenth Century. 3 Hr. PR: MUSC 271 or consent. A study of Western instrumental and vocal traditions in their stylistic, historic, and social settings from c1700 to c1800.

MUSC 473. Music of the Nineteenth Century. 3 Hr. PR: MUSC 271 or consent. A study of Western instrumental and vocal traditions in their stylistic, historic, and social settings from c1800 to c1900.

MUSC 474. Music of the Twentieth Century. 3 Hr. PR: MUSC 271 or consent. A study of Western instrumental and vocal traditions in their stylistic, historic, and social settings from c1900 to the present.

MUSC 475. History of Jazz. 3 Hr. PR: MUSC 271 or consent. History and repertory of jazz from its Afro-American origins to 1975 with attention to its major exponents (including Joplin, Armstrong, B. Smith, Morton, Ellington, Gillespie, Parker, Davis, and Coltrane) and its evolving style.

MUSC 477. Music of Africa. 3 Hr. Traditional music of selected areas of Africa south of the Sahara with particular reference to East Africa. The diverse musical cultures with emphasis on historical background, instruments, ensembles, forms, styles, and music in its social context.

MUSC 480. Arranging for Small Jazz Ensemble. 2 Hr. PR: MUSC 265. Emphasis on small ensembles comprising three to nine players.

MUSC 481. Arranging for Large Jazz Ensemble. 2 Hr. PR: MUSC 480 or consent. Continuation of MUSC 480, with emphasis on arranging for big band and studio jazz ensemble.

MUSC 487. Student Teaching Seminar-Caps. 2 Hr. On-campus capstone seminar designed as a companion to music education students culminating semester-long teaching internship. Examination of student teachers professional roles and responsibilities in K-12 music programs.

MUSC 488. Recital. 0-2 Hr. (Not available for graduate credit.) To be used to fulfill the applied major graduation requirement only when the student has achieved proficiency level nine. Students who have reached level six may receive one hour credit, which may not be used to fulfill the graduation recital requirement.

MUSC 489. Music Workshops. 1-2 Hr. (May be repeated for credit.)

MUSC 489A. Music Workshops. 1-2 Hr. (May be repeated for credit.)

MUSC 489B. Music Workshops. 1-2 Hr. (May be repeated for credit.)

MUSC 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

MUSC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

MUSC 492 A-Z. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

MUSC 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

MUSC 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

MUSC 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

MUSC 496. Senior Thesis. 1-3 Hr. PR: Consent.

MUSC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.
Native American Studies (NAS)
NAS 200. Introduction: Native American Studies. 3 Hr. Overview of the diverse social and cultural institutions of indigenous tribal societies in North America. Historical materials provide the background for understanding the range of issues affecting contemporary tribal groups.

NAS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

NAS 491. Professional Field Experience. 1-6 Hr. PR: Consent. Supervised interdisciplinary experiences focused on Native Americans. May be tribally based or related to agencies and projects serving Native Americans. This course is not open to freshman.

NAS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

NAS 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

NAS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

NAS 499. Global Service Learning. 3 Hr.

Neurobiology and Anatomy (NBAN)
NBAN 107. Introduction Human Anatomy and Physiology. 4 Hr. PR: BIOL 102 and CHEM 111 and PR or CONC: BIOL 104 and CHEM 112. Survey of human anatomy and physiology for pre-nursing and other pre-clinical students.

NBAN 205. Introduction to Human Anatomy. 3 Hr. Introductory human anatomy course that uses a combined regional and systemic approach to examine the relationships and organization of the major structures within the thorax, abdomen, head/neck, and back/limbs regions of the body.

NBAN 206. Human Anatomy Laboratory. 1-3 Hr. PR: NBAN 205 or NBAN 301 or consent. Introductory human anatomy laboratory using a combined regional and systemic approach to examine the relationships and organization of the major structures with the thorax, abdomen, head/neck, and back/limb regions of the body.


NBAN 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

NBAN 301. Principles of Human Anatomy. 3 Hr. PR: Admission to WVU's dental hygiene, nursing, or pharmacy program or consent. Lectures and demonstrations on the gross and microscopic anatomy of the human body including development. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

NBAN 309. Oral Histology. 2 Hr. PR: NBAN 301. Histological structure and embryological development of the teeth, tissues and organs of the oral cavity. (Electronic delivery.)

NBAN 493. Special Topics. 1-6 hr. A study of contemporary topics selected from recent developments in the field.

NBAN 495. Independent Study. 1-6 hr. Faculty supervised study of topics not available through regular course offerings.
News Editorial (N-E)
N-E 418. Advanced Reporting. 3 Hr. PR: JRL 319 and admission to the School of Journalism or consent. Students write carefully researched stories using writing, reporting, and interviewing skills they have acquired in previous classes while applying techniques of literary journalism. The class emphasizes immersion reporting: students spend extended time with one subject to develop skills in storytelling, interviewing and organization. (Lab fees will be assessed for this course.)

N-E 420. Feature Writing. 3 Hr. PR: JRL 318 and admission to the School of Journalism or consent. Developing, writing, and editing news features, personality profiles, color pieces, issue-oriented articles and human impact stories for news, public relations and film. The course emphasizes narrative, descriptive, analytic and story-telling skills. One-on-one professor/student conferences stress story building and revision. (Lab fees will be assessed for this course.)

N-E 425. High School Publications Advising. 3 Hr. PR: JRL 319 and ADV 215. (For students seeking journalism certification.) Emphasizes writing styles, newspaper/yearbook layout, rights and responsibilities of the teacher, students, and school system. Enrollees will construct instructional portfolios based on research and classroom discussion concepts.

N-E 426. Public Affairs Reporting. 3 Hr. PR: JRL 319 or PR 319 and admission to the School of Journalism. Students take skills learned in other news editorial classes-writing, researching and interviewing and apply them to the agencies, structures and programs that make society work. They also work with local newspapers to develop and publish stories about public agencies, including circuit court, and police. (Lab fees will be assessed for this course.)


N-E 428. Law of the News Media. 3 Hr. (For journalism seniors and graduate students.) PR: Foundation courses for other sequences. The law as it affects the mass media. Considered are such areas as libel, privacy, public records, criminal pre-trial publicity, freedom of information, obscenity.

N-E 430. Editorial and Critical Writing. 3 Hr. PR: JRL 319 or PR 319. Students will analyze news issues, write editorials, and write editorial page columns. Students will also analyze the role and content of the editorial pages in contemporary newspapers.

N-E 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant. (Course will be graded on a pass/fail basis.)

N-E 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development. (Course will be graded on a pass/fail basis.)

N-E 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

N-E 496. Senior Thesis. 1-3 Hr. PR: Consent.

N-E 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Nursing (NSG)
NSG 110. Health and Wellness. 3 Hr. Health promotion and risk reduction; data collection; cultural diversity; values that contribute to health; interpersonal communication in promoting professional relationships.

NSG 223. Seminar 1: Professional Role Development. 1 Hr. PR: NSG 110 and sophomore standing or consent. Characteristics of self in role transition; values and beliefs; personal and professional behaviors in nursing care.

NSG 225. Nursing Interventions 1. 3 Hr. CoReq: NSG 221. PR: Sophomore standing or consent. Critical thinking in application of the nursing process in individuals with altered mobility, comfort, or potential infection; health protection, promotion and maintenance interventions.

NSG 241. Concepts: Nursing 2. 2 Hr. PR: NSG 221 and NSG 225 and CoReq: NSG 245. Focuses on enhancing student understanding of human responses to minor deviations in health throughout the lifespan; emphasizes professional nursing role in health restoration and critical thinking; examines family health assessment.

NSG 245. Nursing Interventions 2. 4 Hr. PR: NSG 221 and NSG 225 and CoReq: NSG 241. Critical thinking in the application of the nursing process to individuals with minor deviations in health protection, health restoration, and health promotion/maintenance. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

NSG 251. Basic Concepts of Nursing. 3 Hr. PR: BS/BA/BSN students only. An emphasis on the professional nursing role in health promotion and restoration, which enhances the student’s understanding of human responses to health promotion activities and minor health deviations throughout the lifespan.

NSG 255. Basic Nursing Interventions. 3 Hr. PR: BS/BA/BSN students only. Clinical practicum with focus on critical thinking in application of the nursing process to individuals and families with minor deviations in health. Emphasis is on health protections, restoration, promotion, and maintenance.

NSG 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

NSG 322. Concepts: Pediatric Health. 2 Hr. PR: NSG 361 or consent and CoReq: NSG 325. The focus is on the human response to physiological system dysfunction. The emphasis is on the professional nursing role in complex physiological health restoration for children.

NSG 325. Interventions: Pediatric. 2 Hr. PR: NSG 361 or consent and CoReq: NSG 332. Nursing interventions specific to human responses to pediatric problems. Emphasis on advanced independent and collaborative nursing activities.

NSG 333. Ethics in Nursing. 3 Hr. PR: Junior standing or consent. Focus on demonstrating caring behaviors through managing individual/family/group systems. Focus is on ethical decision-making in health care situations. The course emphasizes improvement of writing skills in conjunction with strengthening critical thinking.

NSG 334. Concepts: Adult Health. 3 Hr. PR: NSG 361 or consent and CoReq: NSG 335. The focus is on the human response to physiological system dysfunction. The emphasis is on the professional nursing role in complex physiological health restoration for adults.

NSG 335. Interventions: Medical Surgical. 2 Hr. PR: NSG 361 or consent and CoReq: NSG 332. Nursing interventions specific to human responses to multiple physiological system dysfunction. Emphasis on advanced independent and collaborative nursing activities.

NSG 340. Professional Role Transition. 3 Hr. PR: RN licensure. The course focuses on concepts and principles of professional nursing inherent in the curriculum of the School of Nursing. Emphasis is placed on how these concepts and principles affect nursing role.

NSG 345. Interventions: Psychosocial. 2 Hr. PR: NSG 361 or consent and CoReq: NSG 356. Nursing interventions specific to human response to multiple psychosocial system dysfunctions. Emphasis on advanced independent and collaborative nursing activities.


NSG 361. Health Assessment. 3 Hr. PR: NSG 225 or consent. Comprehensive, in-depth assessment of the client's health status, health patterns, physical examination and health history. Interviewing techniques including taped interactions and accurate recording of data for clients across the life span.

NSG 371. Basic Parish Nurse Education. 3 Hr. Explores the nurse's role in managing care within faith communities. Focus is on dimensions of nurse's role: spiritual caregiver, health promoter, counselor, advocate, educator, care coordinator, resource agent and manager of developing practice.

NSG 376. Clinical Nursing Pharmacology. 3 Hr. PR: Junior standing and CoReq: NSG 332. Principle of pharmacology with an emphasis on nursing role in accurate drug administration and patient assessment. Pharmacological management is analyzed with pathophysiology. Particular emphasis is on patient/family teaching of pharmacological goals in order to maximize health potential.

NSG 400. Spirituality and Health. 3 Hr. In this course, students will examine the mind/body/spirit connection that occurs in the process of healing and wellness. Theories and practices of relationships between mind/body/spirit will be examined as they impact health/wellness of patients.

NSG 421. Concepts: Critical Care. 3 Hr. PR: Senior standing in NSG or consent and CoReq: NSG 425. Emphasis on professional nursing role in supporting individual/family/group responses to acute life threatening situations involving vulnerable populations; focus is on nursing role in providing care to unstable individuals/families/groups.

NSG 423. Leadership in Nursing. 2 Hr. PR: Senior status or consent. Professional role in creating and managing the health care milieu. Focus is on the nurse teacher/manager roles and interventions in support of the client/family experiencing acute or long-term problems.

NSG 425. Interventions: Leadership. 6 Hr. PR: Senior standing in nursing or consent and CoReq: NSG 421. Professional nursing role in supporting human responses to acute, life-threatening situations involving identified vulnerable populations; focus is on therapeutic nursing interventions specific to aid human responses of individuals with physiologic instability and their families.

NSG 433. Seminar 8: Professional Role Synthesis. 3 Hr. PR: NSG 343. Emphasis is on implementation of the professional nursing role within a changing health care system. Focuses on analysis of societal, institutional and economic factors that affect the delivery of health care.

NSG 434. Evidence-Based Practice. 4 Hr. PR: NSG 476 and CoReq: NSG 433. Focus is on evidence based practice in nursing, through analysis of clinical questions, appraisal of evidence for clinical decision making strategies to apply evidence, and exploring creation of a culture for evidence-based practice.

NSG 441. Concepts: Community. 3 Hr. PR: Senior standing in nursing or consent and CoReq: NSG 445. Community health nursing processes with emphasis on the professional nursing role in the assessment of community health needs and identification of health action potential.
NSG 442. Review Clinical Problems. 2 Hr. PR: Senior status. Professional nursing role in dealing with advanced clinical problems in health promotion and disease prevention in vulnerable population groups. Emphasis is on interdisciplinary and multidisciplinary approaches to problem solving in health care.

NSG 443. Seminar 6: Professional Role Development. 2 Hr. Emphasis on professional nursing role in health promotion/risk reduction in groups/communities of vulnerable populations. Focuses on multidisciplinary team approaches to problem solving in community health.

NSG 445. Interventions: Community. 5 Hr. PR: Senior standing in nursing or consent and CoReq: NSG 441 and NSG 455. Emphasis on the collaborative role of the nurse in assisting communities to develop and implement plans for health promotion/risk reduction across the life span. Focus on vulnerable populations.

NSG 455. Interventions: Capstone. 1 Hr. PR: Senior standing in nursing or consent and PR or CONC: NSG 441 and NSG 476 and CoReq: NSG 445. Synthesis of theoretical and practical knowledge acquired in undergraduate nursing career. Emphasis on critical thinking, ethical decision-making and civic responsibility in the design and implementation of a service-learning project addressing a community health need.

NSG 476. Introduction to Nursing Research. 3 Hr. PR: STAT 211 or consent. Theory, concepts and methods of the research process intended to provide a basic understanding that is necessary for intelligent consumership of research findings.

NSG 481. Cardiac Nursing. 2 Hr. PR: NSG juniors and seniors. Introduction to the interpretation and treatment of cardiac arrhythmias.

NSG 482. Palliative Care Basics. 2 Hr. PR: Junior rank in nursing or one year of clinical coursework for other health science majors. Discussion surrounding end-of-life care of the patient and family in a variety of settings. Exploring these topics will enable the health care professional to provide quality patient care and advocacy for end-of-life care.

NSG 486. NCLEX Review. 1 Hr. PR: Senior status. Focuses on achievement of professional success by preparing for RN licensure. Preparation for NCLEX will be the focus of this by enhancing NCLEX testing skills.

NSG 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

NSG 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

NSG 496. Senior Thesis. 1-3 Hr. PR: Consent.

NSG 497. Research. 1-6 Hr. Independent research projects.

NSG 498. Honors. 1-3 Hr. PR: Students in the Honors Program and consent by the honors director. Independent reading, study or research.

Occupational Therapy (OTH)

OTH 100. Introduction To Occupational Therapy Profession. 1 Hr. Provides students with an introduction to the profession of occupational therapy including knowledge base, practice areas, professional education and professional organizations. Intended for pre- and non-majors.

OTH 300. Essentials of Clinical Anatomy. 4 Hr. PR: OTH student status. A study of human gross anatomy, micro anatomy and embryology with major emphasis on the musculoskeletal system.

OTH 301. Professional Foundations. 3 Hr. PR: OTH student status. Introduction to fundamentals of professional behavior for the occupational therapist. Includes units on history, paradigms, communication, documentation, ethics, interdisciplinary teamwork, licensure requirements, and medical terminology.

OTH 303. Functional Movement Across the Lifespan. 2 Hr. PR: OTH student status. Including acquisition of developmental patterns, motor control, motor skill acquisition. This course also provides an overview of the effects of normative processes of aging on neuromotor patterns in occupational performance.

OTH 304. Physical Impairment and Function 1. 4 Hr. Introduction to disease and injury and its functional implications on OT treatment. Emphasis is placed on the impact of orthopedic and general disorders on performance in areas of occupation, remediation, or compensation of these impairments.


OTH 307. Neurobiologic Foundations. 4 Hr. PR: OTH student status. Basic and clinical applications or neuroanatomy and neurology. Includes lectures on neurophysiological basis of physical and occupational therapy practice.


OTH 310. Critical Reasoning in Occupational Therapy. 3 Hr. An introduction to critical reasoning analysis, and review relevant to occupational therapy. Students will critically analyze research articles and editorials specific to occupational therapy, in combination with additional writing assignments.

OTH 321. Development Life Tasks. 3 Hr. PR: OTH student status. Life-span human development across cognitive, psychosocial and neuromotor domains with particular emphasis on applications to physical or occupational therapy interventions. Includes focus on cultural influences in health and illness.

OTH 360. Research Methods in Occupational Therapy. 3 Hr. PR: OTH student status. An introduction to principles of research methodology and data analysis in the realm of occupational science/occupational therapy. Includes a focus on scientific methodology, research design, data collection, data analysis, and ethical considerations.

OTH 384. Level I Fieldwork 1. 1-2 Hr. Clinical instruction in the occupational therapy process. OT documentation, basic measurement skills, experiences with people with disabilities, and participation in professional activities. (Grading will be pass/fail.)

OTH 385. Level I Fieldwork 2. 1-2 Hr. PR: OTH student status. Optional third short-term fieldwork experience, minimum 40 hours. Students will assist in collaboration of learning objectives. (Grading will be pass/fail.)

OTH 386. Level I Fieldwork 3. 1-2 Hr. PR: OTH student status. Students will be provided with fieldwork experiences in occupational therapy processes. (Grading will be pass/fail.)

OTH 401. Physical Impairment & Function 2. 4 Hr. PR: OTH 304 and OTH student status. Study of neurological injury and its functional implications on occupations. Emphasis is placed on evaluation of performance in areas of occupations and performance skills and remediation, or compensation of these limitations or impairments.

OTH 405. Upper Extremity Rehabilitation. 4 Hr. PR: OTH student status. This course provides a holistic approach to occupational therapy evaluation and treatment of the upper extremity including common diagnoses and appropriate interventions including physical agent modalities, occupation-based interventions, and splinting.
OTH 406. Cardio-Pulmonary Rehabilitation. 3 Hr. PR: OTH student status. Lectures on cardiovascular and pulmonary conditions including medical interventions. Discipline-specific laboratory sessions include stress testing, physical capacity assessment, ecological analysis, use of monitoring equipment, and evaluation and planning rehabilitation protocols.

OTH 408. Tests and Measures in Occupational Therapy. 3 Hr. PR: OTH student status. Presentation of tests and measures used by occupational therapists in the assessment of various conditions. Emphasis will be placed on the clinical and functional evaluation of clients within the domain of occupational therapy practice.

OTH 414. Developmental Disabilities. 2 Hr. PR: OTH student status. Overview of occupational therapy approaches toward developmental disabilities, including focus on etiology, pathology, and progression of conditions specific to various developmental disabilities.

OTH 416. Professional Decision-Making. 2 Hr. PR: OTH student status. Students are provided with opportunities to develop critical thinking, clinical reasoning, and decision-making skills in occupational therapy. Emphasis is on autonomous practice and referral decisions.

OTH 417. Occupational Therapy in Geriatrics. 3 Hr. PR: OTH student status. Overview of normative aging using an occupational therapy frame of reference. Common problems of seniors are discussed.

OTH 419. Professional Values. 3 Hr. PR: OTH student status. An introduction to ethics and how it specifically applies to rural health and life in West Virginia. Students will be given an opportunity to explore their own conceptions of ethics in health care.

OTH 430. Occupational Therapy in Mental Health. 3 Hr. PR: OTH student status. Clinical and functional science lectures pertaining to OT practice in mental health environments. Course includes introduction to occupational therapy clinical and functional assessment, and management protocols.

OTH 432. Occupational Therapy Interventions in Mental Health 3 Hr. PR: OTH student status. Occupational therapy interventions in mental health commonly used by occupational therapists in the field of mental health. Emphasis on group processes, life skills, reintegration strategies.

OTH 435. Therapeutic Activity. 3 Hr. PR: OTH student status. Students will develop skills in performance component analysis, performance context analysis, and occupational performance analysis.

OTH 440. Cognition and Perception in Occupational Therapy. 2 Hr. PR: OTH student status. Study of cognitive and perceptual impairments that accompany common adult neurological conditions. Emphasis is on application of occupational therapy assessment and treatment principles to understand the impact of impairments on functional performance and societal participation.

OTH 480. Current Topics in Occupational Therapy. 1-3 Hr. PR: OTH student status. (Not to exceed 18 hours.) A seminar course designed to provide a forum for discussing the frontiers of the occupational therapy profession. Topics may include: research in progress, new developments, and salient professional issues.

OTH 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

OTH 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

OTH 497. Research. 1-6 Hr. Independent research projects.
Orientation (ORIN)

ORIN 100. Orientation to STEP. 1 Hr. Support of STEP students to make a successful transition from high school to college; develop a better understanding of the learning process including critical thinking; and acquire basic academic and personal survival skills.

ORIN 110. Orientation to EXCEL. 1 Hr. Support for the first-year student to make a successful transition from high school to college; develop a better understanding of the learning process including critical thinking; and acquire basic academic and personal survival skills.

ORIN 151. Career Exploring and Planning. 2 Hr. Exploration of careers and college majors with special emphasis on individual interests, abilities, and values. Most beneficial to freshman/sophomores, also for juniors and seniors who are uncertain of career paths.

ORIN 161. Exploring Career Options. 1 Hr. This course helps students explore the career that is best for them. Students receive individual counseling as well as an opportunity to talk with career mentors.

ORIN 162. Becoming Career Ready. 1 Hr. This course helps students identify the personal and professional skill requirements of their selected career. The course involves a mix of group explorations, one-on-one discussions, and self-improvement exercises.

ORIN 164. Finding the First Job. 1 Hr. This class helps students develop and execute a strategy for obtaining a first job that is consistent with the student's career interests.

ORIN 165. Starting Your Career. 1 Hr. This class helps students prepare for the issues they will encounter early in their careers.

ORIN 175. Western Europe Study Trip. 3 Hr. Exploration of Western European (Belgium, France, Germany, Luxemburg, Netherlands) history, culture, and politics with an emphasis on relevance and links to the U.S.

ORIN 220. Leadership Development. 2 Hr. PR: Sophomore standing. Primarily for sophomores and juniors. A practical survey of leadership techniques taught by various instructors. Major emphasis placed upon improvement of leadership abilities within the WVU campus structure and problems particular to student organizations. (Pass/fail grading only.)

ORIN 252. The Job Search: Career Series. 2 Hr. Planning a career, job research, resumes, letter writing, pre- and post-interviewing strategies, Internet searches; success on job, job changes. Recommended junior/senior year.

ORIN 260. Preparation for Graduate Education. 1 Hr. This course offers a comprehensive view into the graduate school application process. Assignments will mimic those required for actual admission into graduate programs.

ORIN 270. Introduction to Health Careers. 1 Hr. A study of careers in the health professions. Readings, lectures, and discussions by professionals in many health fields will include the educational requirements for and functions of their respective health professions. (Pass/fail grading only.)

ORIN 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

ORIN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

ORIN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

ORIN 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
ORIN 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

ORIN 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

ORIN 496. Senior Thesis. 1-3 Hr. PR: Consent.

ORIN 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Pathology (PATH)
PATH 300. Introduction to Pathology. 3 Hr. A study of principles and processes of pathology from cellular to system, including etiology, pathogenesis, and clinical features of representative or commonly occurring disorders and diseases.

PATH 301. Basic Pathology. 2 Hr. PR: Enrollment in dental hygiene or physical therapy, or consent. A study of the basic pathologic processes in man.

PATH 302. Oral Pathology. 3 Hr. PR: PATH 301 and dental hygiene major or consent. Application of fundamental knowledge of general pathology to pathological conditions that occur in the oral cavity.

PATH 303. Clinical LabApplications. 2 Hr. Lectures and laboratory experience on laboratory safety, measurement, use and maintenance of laboratory equipment, preparation, and storage of reagents and solutions, and basic laboratory techniques.

PATH 304. Histotechnology Microanatomy. 3 Hr. Microscopic identification of the morphology of human cells, tissues and organ systems with relationship to structure and function.

PATH 305. Staining Techniques 1. 4 Hr. A lecture and laboratory course focusing on the theory and methodology of routine and special staining and the basic principles, components and use of instruments in the histopathology laboratory.

PATH 306. Histotechnique 1. 3 Hr. A lecture and laboratory course focusing on the principles and theories of routine histologic techniques and the basic principles, components and use of instruments in the histopathology laboratory.

PATH 320. Basic Clinical Biochemistry. 3 Hr. Introduction to basic biochemistry and human metabolism of amino acids, proteins, enzymes, carbohydrates, liquids, and nucleotides. Molecular biology and applications to the clinical laboratory are included.

PATH 323. Medical Microbiology Lab. 2 Hr. PR: MICB 200. (For medical laboratory science students; other students with consent.) Emphasis is on clinical laboratory techniques and laboratory identification of pathogenic microorganisms.

PATH 340. Introduction to Hematology. 3 Hr. Lectures and laboratory sessions to cover structure, morphology, and function of the cells of the blood, bone marrow and body fluids, with an overview of hematologic abnormalities.

PATH 380. Introduction to Immunology. 1 Hr. Lectures in basic immunology, with emphasis on its structure and function. Antigens, antibodies, and complement will be discussed and related to immune disorders and simple immunological tests.

PATH 405. Staining Techniques 2. 4 Hr. PR: PATH 305. A lecture and laboratory course focusing on the theory and methodology of immunohistochemistry.

PATH 406. Histotechnique 2. 3 Hr. PR: PATH 306. A lecture and laboratory course focusing on the principles and theories of routine and advanced histologic techniques and the basic principles, components and use of instruments in the histopathology laboratory.
PATH 407. Histology Laboratory. 8 Hr. This course consists of rotations in clinical and research histopathology. (Grading will be pass/fail).

PATH 408. Histotechnologist Practicum. 10 Hr. Students will utilize their knowledge in routine and advanced histological techniques in a clinical setting.

**Petroleum and Natural Gas Engineering (PNGE)**

PNGE 200. Introduction to Petroleum Engineering. 3 Hr. PR: Sophomore standing. Introduction; origin, migration, and accumulation of petroleum; reservoir fluids properties; properties of reservoir rocks; exploration; drilling technology; reservoir engineering; well completions; production engineering. Open to all students.

PNGE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.


PNGE 300. Transport Phenomena in Petroleum Engineering. 3 Hr. PR: MAE 241. Introduction to fluid flow in pipes, two-phase flow, rotary drilling hydraulics, primary cementing jobs, flow calculations, flow measuring devices, fluid machinery, dimensional analysis, and heat transfer.

PNGE 310. Drilling Engineering. 4 Hr. PR: GEOL 101 and MAE 331. Rock properties, functions and design considerations of rotating system, hoisting system, and circulation system; drilling fluids calculations and selections; hydraulic programs; drilling optimization; casting string design; cementing programs; and pressure control.

PNGE 312. Drilling Fluids Laboratory. 1 Hr. PR or CONC: PNGE 310. Topics include clay hydration, viscosity of water-based fluids, mud weight control, filtration studies, thinning agents, chemical contaminants, lime muds, polymer muds, rheological models, and liquid and solid determination.

PNGE 332. Petroleum Properties and Phase Behavior. 3 Hr. PR: PNGE 200 and CHEM 116 and (ENGL 102 or ENGL 103). Theoretical and applied phase behavior of hydrocarbon system and hydrocarbon fluids. Applications to petroleum reservoirs and production engineering design. (2 hr. lec., 3 hr. lab.)

PNGE 333. Basic Reservoir Engineering. 3 Hr. PR: PHYS 112 and MAE 331. Basic properties of petroleum reservoir rocks. Fluid flow through porous materials. Evaluation of oil and gas reserves.

PNGE 400. Petroleum Engineering Ethics. 1 Hr. PR: PNGE 450 or consent. Introduction to petroleum and natural engineering ethics and moral issues concerning safety in engineering practice as well as those arising for engineers employed by corporations. Professionalism and professional registration.

PNGE 405. Multidisciplinary Team Project. 1 Hr. PR: PNGE 434 and PNGE 470. Introduction to the need to seek input from other professionals, incorporate constraints imposed by other disciplines in solving petroleum and natural gas engineering design problems, and working with other professionals in a multi-disciplinary team.

PNGE 420. Production Engineering. 3 Hr. PR: PNGE 310 and PNGE 332. Well completion, performance of Productive formulation, drill stem tests, completion of wells, flowing wells, gas lift methods and equipment, pumping installation design, well stimulation, emulsions, treating, gathering, and storage of oil and gas, field automation. (3 hr. lec.)

PNGE 432. Petroleum Reservoir Engineering Laboratory. 1 Hr. PR or CONC: PNGE 333. Laboratory evaluation of basic and special petroleum reservoir rock properties. (3 hr. lab.)

PNGE 434. Applied Reservoir Engineering. 3 Hr. PR: MATH 261 and PNGE 333 and PR or CONC: STAT 215 or IENG 213. Application of reservoir engineering data to calculation of recovery potentials and prediction of reservoir performance under a variety of production methods to effect maximum conservation.
PNGE 441. Oil and Gas Property Evaluation. 3 Hr. PR: PNGE 333 and PR or CONC: PNGE 420 or consent. Reserve estimation, decline analysis, petroleum property evaluation, evaluation including interest calculations, cost estimation and tax evaluation. Overview investment decision analysis and computer applications in property evaluation.

PNGE 450. Formation Evaluation. 3 Hr. PR: PNGE 310 and PR or CONC: EE 221 or consent. Various well logging methods and related calculations with exercises in interpretation of data from actual well logs.

PNGE 460. Well Stimulation Design. 3 Hr. PR: (MAE 243 and PNGE 420 and PNGE 333) or consent. Fundamentals of well stimulation and treatment design and their applications to low permeability formations.

PNGE 470. Natural Gas Engineering. 4 Hr. PR: PNGE 333 and PR or CONC: MAE 320. Natural gas properties, compression, transmission, processing, and application of reservoir engineering principles to predict the performance and design of gas, gas-condensate, and storage reservoirs. Includes a laboratory devoted to gas measurements. (3 hr. lec., 3 hr. lab.)

PNGE 471. Natural Gas Production and Storage. 3 Hr. PR: PNGE 470. Development of gas and gas-condensate reservoirs; design and development of gas storage fields in depleted gas, gas-condensate, oil reservoirs and aquifers.

PNGE 480. Petroleum Engineering Design. 3 Hr. PR: PNGE 420 and PNGE 434 and PNGE 441 and PR or CONC: PNGE 450. Comprehensive problems in design involving systems in oil and gas production, field processing, transportation, and storage.

PNGE 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

PNGE 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PNGE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PNGE 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PNGE 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PNGE 496. Senior Thesis. 1-3 Hr. PR: Consent.


PNGE 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Pharmacology and Toxicology (PCOL)

PCOL 260. Pharmacology. 3 Hr. Interactions of clinically useful therapeutic agents with the mammalian systems.

PCOL 449. Drugs and Medicine. 3 Hr. PR: ANPH 301 or BIOL 235 or EXPH 365 or PSIO 241 or consent. Introduction for interested students to information about drugs and pharmaceutical preparations including administration, mechanisms, therapeutic and adverse effects, drug interactions, and drug abuse.
Pharmacy (PHAR)

PHAR 497. Research. 1-6 Hr. PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation.

PHAR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Philosophy (PHIL)

PHIL 100. Problems of Philosophy. 3 Hr. An elementary examination of such philosophical problems as the mind-body problem, the existence of God, freedom and determinism, and the nature of persons and their knowledge.

PHIL 120. Introduction to Ethics. 3 Hr. Topics include the nature of the good life, whether ethics is relative or there are universal moral truths, the relationship between self interest and morality, virtues and vices, and the nature of right and wrong.

PHIL 130. Current Moral Problems. 3 Hr. An examination of current moral problems. Topics include some of the following: abortion, euthanasia, sexism and sexual equality, preferential treatment, animal rights, sexual morality, pornography, economic justice, paternalism, punishment, and nuclear deterrence.

PHIL 140. Historical Introduction to Philosophy. 3 Hr. An introductory survey of the major philosophers and philosophical movements from ancient times to the present.

PHIL 170. Introduction to Critical Reasoning. 3 Hr. An elementary study of critical thinking and reasoning. For students who want to improve their skills in recognizing fallacious patterns of reasoning, constructing acceptable arguments, and criticizing faulty lines of reasoning.

PHIL 244. History of Ancient Philosophy. 3 Hr. PR: 3 hr. in philosophy. An introduction to the philosophies of the pre-Socratics, Plato, Aristotle, the Epicureans, and the Stoics.

PHIL 248. History of Modern Philosophy. 3 Hr. PR: 3 hr. in philosophy. A study of selected writings by major philosophers of the Western world from Descartes to Kant.

PHIL 260. Introduction to Symbolic Logic. 3 Hr. An introduction to modern symbolic logic (basically, propositional logic and the predicate calculus) for students who want to acquire the skill to represent symbolically the form of deductive arguments and to test formally for validity.

PHIL 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PHIL 301. Metaphysics. 3 Hr. PR: 3 Hr. philosophy. Traditional problems associated with reality and experience, universals and particulars, causality, space and time, matter and mind, and the nature of the self.

PHIL 302. Theory of Knowledge. 3 Hr. PR: 3 hr. philosophy. The nature and scope of human knowledge. Topics may include perception, belief, truth, evidence, certainty, and skepticism.

PHIL 306. Philosophy of Mind. 3 Hr. PR: 3 hr. philosophy or psychology major. Topics to be selected from: the mind-body problem, psychological explanation, psychology and the neurosciences, personal identity, consciousness, artificial intelligence, mental representation, emotions, intentionality, folk psychology, and other minds.

PHIL 308. Philosophy of Religion. 3 Hr. PR: 3 hr. philosophy or religious studies interdepartmental major. Examines questions of belief in God’s existence, life after death, the problem of evil, determinism and divine foreknowledge, or other topics bearing upon the nature of a religious orientation to life.

PHIL 310. Philosophy of Science. 3 Hr. PR: 3 hr. philosophy or science major. Philosophical problems associated with the concepts and methodology of science.
PHIL 321. Ethical Theory. 3 Hr. PR: 3 hr. philosophy. Topics to be selected from the following: an examination of major ethical theories, justification in ethics, moral truth, ethical skepticism, moral rights and duties, and the meaning of ethical concepts.

PHIL 323. Social and Political Philosophy. 3 Hr. PR: 3 hr. philosophy or political science major. An examination of the relationships among the individual, society and the state. Possible topics include justifications of the state, justice, rights, liberty, equality, and arguments for socialism and capitalism.

PHIL 325. Philosophy of Law. 3 Hr. PR: 3 hr. philosophy or pre-law student. An introduction to the philosophical study of law; topics to be selected from: theories of the nature of law, legal obligation, responsibility, punishment, free speech, paternalism, legal moralism, and legal ethics.

PHIL 331. Health Care Ethics. 3 Hr. PR: 3 hr. philosophy; or pre-med or health sciences student. Topics: Clinician-patient relationship, life-sustaining treatment, physician assisted death, physician-nurse conflicts, confidentiality, research, reproductive technology, abortion, maternal/fetal conflicts, genetics, rationing, and access.

PHIL 346. History of Ethics. I. 3 Hr. PR: 3 hr. philosophy. An examination of such issues as the nature of the good life, the just society, and our moral responsibilities. Such major philosophers as Plato, Aristotle, Aquinas, Kant, and Mill will be studied.

PHIL 351. Topics in Medieval Philosophy. 3 Hr. PR: 3 hr. philosophy. Introduction to the philosophies of St. Augustine, St. Thomas Aquinas, Peter Abelard, William of Occam, and other selected figures from the Medieval period.

PHIL 354. Themes in Continental Philosophy. 3 Hr. Nineteenth and twentieth-century French and German philosophers such as Hegel, Marx, Nietzsche, Heidegger, Habermas, Sartre, Foucault, Derrida; philosophers and themes will vary.

PHIL 355. Existentialism. 3 Hr. PR: 3 hr. philosophy or literature course in existentialism. Survey of the major existentialist thinkers.

PHIL 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

PHIL 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PHIL 492. Directed Studies. 1-3 Hr. Directed study, reading, and/or research.

PHIL 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PHIL 494 A-Z. Seminar. 3 Hr. PR: 12 hr. in philosophy, 6 hr. at the 300 level or above, and junior or senior standing or consent. Presentation and discussion of topics of mutual concern to students and faculty. Advanced and in-depth philosophical investigation of selected problems and/or major philosophers. May be repeated with permission.

PHIL 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PHIL 496. Senior Thesis. 3 Hr. PR: Senior standing or consent. Individualized project culminating in a major paper on a philosophical topic or author, written under the supervision of a faculty member with expertise in that topic or author.

PHIL 497. Research. 1-6 Hr. PR: Consent. Independent research projects.

PHIL 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
Physical Education (PE)
PE 101. Badminton. 1 Hr. Introduction to beginning knowledge and skills in badminton.

PE 103. Beginning Basketball. 1 Hr. This course is designed to provide historical background, rules and regulations, and the fundamental skills. These will be accomplished through instruction, drills, games and class team play.

PE 104. Intermediate Basketball. 1 Hr. Introduction to intermediate knowledge and skills in basketball.

PE 105. Rifle Conditioning and Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for rifle.

PE 106. Rowing Conditioning/Weight Training. 1 Hr. This course is designed to present students with hands-on approach to proper techniques of strength and conditioning as it applies to rowing athletes.

PE 107. Basketball Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for basketball.

PE 108. Football Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for football.

PE 109. Baseball Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for baseball.

PE 111. Air Force Military Physical Conditioning. 1 Hr. Introduction to basic conditioning techniques for military training.

PE 112. Gymnastics Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for gymnastics.

PE 113. Soccer Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for soccer.

PE 114. Tennis Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for tennis.

PE 115. Volleyball Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for volleyball.

PE 116. Wrestling Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for wrestling.

PE 118. Swim Conditioning/Weight Training. 1 Hr. Introduction to basic conditioning and weight training techniques for swimming.

PE 119. Track and Field Weight Conditioning. 1 Hr. Introduction to basic weight training techniques for track and field.

PE 120. Canoeing. 1 Hr. PR: Swimming skill. Types of canoeing strokes, life-saving techniques for recreational canoeing.

PE 122. Billiards. 1 Hr. Introduction to beginning knowledge and skills in billiards.

PE 124. Fitness Walking. 1 Hr. This course provides a supervised walking program in a safe, enjoyable environment. Classes meet ACSM guidelines for safe, effective classes. Includes warm-up, cardiovascular segment, cool-down, and stretch.

PE 125. Aerobics. 1 Hr. Introduction to beginning knowledge and skills in aerobics.

PE 126. Aqua Aerobics. 1 Hr. Introduction to beginning knowledge and skills in aqua aerobics.
PE 127. Clogging. 1 Hr. Introduction to beginning knowledge and skills in clogging.

PE 128. Intermediate Clogging. 1 Hr. This class reviews basic clogging steps; introduces intermediate steps used in more advanced clogging routines, and gives ample time for practice.

PE 129. Spinning. 1 Hr. This course provides a supervised, indoor cycling program in a safe, enjoyable environment. Classes meet ACSM (American College of Sports Medicine) guidelines for safety and effectiveness. Includes a warm-up, cardiovascular segment, cool-down, and stretch.

PE 130. Flag Football. 1 Hr. Introduction to beginning knowledge and skills in flag football.

PE 131. Frisbee. 1 Hr. Introduction to beginning knowledge and skills in frisbee.

PE 133. Beginning Archery. 1 Hr. Introduction to beginning knowledge and skills in archery.

PE 134. Gymnastics. 1 Hr. Introduction to beginning knowledge and skills in gymnastics.

PE 135. Horsemanship 1. 1 Hr. Introduction to beginning knowledge and skills in horsemanship.

PE 136. Horsemanship 2. 1 Hr. Introduction to intermediate and advanced knowledge in horsemanship.

PE 137. Ice Skating. 1 Hr. Introduction to beginning knowledge and skills in ice skating.

PE 143. Intermediate Ice Skating. 1 Hr. Introduction to intermediate/advanced knowledge and skills in ice skating. For students with some previous skating experience.

PE 145. Karate. 1 Hr. Introduction to beginning knowledge and skills in karate.

PE 146. Self-Defense. 1 Hr. Introduction to beginning knowledge and skills in self defense.

PE 148. Beginning Jujitsu. 1 Hr. Introduces students to a powerful self-defense technique originally developed in Japan, a precursor to judo and aikido.

PE 149. Tae Kwon Do. 1 Hr. Introduction to beginning knowledge and skills in tae kwon do.

PE 150. Martial Arts Fitness. 1 Hr. Introduction to beginning knowledge and skills in martial arts fitness.

PE 151. Advanced Tae Kwon Do. 1 Hr. This course builds on the techniques learned in PE 149, and introduces additional skills into practice and free sparring.

PE 152. Beginning Kickboxing. 1 Hr. An introduction to the popular martial art and competitive sport of kickboxing. Emphasis is given to building flexibility and strength, the foundations of powerful kicking and punching techniques.

PE 153. Yoga for Fitness. 1 Hr. The course introduces the student to basic yoga techniques that can be practiced as a way of developing a wide variety of sports.

PE 154. Racquetball. 1 Hr. Introduction to beginning knowledge and skills in racquetball.

PE 156. Riflery. 1 Hr. Introduction to beginning knowledge and skills in riflery.

PE 157. Slow Pitch Softball. 1 Hr. Introduction to beginning knowledge and skills in slow pitch softball.

PE 158. Indoor Soccer. 1 Hr. Introduction to beginning knowledge and skills in indoor soccer.

PE 159. Soccer. 1 Hr. Introduction to beginning knowledge and skills in soccer.

PE 160. Beginning Tennis. 1 Hr. Introduction to beginning knowledge and skills in tennis.
PE 161. Tennis. 1 Hr. Introduction to basic knowledge and skills for people who are familiar with tennis.

PE 162. Intermediate Tennis. 1 Hr. Introduction to intermediate/advanced knowledge and skills in tennis.

PE 163. Advanced Tennis. 1 Hr. This course will build on basic knowledge of skills, rules and strategies in tennis. It is presumed that all students have passed intermediate tennis (PE 162) and play at a high intermediate level.

PE 164. Weight Training. 1 Hr. Introduction to beginning knowledge and skills in weight training.

PE 165. Conditioning. 1 Hr. Introduction to beginning knowledge and skills in conditioning.

PE 167. Floor Hockey. 1 Hr. Basic concepts and instructional techniques for learning floor hockey skills.

PE 169. Outdoor Navigation and Survival. 1 Hr. The objective of this course is to provide a comprehensive overview of outdoor navigation and survival techniques.

PE 170. Volleyball. 1 Hr. Introduction to beginning knowledge and skills in volleyball.

PE 171. Caving Basics. 1 Hr. This course provides an overview of the activity of caving. Course content will address the equipment, skills, and knowledge necessary to safely participate in the activity of caving at the basic level.

PE 172. Cycling Basics. 1 Hr. Provides a comprehensive overview of the activity of cycling. The course content will address the equipment, skills, and knowledge necessary to safely participate in the life-long activity of cycling for fitness and sport.

PE 173. Beginning Swimming. 1 Hr. Introduction to beginning knowledge and skills in swimming.

PE 174. Intermediate Swimming. 1 Hr. Introduction to intermediate knowledge and skills in swimming.

PE 175. Lifeguard Training. 2 Hr. Red Cross certification for lifeguards.

PE 176. Advanced Swimming. 1 Hr. Introduction to advanced knowledge and skills in swimming.

PE 177. Adventure Racing Basics. 1 Hr. The objective of this course is to provide students with a conceptual and experiential introduction to several of the common components found in the sport of adventure racing.

PE 178. Water Polo. 1 Hr. Open to intermediate/advanced swimmers only. This class will introduce students with game of water polo. Students will learn basic techniques, rules and fundamentals for playing water polo. Offense and defense strategies will be learned and practiced.

PE 179. Orientation to Scuba. 1 Hr. Introduction to beginning knowledge and skills in scuba diving.

PE 180. Triathlon Training. 1 Hr. This course provides an overview of the sport of triathlon. The course content will address the equipment, skills, and knowledge necessary to safely participate in the life-long activity of triathlon for fitness and sport.

PE 181. Rock Climbing Basics. 1 Hr. This course provides an overview of the activity of rock climbing. The course content will address the equipment, skills, and knowledge necessary to safely participate in the activity of rock climbing on a top-rope system.

PE 182. Bowling. 1 Hr. Introduction to beginning knowledge and skills in bowling.
PE 183. Wilderness First Aid Basics. 1 Hr. The objective of this course is to provide students with the knowledge and skills necessary to manage emergency medical situations when they occur in a delayed-help and/or wilderness setting.

PE 184. Snow Sport Basics. 1 Hr. The objective of this course is to provide students with a comprehensive overview of several common snow sports including downhill snow skiing, snowboarding, and Nordic skiing.

PE 185. Fencing. 1 Hr. Introduction to beginning knowledge and skills in fencing.

PE 186. Outdoor Leisure Pursuits. 1 Hr. Introduction to knowledge and skills in outdoor leisure pursuits.

PE 187. Golf. 1 Hr. The course is designed to introduce students to the rules, skills, and strategies involved in golf.

PE 188. Folk, Square, and Ballroom Dance. 2 Hr. This class will introduce the student to beginning levels of folk, square, and ballroom dance.

PE 189. Outdoor Living Skills. 1 Hr. This course will provide a comprehensive overview of the equipment, skills, and knowledge necessary to safely and comfortably spend time in a wilderness setting while backpacking, hiking, and/or camping.

PE 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PE 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

**Physical Education/Teaching (PET)**

PET 101. Games in American Culture. 3 Hr. Examination of how the social history of a variety of American physical games has impacted their development and conversely how the games have impacted American society.

PET 124. Human Body: Structure and Function. 2 Hr. Overview of the structure and function of the organ systems in the human body. Topics covered include the skeletal, muscular, nervous, digestive, respiratory, and cardiovascular systems.

PET 125. Principles of Human Movement. 2 Hr. PR: PET 124. This course is designed to introduce prospective physical educators to the principles of human movement. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

PET 167. Introduction to Physical Education. 3 Hr. Historical and philosophical bases, major issues, and professional practices in physical education teaching.

PET 175. Motor Development. 3 Hr. To examine changes in human movement behavior across the lifespan and the factors that contribute to those changes.

PET 206. Behavioral Technology for Physical Education. 2 Hr. Basic concepts and instructional techniques associated with applying behavior analysis to school-aged children.

PET 228. Curriculum in Physical Education. 3 Hr. PR: Admission to the Physical Education Teacher Certification Program. Examination of curriculum and curriculum development; discussion of "hidden curriculum" issues.

PET 233. Pedagogy Theory and Application. 5 Hr. PR: Admission to the Physical Education Teacher Certification Program. Applied pedagogical theory, including assessment, planning, design, management, and delivery of instruction in physical education settings.
PET 276. Special Physical Education. 2 Hr. Examines motor developmental characteristics of various handicapped groups and emphasizes physical education role in remediating possible developmental deficiencies.

PET 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PET 324. Water Safety Instructorships. 2 Hr. PR: Senior Lifesaving Certification. Teaching methods in swimming and water safety. Meet American Red Cross certification standards. Course completion carries eligibility for teaching swimming, lifesaving, and water safety.

PET 339. Teaching Volleyball. 1 Hr. Basic concepts and instructional techniques for teaching volleyball in public schools. (Activity.)

PET 340. Teaching Soccer. 1 Hr. Basic concepts and instructional techniques for teaching soccer in public schools. (Activity.)

PET 341. Teaching Basketball. 1 Hr. Basic concepts and instructional techniques for teaching basketball in public schools. (Activity.)

PET 342. Teaching Flag Football. 1 Hr. Basic concepts and instructional techniques for teaching flag football in public schools. (Activity.)

PET 344. Teaching Field/Floor Hockey. 1 Hr. PR: Admission to the Physical Education Teacher Certification Program. Basic concepts and instructional techniques for teaching field/floor hockey in public schools. (Activity) Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

PET 349. Fitness Education. 2 Hr. This course introduces prospective physical education teachers to health-related fitness foundations and components, appropriate curriculum for K-12 and effective teaching and assessment principles. Physical best Health/Fitness Specialist Certificate offered.

PET 350. Teaching Primary Physical Education. 1 Hr. Introduces prospective physical education teachers to the unique needs and characteristics of young children. Special emphasis is placed on developmentally appropriate practice. Students participate in clinical laboratory experiences involving young children.

PET 354. Teaching Archery and Bowling. 1 Hr. Introduce to prospective physical education teachers basic archery and bowling instructional techniques, concepts, and strategies for teaching school-aged children.

PET 358. Teaching Softball/Baseball. 1 Hr. Basic concepts and instructional techniques for softball/baseball in public schools. (Activity.)

PET 361. Elementary Fitness Lab. 2 Hr. PR: PET 349. Introduces prospective teachers to the unique fitness needs of elementary and middle school children. Students participate in a clinical lab experience with children.

PET 369. Teaching K-2 Physical Education. 3 Hr. This course enables teacher candidates to plan, organize and conduct physical education instruction for children in K-2. Special emphasis placed on interacting with developmentally appropriate lesson content, learning how to teach and assess student learning.

PET 379. Teaching 3-5 Physical Education. 3 Hr. This course enables teacher candidates to plan, organize and conduct physical education instruction for children in 3-5. Students learn how to interact with developmentally appropriate lesson content and how to teach and assess student learning.

PET 384. Kinderskills/Gym. 2 Hr. This course stresses developing, implementing and evaluating appropriate movement experiences for pre-school children. A laboratory with children is included.
PET 400, Kinderskills/Pool. 2 Hr. This course stresses developing, implementing, and evaluating appropriate movement experiences for pre-school children in the aquatic environment. A laboratory with children is included.

PET 410. Laboratory in Pre-School Physical Education. 1-6 Hr. Applied clinical experiences in a physical activity program, which focuses on developing the motor skills of young children. Students can choose between land-based or water-based learning environments. Open to all majors.

PET 420. Laboratory in Physical Education. 1-6 Hr. This course introduces students to the unique physical fitness needs of elementary and middle school children. Students participate in a clinical lab experience with children. Open to all majors.

PET 441. Technology in Physical Education. 3 Hr. Students introduced to technology literacy with a focus on the effective use of technology in physical education settings. Application of technologies related to professional development, advocacy, planning and instruction, and assessment of student learning.

PET 448. Teaching Golf. 1 Hr. Basic concepts and instructional techniques for teaching golf in public schools. (Activity.)

PET 451. Secondary Fitness Laboratory. 1 Hr. Scientific principles of strength conditioning and aerobic training.

PET 452. Teaching Outdoor Leisure Pursuits. 2 Hr. Basic concepts and instructional techniques for teaching basic backpacking, orienteering, and snow skiing in public schools. (Activity.)

PET 453. Teaching Dance in Physical Education. 2 Hr. Basic concepts and instructional techniques for teaching dance in physical education in public schools. (Activity.)

PET 460. Teaching Tennis. 1 Hr. Basic concepts and instructional techniques for teaching tennis in public schools. (Activity.)

PET 477. Special Physical Education Practicum. 1 Hr. PR: Open to departmental majors only. A supervised practice teaching experience in special physical education.

PET 483. Issues in Physical Education. 2 Hr. Issues affecting the teaching of physical education links the elements of the student's professional preparation.

PET 485. Supervision in Physical Education. 1 Hr. Evaluation and feedback techniques for supervising physical education teachers.

PET 487. Student Teaching: Elementary. 3 Hr. CoReq: PET 488. A final, school-based practice teaching experience in elementary schools.


PET 489. Student Teaching Seminar. 2 Hr. CoReq: PET 487 and PET 488. Discussions to enhance communication concerning the program’s student teaching and stimulate critical thinking about the student teaching experience. (Seminar.)

PET 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

PET 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PET 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.
PET 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PET 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PET 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PET 496. Senior Thesis. 1-3 Hr. PR: Consent.

PET 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Physical Science (PHSC)
PHSC 101. Introductory Physical Science 1. 4 Hr. (For elementary education majors only.) Emphasis on practicing reasoning abilities necessary to carry out simple scientific inquiry. Major concepts include properties of matter and astronomy. Majority of class time is spent in laboratory activities and solving problems using an activity-based approach.

PHSC 102. Introductory Physical Science 2. 4 Hr. PR: PHSC 101. Continuation of PHSC 101. Concepts include electricity, motion, heat and temperature, energy, and chemistry.

PHSC 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PHSC 490. Teaching Practicum. 1-3 Hr. PR: PHYS 105 or consent. Teaching practice as a tutor or assistant. Opportunity to help teach an activity-based science course under the direction of experienced instructors. Emphasis on developing inquiry teaching skills useful for all levels of classroom instruction.

PHSC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 Hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PHSC 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PHSC 496. Senior Thesis. 1-3 Hr. PR: Consent.

PHSC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Physical Therapy (PT)
PT 419. Professional Values. 3 Hr. PR: Majors only. Students investigate various professional, ethical, and practice issues through written assignments and class presentations. Students study Appalachian culture and the effects of cultural mores on professional practice.

PT 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Physics (PHYS)
PHYS 101. Introductory Physics. 4 Hr. PR OR CONC: MATH 128 or MATH 129 or MATH 150 or MATH 153 or MATH 154 or MATH 155 or MATH 156 or a satisfactory score on the QRA exam. The fundamental philosophy and principles of physics are applied to studies of mechanics, sound, heat, and thermodynamics through demonstrations, problems, and experiments. Pre-requisites and/or co-requisites may differ on regional campuses.
PHYS 102. Introductory Physics. 4 Hr. PR: PHYS 101 and MATH 128. The fundamental philosophy and principles of physics are applied to studies of electricity, magnetism, optics, light, and atomic and nuclear physics through demonstrations, problems, and experiments. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

PHYS 105. Conceptual Physics. 4 Hr. Basic principles of physics and their relationship to our modern technological society. Major topics include properties of matter, electricity, optics, motion, heat and temperature, and energy. Nonmathematical approach emphasized.

PHYS 107. Physics of Music. 3 Hr. For all students including those in the liberal and fine arts. (No science or music prerequisites.) The physical and psychophysical principles underlying the nature, production, transmission, reception, and reproduction of sound. Descriptive course emphasizing the basic principles of light with applications to color vision and optical phenomena in everyday environment and technology.

PHYS 111. General Physics. 4 Hr. PR: A grade of C or better in MATH 155. Survey of classical mechanics, thermodynamics and waves.

PHYS 112. General Physics. 4 Hr. PR: PHYS 111. Survey of electricity, magnetism, and optics.

PHYS 113. General Physics Honors. 1 Hr. Additional honors hour companion course for Physics 111 in the spring semester and Physics 112 in the fall semester.

PHYS 199. Orientation to Physics. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

PHYS 211. Introduction to Mathematical Physics. 3 Hr. PR: MATH 251 and PHYSICS 112. Review of basic calculus with application to physics; e.g. vector calculus and Maxwell’s Equations, Fourier Series and the vibrating string, eigenvalues, eigenvectors and coupled oscillators. Complex algebra, linear algebra, differential equations, partial differential equations, Bessel functions, Legendre Polynomials, and Fourier Transforms.

PHYS 225. Medical Imaging Physics. 3 Hr. Introduces the physics of medical imaging and is intended for non-physics majors. The fundamental concepts and clinical applications of the major imaging techniques are presented. The subject matter is ideal for pre-med majors.

PHYS 290. Teaching Practicum. 1-3 Hr.

PHYS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PHYS 313. Introductory Electronics. 3 Hr. PR: PHYS 111 and PHYS 112. Principles and applications of integrated circuits and digital electronics.

PHYS 314. Introductory Modern Physics. 4 Hr. PR: PHYS 112 and MATH 156. Topics of modern physics of interest to science majors and engineers; atomic and molecular structure and spectra, solid state and nuclear physics, relativity, and elementary particles.

PHYS 321. Optics. 3 Hr. PR: PHYS 111 and PHYS 12 and MATH 261. A basic course in physical optics covering wave mathematics, propagation, polarization, interference, and diffraction; applications in geometrical optics and selected topics in scattering and quantum optics.

PHYS 325. Atomic Physics. 3 Hr. PR: PHYS 314. Relativistic mechanics, atomic structure, and spectra.
PHYS 331. Theoretical Mechanics 1. 3 Hr. PR: PHYS 111 and PHYS 112 or equiv. and PR or CONC: MATH 261. Scalar, vector, and tensor fields; curvilinear coordinate systems. Kinematics and dynamics of particles, systems of particles and rigid bodies.

PHYS 332. Theoretical Mechanics 2. 3 Hr. PR or CONC: PHYS 331 or equiv. and MATH 261. Scalar, Vector, tensor fields; curvilinear coordinate systems. Lagrangian and Hamiltonian formulation. Relativistic motion.

PHYS 333. Electricity and Magnetism 1. 3 Hr. PR: PHYS 111 and PHYS 112 or equiv. and PR or CONC.: MATH 261. Electrostatics, electrostatics in matter, magnetostatics, magnetostatics in matter.

PHYS 334. Electricity and Magnetism. 3 Hr. PR or CONC: PHYS 333 or equiv. and MATH 261. Maxwell’s equations, reflection and refraction, wave guides and cavities.

PHYS 341. Advanced Laboratory. 1-3 Hr. PR: PHYS 111 and PHYS 112 and PHYS 314. Experiments in physics designed to complement theory courses, give experience in data taking and instrumentation, and learn methods of data evaluation and error analysis.

PHYS 448. Physics Seminar. (No credit.) (Suggested for junior, senior, and graduate physics majors.) These lectures acquaint students with topics of current interest in physics.

PHYS 451. Introductory Quantum Mechanics. 3 Hr. PR: PHYS 314 and MATH 261. Fundamental principles of quantum mechanics; state functions in position and momentum space, operators, Schrodinger’s equation, applications to one-dimensional problems, approximation methods, the hydrogen atom, angular momentum and spin.

PHYS 461. Thermodynamics and Statistical Mechanics. 3 Hr. PR: PHYS 314 or equiv. and MATH 251. Introduction to the statistical foundations of thermodynamics; applications of the fundamental laws of thermodynamics to physical and chemical systems.

PHYS 463. Nuclear Physics. 3 Hr. PR: PHYS 314 and MATH 251. Study of characteristic properties of nuclei and their structure as inferred from nuclear decays and reactions, leading to a knowledge of nuclear forces and models.

PHYS 471. Solid State Physics. 3 Hr. PR: PHYS 314 or equiv. and MATH 251. Properties of crystalline solids; includes crystal structure, interatomic binding, lattice vibrations, electron theory of metals, and the band theory of solids with some applications.

PHYS 481. Plasma Physics. 3 Hr. PR: PHYS 111 and PHYS 112 and PR or CONC: PHYS 334. Introductory course in the physics of ionized gases; particle and fluid treatment of plasmas, waves, equilibrium and stability, kinetic theory, and nonlinear effects.

PHYS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PHYS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PHYS 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PHYS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PHYS 496. Senior Thesis. 1-3 Hr. PR: Consent.

PHYS 497. Research. 1-15 Hr. PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.)
PHYS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Physiology (PSIO)
PSIO 241. Elementary Physiology. 4 Hr. PR: College biology and chemistry, or consent. (For undergraduate students in paramedical sciences and nursing students on regional campuses.) Systematic presentation of basic concepts.

PSIO 441. Mechanisms of Body Function. 4 Hr. PR: College chemistry, biology, physics, and algebra or graduate status and Consent. A systematic examination of the homeostatic functions of the human body with emphasis on the physicochemical mechanisms involved. Pathophysiology and clinical correlations are introduced in relation to normal physiology. (4 hr. lec.)

PSIO 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

Plant Pathology (PPTH)

PPTH 409. Nematology. 3 Hr. Nematode biology, ecology, taxonomy, and control, with particular emphasis on plant parasitic forms.

PPTH 470. Forest Pest Management. 4 Hr. PR: (FMAN 311 and BIOL 101 and BIOL 103 and PLSC 206) or BIOL 115 and BIOL 117. Relationship of insects and disease organisms to the forest ecosystem; recognition of agents that affect forest health; management strategies for regulating their damage. (Also listed as ENTO 470.)

PPTH 471. Urban Tree and Shrub Health. 1 Hr. PR: PPTH 470 or ENTO 470 or PPTH 401 and ENTO 404. The unique problems associated with managing trees and woody shrubs in an urban environment will be observed and discussed; management options will be evaluated. (Also listed as ENTO 471).

PPTH 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

PPTH 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PPTH 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses. courses.

PPTH 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PPTH 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PPTH 496. Senior Thesis. 1-3 Hr. PR: Consent.

PPTH 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Plant Science (PLSC)
PLSC 105. Plants and People: Past and Present. 3 Hr. A course focused on exploring the interaction between plant and humans, and the impact plants have had, and have on human society.
PLSC 206. Principles of Plant Science. 4 Hr. Anatomy, morphology, and physiology of higher plants. Study of growth and development of economically important plants, their culture, and products.

PLSC 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PLSC 453. Organic Crop Production. 3 Hr. PR: PLSC 206 and AGRN 202 and AGRN 203 or consent. Principles, practices, history, philosophy, and economics of organic farming and gardening. The National Organic Rule, farm certification, crop/livestock systems and international organic production. (Students may not receive credit for both PLSC 453 and PLSC 553).

PLSC 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

PLSC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PLSC 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PLSC 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PLSC 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PLSC 496. Senior Thesis. 1-3 Hr. PR: Consent.

PLSC 497. Research. 1-15 Hr. PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.)

PLSC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Political Science (POLS)

POLS 101. Introduction to Political Science. 3 Hr. Introduction to government and politics. Origins, forms, and functions of the state; organization and processes of government; and the behavior of groups and individuals in various political systems.

POLS 102. Introduction to American Government. 3 Hr. General survey of American national government and politics.

POLS 103. Global Political Issues. 3 Hr. Analysis of issues in post-cold war international politics, ranging from traditional major power diplomacy and intervention to the newer problems of economic interdependence and development, human rights, population pressures on limited resources, and the environment.

POLS 199. Orientation to Political Science. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

POLS 210. Law and the Legal System. 3 Hr. Introductory course on the role of law in the political system. Includes a survey of subfields in United States law and an examination of participants, processes, and policy making in the United States legal system.

POLS 220. State and Local Government. 3 Hr. The legal basis, structure, politics and operation of state and local governments, in the content of the American federal system.
POLS 230. Introduction to Policy Analysis. 3 Hr. Examination of the causes and consequences of public policies. Substantive policies examined include: civil rights, housing, social services, environment, health, law enforcement, education, and taxation.

POLS 240. Introduction to Public Administration. 3 Hr. The development, organization, and processes in governmental administration in the United States.

POLS 250. Introduction to Comparative Politics. 3 Hr. An introduction to the political and governmental systems of industrialized and developing countries. Focuses on approaches to comparative political study, political cultures and participation, and government structures, processes, and policy performance.

POLS 260. Introduction to International Relations. 3 Hr. Theories and concepts in international politics and their application to contemporary world politics.

POLS 270. History of Political Thought 1. 3 Hr. Major political philosophers and ideas from the Greeks to the 17th century.

POLS 271. History of Political Thought 2. 3 Hr. Major political philosophers and ideas of the 17th, 18th, and 19th centuries, including Hobbes, Locke, Montesquieu, Rousseau, Burke, Bentham, Mill, Hegel, and Marx.

POLS 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

POLS 298. Honors. 1-3 Hr. PR: Student in Honors Program and consent by the honors director. Independent reading, study or research.

POLS 300. Empirical Political Analysis. 3 Hr. Designed to provide a basic understanding of how to read and conduct empirical political science research. Topics include research design, hypotheses testing, data collection, and statistical analysis. No prior knowledge of computers or statistics required.

POLS 301. Intro to Intelligence Analysis. 3 Hr. PR: POLS 260. A professionally-oriented survey of the history, logic, and methods of intelligence analysis as applied to policy-making in foreign policy and national security.

POLS 302. Intelligence Analysis Methods. 3 Hr. PR: POLS 260 and POLS 301. An advanced course in the understanding and use of skills, processes, and tools currently used by intelligence analysts in the national security community.

POLS 310. American Presidency. 3 Hr. Institutional, behavioral, and societal forces which have given rise to the modern presidency; factors which enhance and constrain the exercise of presidential power over those constituencies with which the president must interact; the nature and consequences of the presidential decision-making process; desirability and/or feasibility of reforming the presidency.

POLS 311. Political Parties & Elections. 3 Hr. Parties and elections in America; emphasis on nomination and general election processes, campaigns, the mass media, campaign finance, voting, the electoral college, and parties in government.

POLS 312. Appellate Judicial Process. 3 Hr. PR: POLS 210 or consent. The role of appeals courts and judges in American politics. Topics include appellate court organization and processes, the quantitative and qualitative analysis of judicial behavior, and the influence of courts on public policy.

POLS 313. American Constitutional Law. 3 Hr. The role of the Constitution in the American political system. Topics include the political concept of constitutionalism; the role of the Supreme Court in the political process; division of powers among the three branches of government; and the constitutional relation between the national government and the states.
POLS 314. Civil Liberties in the United States. 3 Hr. Issues in constitutional law concerning personal liberties against government action. Topics include free speech, press and association; religious freedoms; abortion; the right to privacy; due process of law; and criminal procedure safeguards.

POLS 315. Law and Public Policy. 3 Hr. PR: POLS 210 or consent. Advanced examination of the role of trial courts in policymaking, including agenda-setting and policy formulation by courts, the outcomes of policy litigation, and the politics of legal reform.

POLS 316. Public Opinion and Politics. 3 Hr. In-depth treatment of the origins, content, and impact of public opinion in American politics; political ideology, partisanship, socialization, mass media, opinion polls, and survey research techniques.

POLS 317. Interest Groups and Democracy. 3 Hr. The role of interest groups in American politics, focusing on their distribution and internal dynamics, their involvement in campaigns and elections, their influence on public policy, and their place in a democratic system.

POLS 318. Legislative Process. 3 Hr. Structure, organization and processes of legislative bodies; powers of the legislature; detailed study of law-making processes and procedures.

POLS 320. American Federalism & Policy. 3 Hr. Examines the history and philosophical justification of federalism, the relationships among the federal, state and local levels of government, and the contemporary debate over what those governmental relationships should be in America today.

POLS 321. West Virginia Government. 3 Hr. Organization and operation of the state government of West Virginia.

POLS 331. Criminal Law Policy and Administration. 3 Hr. Legal and administrative approach to policy issues in criminal justice. Focuses on the criminal law, police, court decisions, and the implementation of law and policy in the criminal field.

POLS 333. Politics of Social Welfare. 3 Hr. Questions of poverty and inequality: Who are the poor; what causes economic inequality; what have been governmental and private solutions to the problem of poverty; and what successes and failures have there been in the war against poverty?

POLS 334. Politics of Economic Policy. 3 Hr. An examination of U.S. economic policy, with an emphasis on the political considerations that influence policy development and implementation in government regulation, taxation, and spending.

POLS 335. Civil Rights Policy and Politics. 3 Hr. Analysis of the law, politics, and policy related to discrimination in public accommodations, voting, education, housing and employment based on race, gender, national origin, handicapped status, and age.

POLS 336. Energy Policy and Politics. 3 Hr. Explores the formulation and implementation of energy policy, including a discussion of scientific, risk, technological, economic, and political variables affecting policy with emphasis on national security, environmental protection, resource management and economic growth problems.

POLS 337. Gender/Politics and Policy. 3 Hr. Comparative study of how gender differences affect politics across the world. Emphasis on advanced industrial democracies. Topics include: Political attitudes and behavior, gender differences in political recruitment, and the impact of gender on public policy.

POLS 338. Environmental Policy. 3 Hr. Explores the formulation and implementation of environmental policy, using both a policy process approach and policy analysis. Includes a discussion of the scientific, technological, risk, economic, and political variables which affect policy making in this area.

POLS 339. National Security Analysis. 3 Hr. Introduction to the analysis of national security issues. Examines historical development of defense and military policy, arms procurement and transfers, deterrence, the application of game theory, and intelligence analysis.
POLS 342. Bureaucratic Politics. 3 Hr. Analysis of the nature and processes of American public administration (political, legal, economic, and social), including the role of bureaucracy in a democracy.

POLS 344. Administrative Law. 3 Hr. Administrative powers and limitations; procedures in administrative adjudication and rule-making; discretion, ultra vires as a check on administrators; notice and hearing; administrative penalties; judicial control; and administrative liability.

POLS 350. Government of Japan. 3 Hr. Survey of political institutions and governmental processes in Japan with special emphasis on the analysis of political problems in the post-war period.

POLS 351. Russian & Post-Soviet Politics. 3 Hr. PR: POLS 250 or POLS 260 or consent. Survey of the politics and government in Russia and post-Soviet states.

POLS 352. Politics of the European Union. 3 Hr. PR: POLS 250 or consent. Examination of the evolution of European integration and the political and institutional dynamics of the contemporary European Union.

POLS 353. Western Democratic Governments. 3 Hr. PR: POLS 250 or consent. Cross-national and/or country based analysis of selected western democracies, such as Canada, Great Britain, France, Italy, and the European Union.


POLS 356. Politics of the Middle East. 3 Hr. Survey of the domestic and international political dynamics of the Middle East.

POLS 357. Comparative Law and Politics. 3 Hr. An introduction to the comparative analysis of law and politics. Examines the forms of law, legal communities, judiciaries, and justice systems of polities other than the United States.

POLS 358. Politics of Africa. 3 Hr. Historical legacies and current political processes of tropical African countries.

POLS 359. Politics of Terrorism. 3 Hr. Terrorism is a method used against civilian population to affect political change. To understand this, the course will examine the ideology, history and tactics used of those engaged in violence.

POLS 360. International Political Economy. 3 Hr. Analysis of the relationship between international relations and economics. Topics include free trade, globalization, regionalism, and development.

POLS 361. International Law and Institutions. 3 Hr. Analysis of the development of international organization, norms, and law, as well as the creation and functioning of the United Nations and the European Union.

POLS 362. Comparative Foreign Policy. 3 Hr. PR: POLS 260. Introduction to comparative foreign policy focused on political structures and processes in advanced industrial democracies, transitional polities, and Third World states. Includes three weeks’ international system simulation.

POLS 363. International Law. 3 Hr. Law governing relations among nations, including development of rules, means of enforcement, and conflict between theory and practice.

POLS 364. American Foreign Relations. 3 Hr. PR: POLS 260 or consent. Examination of contemporary U.S. foreign policy and its historical, cultural, and domestic political roots. Substantive and theoretical issues in understanding foreign relations since WW II, including both continuity and change in the emerging post-cold war system.
POLS 365. Foreign Policy Decision-Making. 3 Hr. PR: POLS 260. An advanced course examining the psychological and political dynamics by which decision-making formulate foreign policy with emphasis on American national security. Includes three weeks’ simulation.

POLS 366. National Security Analysis. 3 Hr. Introduction to the analysis of national security policy issues. Examines historical development of defense and military policy, arms procurement and transfers, deterrence, the application of game theory, and intelligence analysis.

POLS 367. Latin America in International Affairs. 3 Hr. Relations of Latin American states among themselves, with the United States, the United Nations, regional organizations, and nonwestern states. In-depth analysis of the Monroe doctrine and its corollaries and the inter-American system.

POLS 368. Politics of War and Peace. 3 Hr. PR: POLS 260 or consent. Analysis of great power politics in the international system. Examination of theories of war, historical patterns of the balance of power, and origins of the 20th century’s major conflicts: WW I, WW II, and the Cold War.

POLS 369. Far East International Affairs. 3 Hr. International relations of countries of the Far East with emphasis on historic roots of recent conflicts, the roles of the United States and other major powers, confrontation between the countries in the region, and the regional cooperation and security problems in the post-World War II period.

POLS 371. History of Political Thought 2. 3 Hr. Major political philosophers and ideas of the 17th, 18th, and 19th centuries, including Hobbes, Locke, Montesquieu, Rousseau, Burke, Bentham, Mill, Hegel, and Marx.

POLS 372. Modern Political Thought. 3 Hr. Beginning with early Marxist thought, this course examines the evolution of the concepts of rights, justice, liberty, democracy, and equality from 1850 through the present, using the works of both classical and contemporary political theorists.

POLS 373. American Political Philosophy. 3 Hr. Major American political ideas and their influence upon American society and government from the 17th century to the present.

POLS 375. Psychological Theories of Politics. 3 Hr. Introduction to rational choice theory and various psychological theories of politics; application of psychological theories to both international relations and American politics.

POLS 383. Debate. 3 Hr. Intensive research and writing on policy options related to the annual intercollegiate debate topic. Research will focus on both the policy and political implications of enacting and implementing a variety of options.

POLS 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

POLS 452. EU Law/Legal Systems. 3 Hr. An introduction to the politics of law in Europe. Examines the forms of law, legal communities, judiciaries, and justice systems of the major European politics (Great Britain, France, and Germany).

POLS 453. EU Law/Institutions. 3 Hr. An examination of the European Union with respect to the evolution of its legal framework, core decision making institutions, and current issues of constitutional prospects, further economic integration, and protection of human rights.

POLS 461. Transformation of War. 3 Hr. The nature of war has changed significantly in the past half-century. This course examines the new aspects of violent conflict, specifically asymmetric war, insurgency, and Fourth Generation Warfare, through theory and case studies.

POLS 485. Great Books-American Politics. 3 Hr. Allows students form all disciplines to explore the history, institutions, and major actors of the American political system and American politics by reading and studying important books and literature in the discipline.
POLS 486. Great Books-Law & Politics. 3 Hr. Course designed to allow the student to engage in a directed, independent examination of law and politics by reading and critiquing significant works on law and politics.

POLS 487. Capstone: Senior Paper. 3 Hr. One of three capstone options for political science majors. Students choosing this option undertake a faculty-supervised independent research project culminating in a written research paper and oral presentation at a faculty/student colloquium.

POLS 488. Capstone: Political Simulation. 3 Hr. One of three capstone options for political science majors. Students choosing this option conduct research and participate in role-playing exercises through planned political simulations involving both U.S. politics and international relations.

POLS 489. Capstone: Citizenship Seminar. 3 Hr. One of three capstone options for political science majors. Students choosing this option participate in a seminar focusing on the role of citizens in a democracy, with emphasis on experimental learning through civic participation.

POLS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

POLS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

POLS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

POLS 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

POLS 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

POLS 496. Senior Thesis. 1-3 Hr. PR: Consent.

POLS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

PORT 101. Elementary Portuguese 1. 3 Hr.

PORT 102. Elementary Portuguese 2. 3 Hr. PR: PORT 101 or equiv.

PORT 203. Intermediate Portuguese 1. 3 Hr. PR: PORT 102 or equiv.

PORT 204. Intermediate Portuguese 2. 3 Hr. PR: PORT 203 or equiv.

PORT 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PORT 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

PORT 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 Hours). Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PORT 493 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
PORT 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PORT 496. Senior Thesis. 1-3 Hr. PR: Consent.

PORT 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Print Journalism (PRNJ)
PRNJ 408. The Community Newspaper. 2 Hr. (Open to all University students.) Fundamental problems and techniques in operation of community newspapers.

PRNJ 418. Advanced Reporting. 3 Hr. PR: JRL 318 and admission to the School of Journalism or Consent. Students write carefully researched stories using writing, reporting, and interviewing skills they have acquired in previous classes while applying techniques of literary journalism. The class emphasizes immersion reporting; students spend extended time with one subject to develop skills in storytelling, interviewing, and organization. (Lab fees will be assessed for this course.)

PRNJ 420. Feature Writing. 3 Hr. PR: JRL 318 and admission to the School of Journalism or consent. Developing, writing, and editing news features, personality profiles, color pieces, issue oriented articles and human impact stories for news, public relations and film. The course emphasizes narrative, descriptive, analytic and story-telling skills. One-on-one professor/student conferences stress story building and revision. (Lab fees will be assessed for this course.)

PRNJ 425. High School Publications Advising. 3 Hr. PR: JRL 319. (For students seeking Journalism Certification.) Emphasizes writing styles, newspaper/yearbook layout, rights and responsibilities of the teacher, students, and school system. Enrollees will construct instructional portfolios based on research and classroom discussion concepts.


PRNJ 430. Editorial & Critical Writing. 3 Hr. PR: JRL 319. Students will analyze news issues, write editorials, and write editorial page columns. Students will also analyze the role and content of the editorial page in contemporary newspapers.

PRNJ 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant. (Course will be graded on a pass/fail basis.)

PRNJ 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development. (Course will be graded on a pass/fail basis.)

PRNJ 493 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PRNJ 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PRNJ 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PRNJ 496. Senior Thesis. 1-3 Hr. PR: Consent.

PRNJ 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
# Psychology (PSYC)

**PSYC 101. Introduction to Psychology.** 3 Hr. Survey of general psychology.

**PSYC 201. Psychology as a Profession.** 1 Hr. PR: PSYC 101. Orientation to opportunities for experience, employment, and graduate and professional training in psychology.


**PSYC 231. Leadership and Human Relations.** 3 Hr. PR: PSYC 101. Concentrates on principles of psychology that can be applied to improving relations with others as well as being a more effective leader. Pragmatic orientation includes using the principles to solve problems in relationships, in small organizations, and in large systems.

**PSYC 232. Sex Roles and Behavior.** 3 Hr. PR: PSYC 101. Relates sex-typed behavior to physiological, social, and cultural processes. Current social concerns such as rape and abortion legislation, child care, and expanded career options for both sexes are examined from a psychological perspective.

**PSYC 233. Psychology of Cinema.** 3 Hr. This course examines film from a psychological perspective. Areas of focus include the art and science of film production, and the impact of cinema on the individual and society. Analysis of psychological themes is emphasized.

**PSYC 241. Introduction to Human Development.** 3 Hr. PR: PSYC 101. Survey of human psychological development across the life span with emphasis on change in biological, cognitive, and social-emotional processes. Special attention given to theoretical, conceptual, methodological, and practical issues.

**PSYC 251. Introduction to Social Psychology.** 3 Hr. PR: PSYC 101. Examination of social interaction and behavior from a psychological perspective. Topics include: attraction, social perception and cognition, attitudes and attitude change, social influence and group process, prosocial behavior and aggression, cultural influence, and prejudice.

**PSYC 281. Introduction to Abnormal Psychology.** 3 Hr. PR: PSYC 101. Introduction to major categories of behavior disorders; etiology, prevention and treatment.

**PSYC 293 A-Z. Special Topics.** 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

**PSYC 298 A-Z. Honors.** 1-3 Hr. PR: Students in the Honors Program and consent by the honors director. Independent reading, study, or research.

**PSYC 301. Biological Foundations of Behavior.** 3 Hr. PR: PSYC 101 and PSYC 202. Introduction to animal behavior. Survey of fundamental concepts (evolution, genetics, adaptation, and learning) and research methods in understanding animal behavior including primate species. Includes laboratory exercises and demonstrations.


**PSYC 331. History and Systems of Psychology.** 3 Hr. PR: (PSYC 202 or PSYC 231 or PSYC 232 or PSYC 241 or PSYC 251 or PSYC 293) and at least junior or senior standing. A survey of psychology from its origins in philosophy, biology, and physics through the early major schools of psychological thought to modern perspectives on the science of behavior and its applications to human affairs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 342</td>
<td>Prenatal and Infant Development</td>
<td>3</td>
<td>PR: PSYC 241 and junior or senior standing</td>
<td>Behavior and development from conception to two years. Includes behavioral genetics and hazards of prenatal development, as well as sensory motor, cognitive, language, and socioemotional behavior during infancy.</td>
</tr>
<tr>
<td>PSYC 343</td>
<td>Child and Adolescent Development</td>
<td>3</td>
<td>PR: PSYC 241 and junior or senior standing</td>
<td>Theory and research on major psychological processes in childhood and adolescence; maturation, personality, socialization, sensory, and cognitive development.</td>
</tr>
<tr>
<td>PSYC 345</td>
<td>Adulthood and Aging</td>
<td>3</td>
<td>PR: PSYC 241 and junior or senior standing</td>
<td>Psychological issues in the study of adulthood, with an emphasis on the characteristics of older adults. Topics include the psychosocial and biological context of aging, cognitive and personality changes from early to late adulthood, psychopathology in later life, dementia, issues in caregiving, and death and dying.</td>
</tr>
<tr>
<td>PSYC 351</td>
<td>Topics in Social Psychology</td>
<td>3</td>
<td>PR: PSYC 251 and junior or senior standing</td>
<td>Social factors that determine human behavior, survey of research in selected areas of social psychology and their implications for social phenomena.</td>
</tr>
<tr>
<td>PSYC 362</td>
<td>Psychological Assessment</td>
<td>3</td>
<td>PR: (PSYC 202 or PSYC 231 or PSYC 232 or PSYC 241 or PSYC 251 or PSYC 293) and at least junior standing</td>
<td>Psychometric theory and development of psychological assessment instruments. Includes behavioral, personality, intellectual, neuropsychological, forensic, achievement, and aptitude assessment.</td>
</tr>
<tr>
<td>PSYC 363</td>
<td>Personality Theory</td>
<td>3</td>
<td>PR: (PSYC 202 or PSCY 231 or PSYC 232 or PSYC 241 or PSYC 251 or PSYC 293) and at least junior standing</td>
<td>Theoretical and empirical readings in a survey of major perspectives in personality theory, including dynamic, cognitive, humanistic, and behavioral.</td>
</tr>
<tr>
<td>PSYC 364</td>
<td>Psychology of Adjustment</td>
<td>3</td>
<td>PR: (PSYC 202 or PSYC 231 or PSYC 232 or PSYC 241 or PSYC 251 or PSYC 293) and at least junior standing</td>
<td>Dynamic principles of human personality adjustment.</td>
</tr>
<tr>
<td>PSYC 365</td>
<td>Forensic Psychology</td>
<td>3</td>
<td>PR: PSYC 101 and junior or senior standing</td>
<td>Surveys role of psychology in the legal system. Issues addressed include: insanity, child custody, sexual abuse, police fitness, eye witness and jury selection</td>
</tr>
<tr>
<td>PSYC 379</td>
<td>Community Psychology</td>
<td>3</td>
<td>PR: (PSYC 202 or PSYC 231 or PSYC 232 or PSYC 241 or PSYC 251 or PSYC 293) and at least junior standing</td>
<td>Psychological principles applied to treatment and intervention at the community level; manpower development, organizational change, and systems analysis.</td>
</tr>
<tr>
<td>PSYC 382</td>
<td>Exceptional Children</td>
<td>3</td>
<td>PR: PSYC 241 and junior or senior standing</td>
<td>Exceptional mental retardation or advancement; organic disabilities having behavioral consequences, such as cerebral palsy or deafness; and behavior disorders.</td>
</tr>
<tr>
<td>PSYC 401</td>
<td>Psychology Capstone Experience</td>
<td>1</td>
<td>PR: PSYC 101 and PSYC 201 and STAT 211 and senior standing</td>
<td>Experience in coursework, research, or service that integrates knowledge gained as a major in psychology. To be taken concurrently with capstone experience, details of which are to be determined in consultation with advisor.</td>
</tr>
<tr>
<td>PSYC 411</td>
<td>Applying to Graduate School</td>
<td>1</td>
<td>PR: Senior psychology major.</td>
<td>Designed to guide students through the process of applying to graduate school in psychology. Students will investigate graduate training alternatives, select potential graduate programs, complete application packages, and prepare for interviews. (Course will be graded on a pass/fail basis.)</td>
</tr>
<tr>
<td>PSYC 423</td>
<td>Cognition and Memory</td>
<td>3</td>
<td>PR: PSYC 202 and junior or senior standing</td>
<td>Theoretical and empirical issues in cognitive psychology. Topics include mechanisms and theories of attention, memory, language, and conceptual processes.</td>
</tr>
</tbody>
</table>
PSYC 424. Learning and Behavior Theory. 3 Hr. PR: PSYC 302 and junior or senior standing. Advanced course in empirical and theoretical issues in the psychology of learning.

PSYC 425. Perception. 3 Hr. PR: PSYC 202 and junior or senior standing. Survey of the structure and function of human sensory systems (primarily visual and auditory), perceptual issues and theories.

PSYC 426. Physiological Psychology. 3 Hr. PR: PSYC 301 and junior or senior standing. Advanced study of the physiological mechanisms of behavior. Topics include neural and endocrine mechanisms of behavior and issues, methods, and findings in behavioral neuroscience.

PSYC 474. Behavior Modification. 3 Hr. PR: PSYC 302 and junior or senior standing. Basic principles of behavior and their application to changing significant human behavior. Includes clinical, educational, parenting, industrial/organizational, community, and other applications.

PSYC 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant. (No more than three hours of PSYC 490 may be counted toward the 44 hours of psychology to which psychology majors are limited.)

PSYC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experimental learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

PSYC 492 A-Z. Directed Study. 1-3 Hr. PR: Consent. Directed study, reading, and/or research.

PSYC 493 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

PSYC 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regularly scheduled courses.

PSYC 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Public Relations (PR)
PR 215. Introduction to Public Relations. 3 Hr. (Open to all University students.) Introduces the student to the principles of public relations. Definition and historical development, opportunities and challenges, techniques and management of public relations are included.

PR 301. Writing for Public Relations. 3 Hr. (Open to PR minors only.) PR: JRL 101 and PR 215. Basic writing techniques and tools for public relations practitioners, including news writing, AP style, news releases, media advisories, media lists, pitching stories, presentations, and publications.

PR 319. PR Editing and Design. 3 Hr. PR: JRL 318 and PR 215. Editing and production techniques for public relations media (brochures, reports, newsletters, etc.) including copy preparation, typography, graphic design, layout, and desktop publishing.

PR 324. Public Relations Writing and Applications. 3 Hr. PR: PR 319 or JRL 319. Writing, design, graphics, and desktop publishing as major tools of public relations practitioners and planners.

PR 333. Introduction to Web Design. 3 Hr. PR: JRL 215 or Consent. Using the web in PR campaigns, hand-coding HTML, design concepts, layout, hyperlinks, images, tables, web-production software, establishing and maintenance of web server account, uploading files.

PR 401. Applied Public Relations. 3 Hr. (Open to PR minors only.) PR: JRL 101 and PR 215. Focuses on case studies and strategic campaign planning. Students produce a campaign.
PR 410. Integrated Marketing Communications for PR. 3 Hr. PR: PR 301 and PR 401. Provides comprehensive look at PR’s role IMC process. Advertising, Internet marketing, sales promotion and direct marketing also discussed.

PR 412. IMC For Sport. 3 Hr. PR: ADV 201 or ADV 215 or PR 215. Online class examines IMC techniques and strategies used by sport organizations to build positive relationships with consumers and corporations.

PR 422. Research and Case Studies. 3 Hr. PR: PR 324 or consent. This course familiarizes students with common PR research methods and their respective strengths and weaknesses. A wide range of actual campaigns, including government, corporate, IMC, international, investor, crisis, and non-profit, are examined and critiqued.

PR 458. Public Health Relations. 3 Hr. PR: PR 422 or consent. In-depth research, study, and development of active PR campaigns in the healthcare field. Students serve as the PR agency for a healthcare-related organization.

PR 459. Public Relations Campaigns-Capstone. 3 Hr. PR: PR 422 or consent. Capstone seminar designed to give students the opportunity to integrate prior learning in developing a PR campaign for an actual client.

PR 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant. (Course will be graded on a pass/fail basis.)

PR 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development. (Course will be graded on a pass/fail basis.)

PR 493 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

PR 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

PR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

PR 496. Senior Thesis. 1-3 Hr. PR: Consent. (Course will be graded on a pass/fail basis.)

PR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Reading (RDNG)
RDNG 381 A-Z. Special Topics. 1-6 hr. PR: Consent. Special topics or research in reading and language arts for master’s degree students in reading.

RDNG 403. Literature for Children. 3 Hr. A survey of children’s literature, with attention to historical development as well as current trends. Emphasizes selection, critical evaluation, and utilization of literary materials for developmental, recreational, and curriculum needs. Appropriate media included.


RDNG 422. Reading in the Content Areas. 3 Hr. Skills and strategies needed by content area teachers to reinforce the reading skills necessary for the effective learning of secondary students in the content areas.

RDNG 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

RDNG 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

RDNG 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

Recreation Parks and Tourism Resources (RPTR)

RPTR 140. Adventure West Virginia. 3 Hr. This course provides incoming WVU freshmen with the information and tools helpful for a successful transition from high school to college through a field-based, experiential curriculum.

RPTR 140A. Adventure West Virginia. 3 Hr. This course provides incoming WVU freshman with the information and tools helpful for a successful transition from high school to college through a field-based, experiential curriculum.

RPTR 142. Introduction to Recreation, Parks and Tourism. 2 Hr. Recreation, parks and tourism philosophy, environments, agency contexts, historical antecedents, service delivery systems, special settings and populations, leadership programs and professional challenges. Thirty-hr. field placement with local recreation, park or tourism agency.

RPTR 145. Recreation Services for Special Populations. 3 Hr. PR: Consent. Introductory analysis of current therapeutic recreation and park services to include members of special populations; familiarization with planning for the conduct of such services.

RPTR 148. Wilderness First Responder. 3 Hr. PR: Consent. This course provides training necessary to become certified in dealing with various aspects and levels of outdoor/wilderness crises for forestry, recreation, or any outdoor professionals. (Grading will be pass/fail.)

RPTR 150. Backcountry Living Skills. 3 Hr. PR: Consent. The purpose of this course is to develop and refine the skills necessary to live and travel in the outdoors.

RPTR 239. Sustainable Tourism Development. 3 Hr. This course will introduce students to the phenomenon and significance of global tourism and teach them how to apply tourism principles to support community economic development.

RPTR 242. Environmental and Cultural Interpretation. 3 Hr. This course is about people, communication and natural resource management. It focuses on theory and application of communication methods for natural resource settings and topics, including communication of technical information to lay publics.

RPTR 251. Leadership in Experiential Education. 3 Hr. This course focuses on elements of leadership in outdoor and experimental education and provides students with “hands-on” learning opportunities.

RPTR 263. Program Planning in Recreation, Parks and Tourism. 3 Hr. PR: RPTR major or consent. Fundamentals of general program planning, needs, facilities, age groups, local customs, climatic factor, etc.; settings such as parks, playgrounds, indoor centers, playing fields, hospitals, voluntary agencies, industrial settings, and campuses.

RPTR 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
RPTR 335. Management in Recreation, Parks and Tourism Organizations. 3 Hr. PR: 12 hr. of RPTR courses. Junior standing, or consent. Principles of administration as applied to the operation of recreation, parks and tourism organizations, including policy, legal foundations, organization, personnel, and finance.

RPTR 365. Planning and Design in Recreation, Parks and Tourism. 3 Hr. PR: RPTR major or consent. Study of planning and design concepts, standards and guidelines, use continuum, grants-in-aid, and planning of selected areas and facilities: parks, pools, centers and recreation areas.

RPTR 433. Recreation Resource Management. 3 Hr. An analysis of land management agencies and major legislation concerned with recreation resource management; review, develop, and apply recreation resource and visitor use management plans.

RPTR 434. Wilderness in American Society. 3 Hr. PR: RPTR 433 or consent. A seminar examining political, sociological, and environmental aspects of American wilderness. A discussion on articles concerning wilderness preservation, management, and aesthetics.

RPTR 442. Advanced Interpretive Techniques. 3 Hr. PR: RPTR 242 or consent and junior standing. This is an advanced course on the development of interpretive programs that reflect the historical, cultural, and natural resources of an area. The course employs a project-based approach. Students will develop and critique both personal and non-personal products.

RPTR 448. Ecotourism Development. 3 Hr. Covers Applied approaches to the development and operation of nature-based tourism businesses. Sustainable tourism principles, business planning, marketing strategies, and management issues are thoroughly examined.

RPTR 450. Social Research Methods in NRM. 3 Hr. Social research methods in natural resource management with concentration on problem identification and solving. Data collection methods and applications specific to natural resource management social settings will be studied.

RPTR 485. Professional Development Seminar. 1 Hr. This course is a capstone preplanning course for the professional internship program. The course emphasizes professional development and career planning.

RPTR 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

RPTR 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

RPTR 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

RPTR 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

RPTR 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

RPTR 496. Senior Thesis. 1-3 Hr. PR: Consent.

RPTR 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Religious Studies (RELG)

RELG 102. Introduction to World Religions. 3 Hr. This course explores five of the most widely practiced world religions; Judaism, Christianity, Islam, Hinduism, and Buddhism. Students are introduced to the history and basic tenets of each faith.
RELG 105. Introduction to Issues in Religious Studies. 3 Hr. Leading issues involved in religious studies: transcendence, the God question, evil, redemption, community, eschatology, symbolism, ethics, examples of the relationship between religion and culture.

RELG 210. Contemporary Theology 1. 3 Hr. Issues include: function of reason in Judaeo-Christian faith and relationship of reason and revelation to each other; Judaeo-Christian understanding of history; the question of biblical literalism.

RELG 219. The History of Christianity. 3 Hr. This course explores the birth and evolution of Christianity from its inception until the modern era. Emphasis will be placed upon the significant people and events that shaped Christianity.

RELG 220. Contemporary Theology 2. 3 Hr. Issues include: the nature of theological method; the role of revelation in theology; the relationship between faith and reason; the relevance of modern theories of language.

RELG 221. The History of Christianity. 2nd Edition. 3 Hr. This course explores the birth and evolution of Christianity from its inception until the modern era. Emphasis will be placed upon the significant people and events that shaped Christianity.

RELG 222. Origins of Judaism. 3 Hr. Main beliefs and practices of the Jewish religion in its formative period, 500 B.C. to 500 A.D. Selections from the late Old Testament writings, the Apocrypha and Pseudepigrapha, the Dead Sea Scrolls, and rabbinical literature.

RELG 223. Christianity in America. 3 Hr. Explore the history of American Christianity, as republican ideology, democratic polity, and commitment to individual freedom create a competitive religious marketplace without an established church.

RELG 224. The History of Christianity. 3 Hr. This course explores the birth and evolution of Christianity from its inception until the modern era. Emphasis will be placed upon the significant people and events that shaped Christianity.

RELG 225. Religion Across Cultures. 3 Hr. Introduces cross-cultural study of religion, with emphasis on non-western examples; surveys classic statements by major modern theorists, focusing on comparison in modern and secular academic setting.

RELG 230. Religions of India. 3 Hr. Proto-Indian religion, Hinduism, beginnings of Buddhism, Jainism, Sikhism; historical and theological foundations; developments of thought; and contemporary expressions and encounters with the modern world.

RELG 231. Religions of China and Japan. 3 Hr. Buddhism, Confucianism, Taoism, Shintoism; historical and theological foundations, developments of thought; and contemporary expressions and encounters with the modern world.

RELG 232. History and Practice of Islam. 3 Hr. Examines the origins and development of Islam from its inception in ancient Arabia to the modern era. The central beliefs, practices, and denominations associated with Islam will also be explored.

RELG 242. Theological Perspectives in Modern Literature. 3 Hr. Theological perspectives in selected modern writers including Beckett, Camus, Faulkner, Hesse, Hopkins, Wiesel, Eliot, and Auden. Theological insights into nihilism, evil, redemption, and meaning, as well as psychological analyses of religion, will be examined in these authors.

RELG 250. Biblical Ethics/Current Issues. 3 Hr. Principal types of ethics; biblical teaching on sin, guilt, law, grace, the state, perfection, etc., with application to contemporary issues: bioethics, euthanasia, ecology, sex, cybernation, etc.

RELG 255. Religion Across Cultures. 3 Hr. Introduces cross-cultural study of religion, with emphasis on non-western examples; surveys classic statements by major modern theorists, focusing on comparison in modern and secular academic setting.

RELG 293 A-Z. Special Topics. 3 Hr. Investigation of topics not covered in regularly scheduled courses.

RELG 301. Studies in Asian Scriptures. 3 Hr. Explores the content and background of Hindu, Buddhist, and Confucian scriptures from the Vedic period through the modern era. Examines the historical, cultural, and religious settings of the texts as well as their theological concepts.

RELG 303. Studies in Christian Scripture. 3 Hr. This course explores the origin and development of the Christian Bible. The historical, cultural, and religious settings of the texts, as well as their theological intent, will be examined.

RELG 304. Studies in Hebrew Scriptures. 3 Hr. This course explores the origin and development of the Hebrew Bible. The historical, cultural, and religious settings of the texts, as well as their theological intent, will be examined.
RELG 305. Biblical History/Archaeology. 3 Hr. Explores development of the biblical world from 2,000 BCE through the first century CE. Various cultures will be examined socially, historically, and religiously. How biblical archaeology impacts understanding of the Bible will also be discussed.

RELG 306. Biblical History and Archeology of Israel. 1-6 Hr. Study abroad program in Israel. Students explore the biblical world from the Iron Age to the Roman era through participation in an archaeological dig. Examines social, historical, and religious dimensions of various ancient cultures.

RELG 310. Historical Theology. 3 Hr. Explore the historical development of Judeo-Christian theology from ca. 1000 BCE through the mid-20th century. Topics will include the nature of God, Christology, and apocalypticism.

RELG 350. Biblical Ethics/Current Issues. 3 Hr. Introduction to biblical ethics and its application to current issues. Issues such as war, the environment, and biotechnology are explored by interpreting biblical texts as a touchstone of ethical principles and values.

RELG 482. Interactions in World Religions - Capstone. PR: 12 credits of RELG coursework or consent. Explores the in-depth history and interactions among major world religions and cultures from ancient times through the modern era. Emphasis upon specific geographical regions including the Middle East, Asia Minor, and the Far East.

RELG 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

RELG 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

RELG 492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

RELG 493 A-Z. Special Topics. 3 Hr. Investigation of topics not covered in regularly scheduled courses.

RELG 494 A-Z. Seminar. 3 Hr. PR: A previous religious studies course. Presentation and discussion of topics of mutual concern to students and faculty.

RELG 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

RELG 496. Senior Thesis. 1-6 Hr. PR: Consent.

RELG 497. Research. 1-6 Hr. Independent research projects.

RELG 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Resource Management (RESM)
RESM 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

RESM 330. Equine Facility Development and Management. 3 Hr. Offered for students wishing to gain knowledge of horse keeping and the design of efficient private and public equine facilities. Course covers cost efficiency of construction materials and their applications to arenas, barns, and outdoor facilities.

RESM 390. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.
RESM 420. Aquaculture Management. 3 Hr. PR: BIOL 101 and BIOL 103. Interdisciplinary course that explores through lectures, field trips, demonstrations, and class discussion, practical pond management principles, site and species selection, production methods, processing, marketing, waste issues, and economics.

RESM 440. Foundations of Applied GIS. 2 Hr. An introductory course designed to provide the necessary background and techniques to use GIS technology to analyze and solve spatial problems. An emphasis is placed on acquisition, management, and manipulation of spatial data.

RESM 480. Environmental Regulation. 3 Hr. Course focusing on laws and policies applicable to the environment. Students will learn to read and interpret statutes, regulations and cases that impact water, air, toxic substances, land and endangered species.

RESM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

RESM 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

RESM 495. Independent Study. 1-3 Hr. Faculty supervised study of topics not available through regular course offerings.

RESM 496. Senior Thesis. 1-3 Hr. PR: Consent.

RESM 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Russian (RUSS)**

RUSS 101. Elementary Russian 1. 3 Hr. PR: No prior study of the language. Introduction to the sound and writing systems of the language, with emphasis on listening, reading, speaking, and writing.

RUSS 102. Elementary Russian 2. 3 Hr. Continuation of RUSS 101. Introduction to the sound and writing systems of the language, with emphasis on listening, reading, speaking, and writing.

RUSS 203. Intermediate Russian 1. 3 Hr. PR: RUSS 102. Continued development of basic skills in listening, reading, speaking, and writing Russian.

RUSS 204. Intermediate Russian 2. 3 Hr. PR: RUSS 203. Continuation of RUSS 203. Capstone course for the RUSS 101 through 204 sequence and foundation for advanced Russian study. Continued development of basic skills in listening, reading, speaking, and writing Russian.

RUSS 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

RUSS 301. Conversation and Composition 1. 3 Hr. PR: RUSS 204. Emphasis on development of written and oral communicative skills of contemporary Russian.

RUSS 302. Conversation and Composition 2. 3 Hr. PR: RUSS 301. Continuation of RUSS 301. Emphasis on development of written and oral communicative skills of contemporary Russian.

RUSS 303. Advanced Structure and Reading 1. 3 Hr. PR: RUSS 204. Development of communicative skills, with emphasis on reading authentic texts and review of Russian language.


RUSS 331. The Russian Short Story. 3 Hr. PR: RUSS 4. Reading, discussing, and writing in Russian about short stories of selected nineteenth-century Russian writers.
RUSS 332. The Russian Short Story. 3 Hr. PR: RUSS 204. Reading, discussing, and writing in Russian about short stories of selected contemporary Russian writers.

RUSS 341. Survey of Russian Literature. 3 Hr. PR: RUSS 204. A major works of selected Russian authors from the beginning through the nineteenth century, including those of Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, and Tolstoy.

RUSS 342. Survey of Russian Literature. 3 Hr. PR: RUSS 204. Major works of selected Russian authors from the beginning of the twentieth century to the present.

RUSS 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

RUSS 451. Russian Culture. 3 Hr. PR: RUSS 204. A study of Russian civilization, customs, and ethos.

RUSS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

RUSS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

RUSS 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

RUSS 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

RUSS 496. Senior Thesis. 1-3 Hr. PR: Consent.

RUSS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Safety Management (SAFM)
SAFM 470. Managing Construction Safety. 3 Hr. Focuses on management and planning aspects of construction safety, including fall protection, scaffolding, excavation, hand and power tools, cutting and welding, others. Compliance aspects of 29CFR 1926 (with various subparts) concerned with building and highway construction.

SAFM 471. Motor Fleet Safety. 3 Hr. Safety elements of automotive transportation including design, operation, planning, control, and effects of legislation.

SAFM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

Service Learning (SRVL)
SRVL 199. Orientation to SRVL. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

SRVL 293 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

SRVL 491. Professional Field Experience 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

SRVL 492 A-Z. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

SRVL 493 A-Z. Special Topics 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.
SRVL 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

SRVL 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

SRVL 499. Global Service Learning. 3 Hr.

Slavic and Eastern European Studies (SEES)
SEES 101. Introduction to Slavic and Eastern Europe Studies. 3 Hr. This course offers a multidisciplinary introduction to the geography, history, culture, societies, religions, and politics of Slavic and Eastern Europe, a broad region between contemporary Germany and Eurasian Russia and the Baltic and Black Seas.

SEES 492. Directed Study. 1-3 Hr. Directed study, reading, and/or research.

SEES 497A. Research: Capstone. 1-6 Hr. Independent research projects.

Small Business Entrepreneurship (SBEN)
SBEN 310. Small Business Management 1. 3 Hr. PR or CONC: BCOR 350 and BCOR 370. Fundamental principles and practices related to small business and entrepreneurship. Focuses on areas such as leadership, motivation, human resource management as they apply to small business management.

SBEN 410. Small Business Management 2. 3 Hr. PR: BCOR 340 and SBEN 310 and PR or CONC: ACCT 331. Fundamental principles and practices related to small business and entrepreneurship. Focuses on areas such as accounting, budgeting, and financial management as they apply to small business management.

Social and Cultural Foundations (SCFD)
SCFD 100. Education In The American Culture. 3 Hr.

SCFD 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

SCFD 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

SCFD 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SCFD 494. Seminar. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SCFD 496. Senior Thesis. 1-3 Hr. PR: Consent.

Social Work (SOWK)
SOWK 105. Social Welfare Institutions. 3 Hr. Examines the historical development of social welfare in the United States and the values that shape social welfare institutions. (3 hr. lec.)

SOWK 147. Human Diversity. 3 Hr. (Must be completed before applying to the major.) Covers a range of diverse populations especially those historically subjected to oppression and social and economic injustice. Addresses the causes and effects of institutionalized forms of oppression.

SOWK 151. Introduction to Social Work. 3 Hr. PR: Consent. (Must be completed before applying to the major.) Overview of the social welfare field and social work profession. Emphasizes social work values and ethics.
SOWK 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SOWK 300. Social Welfare Policy and Services 1. 3 Hr. PR: SOWK 151. Review of current and historical perspectives on the social welfare institution. Includes philosophical and ideological factors that influence U.S. social welfare policy and services.

SOWK 310. Social Welfare Policy and Services 2. 3 Hr. PR: SOWK 300. Explores the social welfare policy-making process. Analyzes current social welfare programs and possible reforms, policy responses to social issues, and strategies for shaping and influencing policy and their impact on vulnerable populations.

SOWK 319. Skills Lab 1. 1 Hr. PR:SOWK 151. This experiential component of SOWK 320 focuses on developing communication and interviewing skills, relationship building, and problem solving. (Grading will be pass/fail.)

SOWK 320. Social Work Methods 1. 3 Hr. PR: SOWK 147 and SOWK 151. Presents a broad range of generalist practice knowledge, values and skills. Focuses on theories and interventions with individuals, and introduces evaluation of practice effectiveness. (30-hour service learning requirement.)

SOWK 321. Field Experience in Social Work. 1-12 Hr. (Open to non majors by consent.) Develops basic helping skills through supervised volunteer or work experience in a community agency or program.

SOWK 322. Social Work Methods 2. 3 Hr. PR: SOWK 319 and SOWK 320. Builds on Methods 1 by focusing on more specific theories, methods, and intervention models with groups, communities, and organizations. Introduces program evaluation. (30-hour service learning requirement.)

SOWK 324. Methods 3: Org & Communities. 3 Hr. PR: SOWK 319 and SOWK 320 and SOWK 322. Focuses on applying theories and concepts of generalist social work practice at the macro (organization/community) system level with an emphasis on rural environments.

SOWK 330. HBSE 1. 3 Hr. PR: SOWK 147 and SOWK 151 Human Behavior in the Social Environment 1: Individual development within the family context. Provides students with a life course perspective, and the understanding of the relationships among biological, social, psychological, and spiritual dimensions as they are affected by human behavior and family life.

SOWK 350. HBSE 2. 3 Hr. PR: SOWK 319 and SOWK 320 and SOWK 330 Human Behavior in the Social Environment 2: Groups, organizations, and communities. Examines, using an ecosystem’s perspective, the influence of communities, organizations and groups on human functioning. Emphasis on the challenges and opportunities offered by rural environments.

SOWK 360. Social Work Research and Stats. 3 Hr. PR: SOWK 300. Introduces and applies research and statistical methods social workers use to evaluate practice and programs, to critique research, to build knowledge for practice, and to address ethical standards of scientific inquiry.

SOWK 380. Child Welfare. 3 Hr. Introduction to issues in the field of child welfare. Includes policies, practice, protective services, family centered services, prevention, out of home placement, and in-home placement.

SOWK 400. Legal Issues in Social Work. 3 Hr. PR: SOWK 300 and SOWK 320 and SOWK 330. Explores legal and ethical issues and obligations affecting social workers and social work practice.

SOWK 491. Professional Field Experience. 1-12 Hr. PR: Consent. (May be repeated up to a maximum of 12 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.
SOWK 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SOWK 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

SOWK 495. Independent Study. 1-6 Hr. PR: Consent. Faculty supervised study of topics not available through regular course offerings.

SOWK 499. Global Service Learning. 3 Hr.

**Sociology and Anthropology (SOCA)**

SOCA 101. Introduction to Sociology. 3 Hr. Basic course intended to develop a perspective about the nature of social processes and the structure of society.

SOCA 105. Introduction to Anthropology. 3 Hr. Essentials of human evolution and prehistory with a concentration on the varieties of languages and cultures found among peoples of the world.


SOCA 199. Orientation to Soc & Anthro. 1 Hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities.

SOCA 207. Social Problems in Contemporary America. 3 Hr. Sociological analysis of the causes, effects and approaches to preventing and reducing social problems in American society.

SOCA 221. Families and Society. 3 Hr. Historical comparative approach to changing structure and functions of the family institution. Effect of economic, demographic, and cultural changes on relationships, gender roles, marriage, childcare; variations by socioeconomic status, race, ethnicity, gender, sexual orientation.

SOCA 223. Death and Dying. 3 Hr. Sociological and anthropological perspectives on death and dying. Examines sociopsychological and structural factors supporting the beliefs and practices associated with the institution of death, both historically and in contemporary society.

SOCA 225. Inequality and the Media. 3 Hr. Analyzes how media reflects and shapes inequalities in society with emphasis on race, class, gender, and sexual orientation. Content is based on research findings derived from studies of contemporary society and media.

SOCA 232. Criminology. 3 Hr. Exploration of various theories of criminal behavior; emphasis on a critical study of the criminal justice system and efforts to reform the penal system.


SOCA 234. The Criminal Justice System. 3 Hr. A sociological introduction to the justice system. Focuses on analysis of police work, court activities, and corrections within the context of American social organization and societal definitions of crime and justice.

SOCA 235. Race Relations. 3 Hr. Causes and consequences of prejudice and discriminatory practices involving minority group members. Emphasis is on blacks, but social and economic conditions of Indians and other racial and religious minorities are also discussed.

SOCA 238. Ethnic Groups. 3 Hr. Study of the major ethnic groups in the U.S., their social histories and present importance to the nation. Family histories are explored. Includes study of Irish, Polish, Italian, Greek, Mexican, Asian and Native Americans.

SOCA 250. Archaeology Laboratory. 1 Hr. CoReq: SOCA 258. Experiential activities to accompany SOCA 258 lecture material.
SOCA 252. Physical Anthropology. 3 Hr. Fossil evidence for human evolution, racial variation, and relationship between biology and behavior.

SOCA 254. Cultural Anthropology. 3 Hr. Introduction to the history, methods, and current directions of cultural anthropology. Focus on living cultures across the world, encompassing the whole range of human activities. Consideration of identity, economy, politics, kinship, meaning, language, and inequality.

SOCA 258. Introduction to Archaeology. 3 Hr. CoReq: SOCA 250. Methods and techniques of reconstructing prehistoric cultures, explaining cultural change, and explaining the formation of the archeological record.

SOCA 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SOCA 301. Sociological Theory. 3 Hr. Systematic analysis of major sociological theories viewed from the historical perspective and in terms of current research.

SOCA 302. Deviant Behavior. 3 Hr. PR: 6 Hr. SOCA or consent. Examination of the processes by which “deviance” is defined in society, and the methods of social control attempted. Provides a critical understanding of society from the perspective of those defined as “outsiders”—criminals, addicts, etc.

SOCA 304. Complex Organizations. 3 Hr. PR: 6 Hr. SOCA or consent. The structure and functioning of large-scale, bureaucratic organizations, including studies of industrial organizations, prisons, hospitals, and government.

SOCA 307. Social Research Methods. 3 Hr. PR: Junior status or consent. Logic of social research, elements of research design, and problems of measurement, with emphasis on survey research methodology and data analysis.

SOCA 318. Hate Crime. 3 Hr. PR: SOCA 101 and SOCA 232 or SOCA 233. Builds on basic knowledge in sociology to provide a detailed example of an emerging social problem, i.e., hate crime. Explores the ways social phenomena become social problems. Examines the causes and consequences of hate crime.

SOCA 319. Police Culture and Socialization. 3 Hr. PR: SOCA 101 and SOCA 232 or SOCA 233 and SOCA 330. Examines the institution of policing in the United States. Builds on basic sociological concepts to provide a sociological and historical perspective on the formal and informal structures and processes in the American system of policing.

SOCA 321. Punishment and Social Control. 3 Hr. PR: SOCA 101 and SOCA 232 or SOCA 233. Builds on basic sociological concepts to provide detailed knowledge about the use of prisons and incarceration among other forms of punishment and surveillance in contemporary society.

SOCA 322. Third World Development. 3 Hr. PR: SOCA 222 or SOCA 240 or consent. Provides a macroscopic view of political and social change in the Third World and specific knowledge of Third World development for issues related to population, food, debt, health, education, environment, and human rights.


SOCA 324. Gender and Crime. 3 Hr. PR: SOCA 101 and SOCA 232 or SOCA 233. Builds on basic sociological principles and concepts, and focuses on issues of social structure and process that are at the intersection of gender crime, and crime control.
SOCA 331. Sociology of Law. 3 Hr. PR: SOCA 232 or SOCA 233 or permission of instructor. Development and practice of law as part of social systems; theoretical treatments of the relationship between law and social order; emphasis on issues of class, race, and gender.

SOCA 333. Sociology of Work and Work Places. 3 Hr. PR: SOCA 101 or consent. Explores the significance of work and work relations in contemporary society. Emphasis is given to the analysis of employment settings including industrial organizations.

SOCA 334. Corporate and White Collar Crime. 3 Hr. Examines law breaking by respectable organizations and individuals engaged in professional economic activity. Studies sociocultural sources of such crime, consequences for victims, and public policy responses. Includes recent criminal cases, legal changes, and enforcement trends.

SOCA 337. Sociology of American Business. 3 Hr. PR: 6 Hr. SOCA or consent. The changing role of business and the debate over its social responsibilities are the major issues of the course. Corporate structures, ownership, governance, power, policy, crime, philanthropy, and work life are examined.

SOCA 339. Organized Crime. 3 Hr. PR: 6 Hr. SOCA or consent. Analyzes organized criminal groups in relation to the social structure, culture, and social psychology of societies. Topics include: History and leadership of crime groups; relations with government, business, and labor; enforcement policies; international crime groups.

SOCA 345. Terrorism. 3 Hr. PR: 6 Hr. SOCA or consent. A sociological understanding of terrorism, including its causes, relations to social context, and trends. Emphasis is placed on major terrorist groups, selected cases, explanatory theories and policies of containment and prevention.

SOCA 346. Victimology. 3 Hr. PR: SOCA 101. Introduction to the sociological study of victimization, which includes an examination of risks and frequencies, perceptions and fears, and the social and psychological impact of crime, accident and illness on individuals and entire societies.

SOCA 350. Latin American Culture. 3 Hr. Ethnographic analyses of the peoples, culture, history, and politics of Latin America, and its relation to the global processes. Consideration of popular cultures, political violence and impacts of colonialism, neocolonialism and globalization.

SOCA 351. Traditional and Changing Africa. 3 Hr. Surveys traditional social institutions found in hunting/collecting, agricultural, and pastoral societies of sub-Saharan Africa. Labor migration, urbanization, agricultural cooperatives, and other consequences of colonial rule are considered.

SOCA 352. Historical Archaeology. 3 Hr. Archaeology of European colonization and post-colonial material culture in North America since 1492. Course examines analytical techniques including documentary research, artifact analysis and field excavation while scrutinizing archeological interpretation and its connections to present constituencies.

SOCA 353. Anthropology of Religion. 3 Hr. PR: 6 Hr. SOCA or consent. Symbolism, magic, ritual, shamanism, sorcery, and concepts of sin and salvation related to peasant and tribal cosmologies will be examined as causes of and remedies for suffering in traditional and modern contexts.

SOCA 354. Mesoamerican Archaeology. 3 Hr. Overview of the diverse environments, social organizations, and lives of people in prehispanic cultures; from early food foragers through the Olmec, Maya, Teotihuacan, Zapotec, and Aztec. Explores how we understand and apply the Mesoamerican past.

SOCA 355. Cultural Resource Management. 3 Hr. Overview and evaluation of government-sponsored preservation and study of archaeological and historical resources in the U.S., emphasizing West Virginia. Considers attitudes/relationships between participants including descendant communities, looters, public and private sectors.

SOCA 358. Anthropology of Health and Illness. 3 Hr. PR: 6 Hr. SOCA or consent. Health and disease, diagnosis, and healing in cross-cultural perspective; analyses of social, cultural, political, and economic factors in modern and traditional medical systems.

SOCA 389. Writing in Sociology and Anthropology. 1 Hr. Integration of context with writing about the important topics; must be taken concurrently with and approved writing content course. (For majors only; permit required.)

SOCA 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SOCA 402. The Investigating Professions. 3 Hr. An inside view of the investigative work and controversial social relations of trial attorneys and a variety of paid scientific experts who commonly evaluate and prepare legal cases.

SOCA 405. Class, Status, and Power. 3 Hr. PR: Junior standing or consent. Sociological study of inequality within the U.S. with an emphasis on social class and socio-economic status; also highlights the intersection of gender, race/ethnicity, sexual orientation, place, age, ability, and poverty.

SOCA 407. Constructing Social Problems. 3 Hr. PR: Junior or senior standing or consent. Focuses on the dynamics of defining social problems, with emphasis on claimmakers, especially activist groups and mass media. Examines how power influences perceptions, how perceptions affect policies, and how problem definitions relate to social change.

SOCA 415. Mass Media, Crime and Deviance. 3 Hr. Critically examines how mass media and popular culture depict crime and deviance, and explores how these depictions influence social policies. Focuses especially on portrayals involving race, gender, class and ethnicity in particular historical contexts.

SOCA 431. Cybercrime. 3 Hr. Examines the legal, social, and technical impacts of illegal activities facilitated through the use of computers or other technology devices. Focus is on these activities as a criminological phenomenon.

SOCA 432. Drugs, Crime, and Society. 3 Hr. PR: SOCA 101 and SOCA 232 or SOCA 233. Examines the relationships between drugs and society from both micro and macro perspectives, including the effects of drug use and abuse in everyday life and government intervention efforts.

SOCA 435. Criminal Justice Process. 3 Hr. A sociological introduction to the formal and informal processes in the American criminal justice system that affect the investigation and prosecution of criminal cases, including the collection, analysis, and presentation of evidence.

SOCA 444. Neighborhoods and Crime. 3 Hr. PR: SOCA 101. This course introduces students to the growing sociological literature on neighborhoods and crime, with an emphasis on issues related to the race/ethnicity and economic inequality.

SOCA 450. Archaeology of Ancient States. 3 Hr. Using case studies such as ancient Sumer, Egypt, Indus, China, Mesoamerica, the Andes, and North America, this course surveys the theories and debunks the myths surrounding the emergence (and collapse) of cities and complex societies.

SOCA 455. Anthropological Theory. 3 Hr. PR: 6 Hr. SOCA or consent. Theoretical landmarks in early and modern anthropology. Includes British functionalism, psychological anthropology, French structuralism, and twentieth-century evolutionism in the United States.

SOCA 456. Field Methods. 3 Hr. PR: SOCA 311 or consent. The distinctive craft of data gathering in cultural anthropology. Development of skills in field methods and participant observation.

SOCA 457. Social Movements. 3 Hr. Ethnographic approaches to the study of power, politics, and social change in the contemporary world. Focuses on past and present injustices, why "ordinary" people mobilize politically for change, and how to study these movements.
SOCA 458. Environmental Anthropology. 3 Hr. Critical ethnographic analysis of environmental problems, activism, and potential solutions, including issues related to biodiversity conservation, sustainability, natural disasters, industrial contamination, environmental knowledge, risk perception, and nature/culture dynamics among Western and non-Western peoples.

SOCA 461. Issues in Crime and Justice. 3 Hr. PR: Junior standing or consent. Senior seminar on crime and social organization of justice. Focus on problems of prevention, enforcement, corrections and institutional reform. Emphasis on recent research, emerging trends, and policy.

SOCA 463. Economy and Society. 3 Hr. PR: 6 Hr. SOCA or consent. Examines the role that the economy as a social institution plays in the historical paradigms in sociology and modern social theory, as well as in organization and inequality models in sociology.

SOCA 470. Cities and Urban Life. 3 Hr. PR: SOCA 101 and SOCA 311. This course introduces students to the scientific study of urban social activity and urban problems, including crime. The primary goals are to present the methods, theories, and key concepts of sociological perspectives on cities.

SOCA 488. The Capstone Experience. 1 Hr. PR: SOCA 101 and SOCA 105 and senior standing. CoReq: Enroll simultaneously in one of the approved capstone experience courses. An undergraduate course designed to facilitate the completion of the capstone experience. (Grading will be pass/fail.)

SOCA 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

SOCA 491. Professional Field Experience. 1-12 Hr. PR: Consent. (May be repeated up to a maximum of 12 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional development.

SOCA 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SOCA 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

SOCA 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

SOCA 496. Senior Thesis. 1-3 Hr. PR: Consent.

SOCA 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study and research.

SOCA 499 A-Z. Global Service Learning. 3 Hr. PR: Consent.

Spanish (SPAN)

SPAN 100. Intensive Elementary Spanish. 6 Hr. PR: Score of S1 on placement test or no prior study of the language or departmental consent. Equivalent of SPAN 101 and 102 combined into one course.

SPAN 101. Elementary Spanish 1. 3 Hr. PR: Score of S1 on placement test or no prior study of the language or departmental consent. Introduction to the sound and writing systems of the language with emphasis on listening, speaking, reading and writing within an authentic cultural context. (Course presumes no prior knowledge of the language.)

SPAN 102. Elementary Spanish 2. 3 Hr. PR: SPAN 101 or score of S2 on placement exam. Continuation of SPAN 101. Introduction to the sound and writing systems of the language with emphasis on listening, speaking, reading, and writing within an authentic cultural context.
SPAN 200. Intensive Intermediate Spanish. 6 Hr. PR: SPAN 102 or SPAN 100 or consent. The equivalent of SPAN 203 and 204 combined into one course.

SPAN 203. Intermediate Spanish 1. 3 Hr. PR: SPAN 102 or score of S3 on placement exam. Continuation of Span 102.

SPAN 204. Intermediate Spanish 2. 3 Hr. PR: SPAN 203 or score of S4 on placement exam. Foundation for advanced study of Spanish. Emphasis on oral and written communication.

SPAN 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly courses.

SPAN 301. Spanish Conversation. 3 Hr. PR: SPAN 204. Major emphasis on improving conversational skills by means of discussions and oral reports. Grammar review where appropriate and written work.

SPAN 302. Reading and Composition. 3 Hr. PR: SPAN 204. Major emphasis on reading development and writing skills. Grammar review where appropriate. Class discussion in Spanish.

SPAN 303. Advanced Grammar. 3 Hr. PR: SPAN 204. A study of major points of Spanish grammar with particular attention to more advanced structures. Class discussion, readings, and composition in Spanish.

SPAN 304. Advanced Reading and Composition. 3 Hr. PR: SPAN 302. Study of different genres and styles. Class discussion and written analyses in Spanish.

SPAN 330. Latin American Culture. 3 Hr. PR: SPAN 302. Survey of Latin American civilization and culture from the pre-Colombian period to the present.

SPAN 331. Early Spanish American Literature. 3 Hr. PR: SPAN 304. Readings in Spanish American literature from the colonial period to Modernism.

SPAN 332. Modern Spanish American Literature. 3 Hr. PR: SPAN 304. Readings in Spanish American literature from Modernism to the present.

SPAN 340. Culture of Spain. 3 Hr. PR: SPAN 302. Survey of Spanish civilization and culture from its origins to the present day.

SPAN 341. Early Literature of Spain. 3 Hr. PR: SPAN 304. Readings in Spanish literature from the medieval period to the eighteenth century.

SPAN 342. Modern Literature of Spain. 3 Hr. PR: SPAN 304. Readings in Spanish literature from the eighteenth century to the present.

SPAN 361. Commercial Spanish 1. 3 Hr. PR: SPAN 303 and SPAN 304. Development of advanced speaking, reading, and writing skills appropriate for business contexts within the Spanish-speaking world.

SPAN 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SPAN 401. Grammar Review. 3 Hr. Intensive grammar review for graduate students. (Credit does not count toward 36 hrs. required for master’s degree.)

SPAN 431. Caribbean Literature. 3 Hr. PR: At least one literature course in Spanish. Readings of selected works by Hispanic writers from the Caribbean region.

SPAN 462. Commercial Spanish 2. 3 Hr. PR: SPAN 461. Continuation of SPAN 461.
SPAN 480. Issues in the Hispanic World. 3 Hr. PR: Completion of 21 upper division hours in Spanish. An examination of contemporary issues facing the Hispanic world, with particular attention given to cultural developments and influences.

SPAN 481. Hispanic Presence in the World. 3 Hr. Completion of 21 upper-division hours in Spanish. This course is designed to provide Spanish majors with a capstone experience and offers them a more comprehensive view of the role of Spanish in the world.

SPAN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

SPAN 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 Hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

SPAN 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

SPAN 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SPAN 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

SPAN 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

SPAN 496. Senior Thesis. 1-3 Hr. PR: Consent.

SPAN 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

**Special Education (SPED)**

SPED 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SPED 304. Special Education in Contemporary Society. 3 Hr. Special education principles and practices, interactions between disability and diversity in identification and intervention, and influences of family, professional, school and community infrastructures on educational programs/outcomes for children and adults. (Equivalent of DISB 304).

SPED 311. Developmental Assessment for Young Children with Special Needs. 3 Hr. Biological and environmental factors associated with developmental disabilities, delays and at-risk conditions in young children, their impact across developmental domains, and assessment procedures to identify needs and plan interventions in the early childhood years.

SPED 314. Center-Based Programs Early Intervention. 3 Hr. Policies and practices for center-based early childhood special education for young children from ages 3-6; individual education plans and intervention programs to promote early learning and child-peer interactions in preschool settings.

SPED 315. Home-Based Programs Early Intervention. 3 Hr. Policies and practices for home-based early intervention for young children with special needs from 0-3; individual family service plans and intervention programs to support early development and family interactions in the home settings.

SPED 316. Behavior Support Young Children Special Needs. 3 Hr. Emotional and social development in young children; causes and characteristics of problem behaviors in early childhood; assessment of behavior; and positive behavior supports for individuals and groups in-home and center-based preschool settings.
SPED 317. Technology for Young Children with/without Special Needs. 3 Hr. Developmentally appropriate use of technology in early childhood education programs; assistive devices and services to accommodate young children with special needs; integration of technology into curriculum to address early learning standards.

SPED 319. Internship: Preschool Special Needs. 3 Hr. Internship or advanced student teaching for certification or additional endorsement to work with children ages birth to pre-kindergarten with special needs.

SPED 350. Survey of Exceptional Children and Adults. 3 Hr. PR: Consent. Introduction to all areas of exceptionality. Definition, psychological and educational characteristics, and social and vocational adjustment.

SPED 360. Differentiation of Instruction for Special Needs. 3 Hr. PR: SPED 304. Strategies for differentiation of instruction for students with special needs in general and special education settings, using an individualized, data-based decision making-process for organization, adaptation, and implementation of curriculum, methods and materials.

SPED 361. Differentiated Instruction for Young Children. 3 Hr. PR: SPED 304. Individualized instruction for young children with special needs in early childhood education programs through curriculum modifications, instructional adaptations, and environmental accommodations.

SPED 363. Characteristics of Students with Special Needs. 3 Hr. Learning and behavior characteristics of children and adolescents with mild disabilities; identification of academic learning needs; individual education programs and individualized instructional programming; assistive technology and other applications.

SPED 364. Educational Programming for Students with Special Needs. 3 Hr. Curriculum planning and instructional program design for students with mild disabilities at elementary and secondary school levels; evidence-based practice in special and inclusive classrooms; lesson planning, implementation and evaluation.

SPED 365. Assistive Technology. 3 Hr. PR: SPED 304. Specialized computer hardware and software, adaptive and assistive devices, instructional and productivity software, and principles and practices of Universal Design for Learning for students with special needs.

SPED 366. Transition Planning. 3 Hr. PR: SPED 304. Assessment, planning, and programs to promote transition to post-secondary education and employment for students with special needs through individual transition plan process.

SPED 393 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SPED 402. Educational Assessment for Students with Special Needs. 3 Hr. Formal and informal assessment procedures for eligibility decisions, program development, and progress assessment in special education, assessment accommodations, designing appropriate educational programs from assessment data.

SPED 403. Behavior Support for Students with Special Needs. 3 Hr. Theory and classroom application of intervention procedures to implement behavior changes in students with special needs; effective group and individual behavior management.

SPED 463. Collaborative-Consultative Inclusion Strategies. 3 Hr. Strategies for building and maintaining effective collaborative teams for the inclusive school environment; skills for communication, decision making, group dynamics, and conflict resolution.

SPED 491. Professional Field Experience. 1-6 Hr. PR: Consent. Student teaching with the mentally impaired.
Speech Pathology and Audiology (SPA)

SPA 170. Speaking to Communities. 3 Hr. Focuses on guided direction to improve the student’s conversational and public speaking skills through a variety of presentational formats to external audiences via community outreach. Code switching among dialects will be introduced and discussed.

SPA 199. Orientation to Speech Pathology and Audiology. 1 hr. Orientation to degree programs and requirements, departmental resources, curriculum options, student responsibilities and opportunities. Open to all students (including those considering SPA as a major) and required for SPA majors. (Course will be graded pass/fail.)

SPA 200. Introduction to Speech and Hearing. 3 Hr. (For majors only.) Introduction to the professions of speech-language pathology and audiology; normal speech, language and hearing processes; etiology, assessment and treatment of communication disorders.

SPA 270. Effective Public Speaking. 3 Hr. Designed for improvement of the student’s speech based upon theory and demonstrated performance of voice and diction skills and public-speaking skills for effective communication in a variety of speaking situations.

SPA 274. Manual Communication. 3 Hr. PR: Consent. Development of skills needed to communicate in sign language. The manual alphabet, basic number concepts, and the basic vocabulary of traditional American signs.

SPA 276. Intermed Manual Communication. 3 Hr. PR: SPA 274 or consent. Improve skills needed to communicate in sign language. Includes increasing sign language vocabulary, practicing finger spelling, and communicating with signs.

SPA 278. Communication Disorders. 3 Hr. (For non-majors.) Survey of normal processes and disorders of speech, language, and hearing in children and adults. Intended for students and teachers in early childhood, elementary, secondary and special education; language arts specialists; child development specialists; psychologists; and rehabilitation specialists.

SPA 280. Communication Disorder in Film. 3 Hr. Analysis of selected films to explore the socio-emotional and functional impact of impaired speech, language, hearing, and cognition and the ways in which society views people with communication disorders.

SPA 293. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SPA 320. Speech Science. 4 Hr. PR: SPA 200 or consent. Detailed discussion of the speech production process, including acoustic, anatomical, and physiological aspects of speech production.

SPA 322. Phonetics. 3 Hr. PR: SPA 200 or consent. Standard speech sounds of the English language. Use of phonetic symbols for recording speech sounds. Classification systems presented.

SPA 324. Language Acquisition. 3 Hr. PR: SPA 320 and SPA 322. Normal processes involved in the acquisition of language, including the development of phonological, semantic, morphological, pragmatic, and syntactical systems. Application of these processes to the diagnosis and treatment of language disorders.


SPA 342. Hearing Screening Programs. 3 Hr. PR: SPA 200 or consent. Disorders of hearing; screening programs from birth through geriatrics; introduction to industrial programs.

SPA 362. Parent Programs Communication Disorders. 3 Hr. PR: ENGL 101 and ENGL 102 and SPA 200 or consent. For majors only. Students will learn to organize and implement parent involvement programs in a variety of settings, interview parents, conduct conferences, utilize appropriate materials, and interact effectively with parents of children with communication disorders in various clinical settings.

SPA 390. Clinical Observation/SLP. 1 Hr. PR: SPA 200 or consent. Introduction to clinical procedures and issues in speech-language pathology, including professional ethics, certification requirements, assessment/treatment process variables, clinical observations, behavioral objectives, cues, and feedback.

SPA 391. Clinical Observation/Audiology. 1 Hr. PR: SPA 200 or consent. Introduction to clinical procedures and issues, including professional ethics, certification requirements, assessment/treatment process variables, clinical observations, behavioral objectives, cues, and feedback.

SPA 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SPA 420. Exploring SPA Clinical Settings. 3 Hr. PR: SPA 324 and SPA 326. Overview of governmental regulations, ethical considerations, relevant technology, and administrative/programmatic matters germane to the clinical practice of speech-language pathology and audiology in various settings including schools, medical and rehabilitation facilities, and private practice.

SPA 422. Voice and Stuttering. 3 Hr. PR: SPA 200 and SPA 326. Basic knowledge about and understanding of voice disorders and stuttering; relevant theories, facts, research findings, and clinical practice related to the epidemiology, etiology, course, prevention, diagnosis, and remediation.

SPA 424. Language Disorders. 3 Hr. PR: SPA 324. The nature and etiology of child and adult language disorders are described. Assessment and remediation procedures are examined.

SPA 440. Audiological Assessment. 4 Hr. PR: SPA 340 and SPA 342. Application of basic audiological techniques, including puretone and speech audiometry, masking, and immittance testing. Audiometric skill development in computer simulation lab.

SPA 442. Aural Rehabilitation. 3 Hr. PR: SPA 440 or consent. Communication and hearing impairment; aural rehabilitation evaluation; remediation including amplification, auditory and visual training, and ALD.

SPA 460. Professional Writing/Speaking. 3 Hr. PR: (ENGL 101 and ENGL 102 and SPA 270) or consent. (For majors only.) Designed for improvement of students' professional skills, specifically oral and written. Emphasis is placed on report writing, letter writing, resume writing, interviewing, group problem solving, leadership, persuasion, and public speaking.

SPA 482. Clinical Practice/SLP. 3 Hr. PR: Consent. Orientation to clinical methods for evaluation and treatment of speech-language disorders. (Graded pass/fail.)

SPA 483. Clinical Practice/Audiology. 3 Hr. PR: Consent. Orientation to clinical methods for evaluation and treatment of hearing disorders. (Graded pass/fail.)

SPA 484. Clinical Study and Application 1. 2 Hr. PR: All required courses through junior year. SPA seniors will meet in weekly seminars and with a faculty mentor to explore, develop, and write a clinically-oriented research paper and corresponding annotated bibliography that contains a minimum of 20 relevant sources.
SPA 485. Clinical Study and Application. 1 Hr. PR: SPA 484. SPA seniors will meet in weekly seminars and with a faculty mentor to develop and orally present, with a visual aid, the clinically-oriented research paper developed in SPA 484.

SPA 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SPA 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

SPA 498 A-Z. Honors. 1-6 Hr. PR: Students in the Honors Program and consent by the honors director. Independent reading, study or research.

**Sport and Exercise Psychology (SEP)**

SEP 170. Champs/Life Skills. 1 Hr. This course is intended for first-year student athletes interested in developing and incorporating life skills in the areas of academics, athletics, career and personal development.

SEP 210. Professional Issues. 1-3 Hr. An introduction to professional issues relevant to the field of sport psychology. Provides opportunities for students to gain practical experiences within the field.

SEP 211. Professional Issues In Sport Psychology 2. 1-3 Hr. This 1-3 credit hours lower-level undergraduate course provides second semester students majoring in sport and exercise psychology with a comprehensive overview of the field of sport and exercise psychology.

SEP 212. Professional Issues In Sport Psychology 3. 1-3 Hr. PR: SEP 210 and SEP 211. This 1-3 credit hours lower-level undergraduate course provides third-semester students majoring in sport and exercise psychology with an introduction to graduate school and the necessary skills needed to prepare them for graduate education.

SEP 213. Professional Issues In Sport Psychology 4. 1-3 Hr. PR: SEP 210 and SEP 211. This 1-3 credit hours lower-level undergraduate course provides fourth semester students majoring in sport and exercise psychology with the necessary skills needed to succeed upon their graduation from the sport and exercise psychology program.

SEP 271. Sport in American Society. 3 Hr. Sociocultural investigation of sport in American society.

SEP 272. Psychological Perspectives of Sport. 3 Hr. An examination of personality and behavioral factors as they affect participation in sport. Topics such as stress and sport, body image, aggression and the sport participant, and the licensure of sport psychologists highlight the course.

SEP 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SEP 373. African Americans in Sports. 3 Hr. Sociocultural and historical overview of the contributions of African-Americans in sport in America.

SEP 374. Sport Studies Research Methods. 3 Hr. An analysis of descriptive and experimental research in sport psychology and sport management. Course requirements include completion of capstone research project.

SEP 383. Exercise Psychology. 3 Hr. Introduction to motivational and mental health factors associated with exercise participation.

SEP 385. Social Psychology of Sport. 3 Hr. PR: SEP 271 and SEP 272 or consent. An introduction to the study of how and why performance is affected by interactions with others in sport.

SEP 420. Sport Performance Enhancement. 3 Hr. PR: SEP 272. An introduction to the processes and techniques involved in using psychology to help athletes and coaches improve their performance.
SEP 425. Psychological Aspects of Sport Injury. 3 Hr. PR: SEP 271 an SEP 272. This upper-level course involves the study of various topics related to the psychological aspects of sport injury. In general this course will examine issues associated with the onset, treatment and rehabilitation of sport injury.

SEP 433. Foundations of Peak Performance. 3 Hr. PR: SEP 272. This applied course focuses on the application of psychological skills and theories presented in SEP 272 to performance environments. Students will learn how to enhance performance in sport, academic, business, and other performance environments.

SEP 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

SEP 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a max of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

SEP 492. Directed Study. 1-6 Hr. Directed study, reading, and/or research.

SEP 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SEP 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

SEP 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

SEP 496. Senior Thesis. 1-3 Hr. PR: Consent.

SEP 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

**Sport Management (SM)**

SM 167. Introduction to Sport Studies. 3 Hr. Examines the historical and philosophical bases, major issues and professional practices in sport studies.

SM 275. The Olympic Games. 3 Hr. An examination of the historical development of the Olympic Games from the Greek classic period (500 B.C.) to the games of the XXVI Olympiad of Atlanta in 1996.

SM 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SM 340. Sport Governance. 3 Hr. This course examines how sport organizations interact and coordinate with numerous policy actors to facilitate and coordinate the mechanisms of governance.

SM 345. Technology in Sport Management. 2 Hr. Majors only. This course provides an understanding of the technological concepts and principles relevant to sport management and provides student with practical experiences in the use of emerging technologies in the field.

SM 350. Leadership in Sport Management. 2 Hr. Majors only. The purpose of this course is to identify the fundamental leadership behaviors in sport management. This course provides sport management students the opportunity to explore current leadership theories and practices in sport.

SM 355. Orientation in Sport Management. 1 Hr. Majors only. In this course student will identify and develop the skill sets necessary for successful completion of an internship in sport management.

SM 370. Sport Finance. 3 Hr. This course will present a number of basic concepts in the budgeting and financing of sports programs and will also examine a number of critical financial issues affecting sports. Particular emphasis will be placed on intercollegiate athletic programs.
SM 375. Sport in the Global Market. 3 Hr. An examination of the role of sports within the broader process of globalization. Its impact on culture, politics, economics and how these influences shape today’s sport.

SM 380. History and Philosophy of Sport. 3 Hr. This course is designed to acquaint students with philosophical issues related to sport and sport management and with individuals and events that helped shape the history of sport.

SM 385. Sport Economics. 3 Hr. Provides an understanding of the economic concepts and principles relevant to the sport industry. Provides the opportunity to apply the concepts and principles in a practical manner within a variety of different sport settings.

SM 425. Facility Planning. 3 Hr. PR: Consent. An in-depth study of sport facilities, including planning, design, liability and facility management concepts and evaluation.

SM 426. Liability in Sport. 3 Hr. An overview of the legal system as it applies to sport, including contracts, tort law, drug testing, types of athletes, product liability, legal duties of coaches, facilities supervisors, and athletic directors.

SM 483. Sport Management Internship Project. 1-18 Hr. This is a career focused experience for students placed with a professional sport organization. Students complete assigned internship. Experience is written document detailing the academic skills developed during the on the job activity.

SM 484. Internship Project. 1-6 Hr. Students sign up for an internship with perspective employers in the field of professional sport or sport related field. The placement provides an opportunity that is necessary in the sport industry.

SM 485. Sport Management. 3 Hr. PR: Senior standing. The study of management principles as they relate to sport organizations. The analysis includes specific references to planning, organizing, leading and evaluating functions of management in sport.

SM 486. Sport Marketing. 3 Hr. PR: Senior standing. The study of marketing principles as they relate to sport organizations. Specific attention is focused on the marketing planning process, marketing informational systems, and internal marketing.

SM 487. Issues in Sport Studies. 3 Hr. PR: SEP 271 and ENGL 101 and ENGL 102 and junior standing. An in-depth analysis of critical issues impacting sport and the sport industry.

SM 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

SM 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

SM 492. Directed Study. 1-6 Hr. Directed Study, reading, and/or research.

SM 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

SM 494 A-Z. Seminar 1-6 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

SM 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

SM 496. Senior Thesis. 1-3 Hr. PR: Consent.

SM 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
Statistics (STAT)

STAT 111. Understanding Statistics. 3 Hr. Introduction to basic concepts and ideas of statistics. Methodologies and case studies to prepare students to understand the use of statistics in the mass media and professional publications in their major field of study. Not open to students who have earned credit for STAT 211 or STAT 215.

STAT 201. Applied Statistical Modeling. 3 Hr. PR: MATH 121 or higher. Introduction to modeling in the social, behavioral, and health sciences. Descriptive statistics, probability, discrete/continuous distributions, random variables, sampling distributions, t-tests, regression, correlation, categorical models, repeated measures, one- and two-way ANOVA, covariance models.

STAT 205. Introductory Probability and Statistical Inference. 3 Hr. PR: MATH 150 or equivalent. Probability, random variables, expectation, random sampling, descriptive statistics, sampling distributions, estimation, hypothesis testing, linear regression, and nonparametric statistics.

STAT 211. Elementary Statistical Inference. 3 Hr. PR: MATH 124 or MATH 126. (Not open to students who have completed STAT 215.) Basic concepts of descriptive and inferential statistics: descriptive measures, random variables, sampling distributions, estimation, tests of hypotheses, chi-square tests, regression and correlation. (Equivalent to ECON 225.)


STAT 217. Industrial Statistics. 3 Hr. PR: STAT 215 or equivalent. Statistical methods for solving industrial problems including statistical quality and process control, reliability modeling, sequential analysis, and time series analysis. Methodology for these problems will utilize a statistical software program.

STAT 222. Numerical and Symbolic Methods in Mathematics and Statistics. 3 Hr. PR: MATH 156. Data manipulation, data visualization in two and three dimensions including animation, and scientific programming using a high-level language, symbolic manipulators, and other packages. Applications to problems in mathematics and statistics. (Equivalent to MATH 222.)

STAT 293 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

SOCA 298. Honors: Elementary Statistical Inference. 1 Hr. CoReq: STAT 211. Advanced counting techniques, Bayes Theorem, applications of specific discrete and continuous probability distributions, additional statistical inferential methods, introduction to nonparametric statistics.

STAT 312. Intermediate Statistical Methods. 3 Hr. PR: STAT 211 or STAT 215 or equivalent. Extension of basic concepts of statistical inference: Estimation and hypothesis testing for more than two populations, multiple regression and correlation, curvilinear regression, analysis of variance and covariance.

STAT 313. Introductory Design and Analysis. 3 Hr. PR: STAT 312. Introduction to the linear model, the complete and fractional factorial experiment, and the completely random, randomized complete block, Latin square, and split-plot experimental designs.


STAT 331. Sampling Methods. I. 3 Hr. PR: STAT 211 or 215 or equivalent. Methods of sampling from finite populations, choice of sampling unit and sample survey design. Estimation of confidence limits and optimum sample size. Single and multi-stage sampling procedures.
STAT 421. Statistical Analysis System (SAS). 3 Hr. PR: (STAT 211 or STAT 215 or equivalent) and (CS 110 or equivalent). Introduction to the use of the Statistical Analysis System (SAS), a statistical computer program. Students will perform statistical data analysis, data file modifications, and statistical report writing.

STAT 445. Data Analysis. 3 Hr. PR: STAT 312 or equivalent. Computer analyses of simulated or real unbalanced data using a matrix approach to linear models. The techniques will include least squares analysis of variance and covariance, multiple and polynomial regression, and multiple discrimination.


STAT 482. Statistics Practicum. 1 Hr. PR: STAT 313. A capstone experience core course. Students are expected to: Research and design (optionally) a study, do independent statistical analyses of a data set, and present the results in both verbal and written forms.

STAT 484. Research Presentations: Capstone. 1 Hr. PR: STAT 482 or STAT 491. Make a verbal presentation to the class based on the statistical analyses done on an applied problem from STAT 482 or STAT 491.

STAT 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

STAT 491. Professional Field Experience. 1-15 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

STAT 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

STAT 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

STAT 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

STAT 496. Senior Thesis. 1-3 Hr. PR: Consent.

STAT 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Television Journalism (TVJ)

TVJ 215. Electronic Media & Society. 3 Hr. (Open to all University students.) Survey of the electronic media industry with an emphasis on the role of broadcast journalism in society. Covers historical development, regulation, industry standards, ethics, international media, and contemporary issues.

TVJ 293 A-Z. Special Topics. 1-3 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

TVJ 319. Broadcast News Writing. 3 Hr. PR: Admission to School of Journalism and JRL 215. Gathering, researching, and evaluating facts; reporting and writing news for radio and television; editorial decision making and responsibility; broadcast news ethics. (Lab fees will be assessed for this course.)
TVJ 385. Radio and Audio Reporting. 3 Hr. PR: TVJ 319. Writing and reporting news for radio and other digital audio sources. (Lec./lab.) (Lab fees assessed for this course.)

TVJ 386. Beginning Television Reporting. 3 Hr. PR: TVJ 319. Reporting, writing and producing stories for television news using digital video technology; Emphasis on visual storytelling, editorial decision making, and ethical and legal considerations. (Lab fees will be assessed for this course.)

TVJ 486. Broadcast Bureau Reporting. 3 Hr. PR: TVJ 386 and TVJ 319. Students work with KDKA producers and news directors to develop, report and shoot stories to air on KDKA-TV. The instructor will hold weekly conferences to further develop writing and reporting skills learned in previous courses.

TVJ 487. Advanced TV Reporting & Producing. 3 Hr. PR: TVJ 386. Reporting, writing and producing television news stories using advanced production techniques; producing stories for cable or broadcast television. Work may be aired on local or regional broadcast or cable stations. (Lab fees will be assessed for this course.)

TVJ 488. TV Editing. 1 Hr. PR: BN 386. This course is designed to teach broadcast journalism students advanced digital video and audio techniques for news productions, including field reports, newscasts, and studio-based programs.

TVJ 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant. (This course will be graded pass/fail.)

TVJ 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development. (Course will be graded pass/fail.)

TVJ 493 A-Z. Special Topics. 1-6 Hr. A study of contemporary topics selected from recent developments in the field.

TVJ 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

TV 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

TVJ 496. Senior Thesis. 1-3 Hr. PR: Consent.

TVJ 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study, or research.

Theatre (THET)

THET 101. Introduction to the Theatre. 3 Hr. (Open to all students.) A survey of the nature and function, the arts and crafts, and major phases in the historical development of the theatre.

THET 102. Acting. 3 Hr. (Open to all students.) Basic theories and concepts in stage acting for the beginning student. Emphasis on the physical, intellectual, emotional, and personality languages of acting.

THET 103. Stagecraft. 3 Hr. Fundamentals of scenery construction and technical theatre through formal lecture. Requirements include assignments on running crews for Division productions.

THET 104. Stagecraft Lab. 1 Hr. PR: or CONC: THET 103. Fundamentals of scenery construction and technical theatre through practical crew experience. Requirements include assignments on scenic construction for Division productions. (May be repeated for a maximum of 3 credits.)

THET 105. Costuming. 3 Hr. Introduction to stage costuming through lecture and demonstration. Emphasis on the application of basic sewing skills and processes used in costume construction.
THET 106. Costuming Lab. 1 Hr. Introduction to stage costuming through practical experience. Emphasis on the application of basic sewing skills and processes used in costume construction for Division productions. May be repeated for a maximum of 3 credits.

THET 112. Orientation to the Theatre. 3 Hr. PR: Theatre majors or minors only. An examination of basic theatre concepts and the roles of practitioners in the production process and an analysis of scripts in light of major theoretical and critical movements.

THET 113. Stage Management Principles. 1 Hr. PR: THET 112. An examination of the fundamental principles that govern the contemporary stage manager.

THET 143. Freshman Directing Workshop. 1 Hr. Exploration of the collaborative relationship between actor and director from the actor’s point of view.

THET 144. Fundamentals of Acting. 3 Hr. PR: Theatre major. An introduction to the fundamental techniques of acting with a focus on ensemble building, action, imagination, concentration of attention, and objectives. Course projects include structured improvisations and exercises leading to beginning scene study in Realism. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

THET 170. World Theatre and Drama. 3 Hr. Introduction to theatre and drama traditions in ten world cultures. An intercultural study of theaters, performance and staging practices, the cultural milieu, and dramatic literature.

THET 200. Sophomore Practicum. 1 Hr. Assigned theatre projects as an introduction to the elements of theatrical production. (May be repeated for 4 credit hours.)

THET 213. Stage Management Practicum. 2 Hr. PR or CONC: THET 112 and THET 113. Practical production experience as stage manager. (May be repeated for a max of 4 hrs.)

THET 219. Intermediate Costume Construction. 3 Hr. PR: THET 111. Study and practical application of costume construction techniques and introduction to pattern making with an emphasis on their applications through extensive hands-on experience with construction projects for division productions.

THET 220. Fundamentals of Lighting. 3 Hr. PR: THET 110 and THET 111. Fundamentals of stage lighting through formal lecture and practical experience. Laboratory requirements include assignments on the lighting/electrics crews for division productions.

THET 221. Theatre Makeup. 3 Hr. Lecture-laboratory course in art of stage makeup. Practical makeup for the University theatre productions.

THET 222. Sceno-Graphic Techniques. 3 Hr. PR: THET 110. Techniques in drafting in accordance with current graphic standards for stage design and technology. Introduction and refinement of technique and graphic style through projects and exercises.

THET 225. Introduction to Stage Design 1. 3 Hr. PR: THET 110 and THET 111. Study elements/principles of two/three-dimensional design and application to scenery, lighting and costume design. Emphasis on creative analysis and communication using techniques in drawing, painting, and model making.

THET 226. Introduction to Stage Design 2. 3 Hr. PR: THET 225. Experience applying elements/principles of two/three-dimensional design to study of scenery, lighting, and costume design. Studio course focusing on color theory, painting and finishing techniques in model making.

THET 230. Text Analysis. 3 Hr. For the student theatre practitioner in acting, design, directing, and stage management. Explorations include: anchoring techniques, concept of “pressures,” and the parameters of a dramatic event.
THET 231. Advanced Text Analysis. 3 Hr. PR: THET 230. For the student practitioner in the studio acting program only exploring, in more depth, and with new challenging texts, analysis techniques of THET 230 but with total focus on performing the text.

THET 240. Fundamental Vocal Techniques. 2 Hr. PR: Majors only. Developing the expressive voice. Understanding the anatomy and physiology of the voice, breath and resonance. Release of physical blocks.


THET 244. Intermediate Acting. 3 Hr. PR: THET 144. Continued exploration of acting techniques including exercise work in objectives, beats, actions, personalization, environment improvisation, monologue, and scene study work.

THET 245. Intermediate Acting. 3 Hr. PR: THET 244. Continuation of THET 244.

THET 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

THET 300. Practicum. 1-3 Hr. Participation in scheduled theatre productions. (May be repeated up to a maximum of 6 hr.)

THET 302. Directing. 3 Hr. Fundamental theory and practice of directing for live theatre with emphasis on script analysis, director-actor communication, groundplan, and composition.

THET 310. Stagecraft 2. 3 Hr. PR: THET 111 and THET 222. Detailed study of scenery construction and technical theatre Emphasis on research projects, advanced scenographics, and problem-solving techniques. Practical experience through work on productions.

THET 314. Theatre Production and Design. 3 Hr. Production and design fundamentals for the performing arts including conceptualization, fabrication and maintenance of scenery, costumes, lighting and sound. Includes introduction to stage design and its translation into realized production.

THET 315. Portfolio Development. 3 Hr. A 3 hour lab course on techniques of portfolio development focusing on both digital and traditional portfolio formats and related general techniques of graphic design and image preparation.

THET 321. Stage Properties. 3 Hr. PR: THET 110 and THET 111. Techniques and methods for designing and fabricating stage properties for theatrical production. Practical experience in the construction of properties as class projects and/or for productions.

THET 322. Scene Design. 3 Hr. PR: THET 222 and THET 225. Introduction to the fundamentals of scenic design including conceptualization, development, drafting, rendering, model building and techniques of design presentation.

THET 323. Advanced Scene Design. 3 Hr. PR: THET 322. Advanced study of scenic design with an emphasis on conceptualization, rendering, model building, and alternative forms of design presentation for the performing arts. (May be repeated for a max. of 9 credit hours.)

THET 324. Costume Design 1. 3 Hr. PR: THET 226. Study of basic design elements as applied to costume design. Script analysis leading to conceptualization and communication through visual language. Experience in practical organization skills, paperwork and budgeting.
THET 325. Lighting Design. 3 Hr. PR: THET 220. Experience in the design of stage lighting including conceptualization, drafting and rendering techniques related to the development and presentation of lighting design. (May be repeated for a max. 9 credit hours.)

THET 326. Advanced Costume Design. 3 Hr. PR: THET 324. Experience applying the basic principles of costume design to text, movement text, opera, dance, and puppetry. Emphasis on rendering techniques, presentation, composition, and fabric selections. (May be repeated for a max of 6 credit hours.)

THET 327. History of Costume & Decor 1. 3 Hr. PR: THET 225 and THET 226. A historical survey of clothing, artistic style and decoration from ancient Egypt to 1750. Emphasis on how stage designers employ style in the design of costumes, scenery, and properties. (Field trip required.)

THET 328. History of Costume & Decor 2. 3 Hr. PR: THET 225 and THET 226. A historical survey of clothing, artistic style, and decoration from 1750 to the present. Emphasis on how stage designers employ style in the design of costumes, scenery and properties. (Field trip required.)

THET 329. CAD for the Stage. 3 Hr. PR: THET 222. Study of the graphic applications of computer assisted design and drafting for stage design through project work and exercises in a studio format.

THET 330. Rendering Techniques. 3 Hr. This course allows the students to explore and develop different techniques of rendering scenic, costume, and lighting designs. Students will work in watercolor, acrylic, marker, pencil and other media.


THET 342. Stage Movement 1. 2 Hr. PR: THET 242 and consent. Continuation of THET 242. Workshop in movement skills related to the actor’s craft, including the analysis, description and execution of a broad range of movement qualities.

THET 343. Stage Movement 2. 1 Hr. PR: THET 342 or consent. Continuation of THET 342 through work on directed projects; special topics in issues related to physicality in performance.

THET 344. Acting Studio. 3 Hr. PR: THET 244 or consent. The purpose of studio is to reexamine basic acting principles and introduce advanced techniques in characterization, personalization, and given circumstances through exercises, monologue work, and intensive scene study coordinated with rehearsal and performance in THET 345.


THET 346. Actor’s Craft. 3 Hr. PR: THET 244. Gives the general theatre student a studio style acting class experience, emphasizing exercises and monologue and scene work in a variety of styles.

THET 347. Physical Acting. 2 Hr. A practical survey of physical approaches to acting and their relevance to a contemporary actor’s craft.

THET 348. Studio Scene Study 1. 1 Hr. PR: THET 244. The presentation of scenes chosen from modern and contemporary theatre, before a panel of acting, voice, and movement faculty for critique.
THET 350. Theatre Dance 1. 2 Hr.

THET 351. Theatre Dance 2. 2 Hr.

THET 352. Musical Theatre Repertory. 2 Hr.

THET 361. Classic Theatre to 1650. 3 Hr. PR: THET 112. A survey of theatre history, with emphasis on the development of performance conditions, from classical antiquity through the middle of the seventeenth century.

THET 362. Euro-American Theatre: 1650-1850. 3 Hr. PR: THET 112. A survey of theatre history, with emphasis on the development of performance conditions, from the middle of the seventeenth century through the rise of realism in the 1840’s.

THET 363. Modern and Contemporary Theatre. 3 Hr. PR: THET 112. A survey of theatre history, with emphasis on the development or performance conditions, from the late nineteenth century to the present.

THET 370. Production Dramaturgy. 3 Hr. PR: THET 112. A process-oriented course dealing with the demands and possibilities for dramaturgs in the contemporary theatre. Casebooks and work with other sources contribute to the skill set for dramaturges assisting productions.

THET 400. Theatre Performance and Rehearsal Laboratory. 1 Hr. PR: Theatre major and consent. Participation in assigned theatre projects. Appreciation of creativity and performance techniques in theatre. (May be repeated for max. 9 credit hours.) Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.

THET 401. Capstone Experience. 3 Hr. This course provides a culminating senior project for students in the areas of BFA acting, design, puppetry, and children’s theatre, as well as for the BA in theatre.

THET 402. Repertory Theatre. 1-6 Hr. PR: Consent. Rehearsal and performance techniques for producing plays in rotating repertory. Emphasis is on the creation of synthesized company of performers, designers, and technicians. (May be repeated for maximum of 12 credit hours.)

THET 403. Advanced Directing. 3 Hr. PR: THET 302 and THET 427 or consent. Emphasis on the work of the director as an integrating artist. High level of proficiency in the direction of a one-act play is required of all students enrolled.

THET 404. Playwriting. 3 Hr. PR: Consent. Development of basic playwriting techniques. Specific assignments explore characterization, dramatic event, dialogue, tension, compression. Emphasis on the student finding one’s own voice, style, and courage to dramatize one’s view of the world.

THET 405. Advanced Playwriting. 3 Hr. PR: THET 404. Further exploration of dramatic technique, with emphasis on orchestrating the longer play. Also touches on script analysis of known dramatic texts and on practical problems of a playwriting career.

THET 421. Lighting Design Techniques. 3 Hr. PR: THET 325 and THET 200. An advanced study of lighting design with emphasis on design development, cueing, and design refinement during technical rehearsals.

THET 423. Costume Crafts. 3 Hr. PR: THET 111 and THET 425. Identification and application of the materials and techniques used in the fabrication of costume crafts. Emphasis on research and practical experience through hands-on project work.

THET 424. Advanced Technical Production. 3 Hr. PR: THET 110. Study of advanced technical procedures including rigging, welding, new materials and special effects. Emphasis on the practices and development of skills through projects.
THET 425. Advanced Costume Construction. 3 Hr. PR: THET 111. Study and practical application of costume construction techniques through development of flat-pattern drafting skills. Emphasis on use of research to interpret the costume rendering. Extensive hands-on experience with construction projects for Division productions. (May be repeated for a maximum of 6 credit hours.)

THET 427. Lighting Techniques. 3 Hr. PR: THET 220. An advanced study of the tools and technology available to lighting designers with an emphasis on the latest technological developments in moving lights and control.

THET 428. Scene Painting. 3 Hr. PR: THET 322 and THET 622 or consent. An introduction to the basic tools, materials, and techniques of scene painting for the stage.

THET 429. Sound Seminar. 3 Hr. PR: THET 110. An exploration of sound design for the theatre with practical emphasis on producing and recording sound effects using ProTools and other computer software.

THET 433. Model Building. 3 Hr. PR: THET 225 and THET 226. Design and construction methods of the scenographic model are examined. Mastery is attained through the construction of three or four projects in the design studio.

THET 440. Advanced Vocal Techniques. 2 Hr. PR: Consent. Meeting the demands of heightened texts requiring greater emotional and physical commitments. Tutorials.

THET 441. Advanced Vocal Techniques 2. 2 Hr. PR: THET 440 and consent. Integrating vocal techniques in the context of rehearsal and performance in plays of heightened text and issues of period and style.

THET 442. Advanced Stage Movement 1. 2 Hr. PR: THET 343 or consent. Practical application of issues of performance theory and composition. Studies in the relationship of text and movement in performance, and in the development of original performance material that uses movement as a point of departure.

THET 443. Advanced Stage Movement 2. 1 Hr. PR: THET 442. Continuation of THET 442 through work directed projects; special topics in issues related to physicality in performance.

THET 444. Advanced Acting Studio. 3 Hr. PR: Consent. Continuation of advanced exercises focusing on the works of Shakespeare. Includes verse scansion, text analysis, dynamics, scene study, exercise work and characterization.

THET 445. Advanced Acting Studio. 3 Hr. PR: Consent. Continuation of THET 444. Rehearsal and presentation of style project, (Shakespeare, Comedy of Manners, Shaw, etc.). Also includes seminars in special topics in performance.

THET 447. Studio Scene Study 2. 1 Hr. PR: THET 444. The presentation of scenes chosen from Shakespeare and other plays of heightened text, before a panel of acting, voice and movement faculty for critique.

THET 461. Creative Dramatics. 3 Hr. PR: THET 144. Study and practice of creative drama for theatre education or classroom/curriculum use. Instructional methods for drama techniques and practical activities are stressed.

THET 462. Puppetry. 3 Hr. Comprehensive study of puppetry as a theatrical form. Construction, manipulation, and production methods for adult and youth audiences are highlighted.

THET 463. Puppetry for Educators. 3 Hr. PR: Consent. Study of the use of puppetry in the classroom and other educational settings; construction, manipulation, scripting, story-telling ideas to use with children. Curricular issues will be covered.

THET 464. Children's Theatre. 3 Hr. PR: Consent. Study of theatre for child audiences. Writing, acting, designing, directing and producing plays with detailed analysis of scripts and children as audience members. (Field trip required.)
THET 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

THET 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

THET 492 A-Z. Directed Study. 1-12 Hr. PR: Consent. (May be repeated for a maximum of 12 credit hours.) Studies in theatre history, performance, stage design and technology, and theatre crafts. Subject matter and number of sections varies from semester to semester.

THET 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

THET 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

THET 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

THET 496. Senior Thesis. 1-3 Hr. PR: Consent.


THET 498 A-Z. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

United States Air Force (USAF)

USAF 100. Leadership Laboratory. 1 Hr. Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force junior officers and complement the AFROTC academic program. ‘Leadership Laboratory’ enrollment is restricted to AFROTC cadets.


USAF 251. Air and Space Power 1. 1 Hr. CoReq: USAF 100. Student of USAF heritage and leaders with respect to the evolution and employment of air and space power. Analysis of operational examples will emphasize development and application of competencies, functions, and doctrine.

USAF 252. Air and Space Power 2. 1 Hr. Continuation of USAF 251.

USAF 293. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

USAF 371. Leadership Studies 1. 3 Hr. CoReq: USAF 100. Student of leadership, management, professional knowledge, leadership ethics, and communication skills required of an air force junior officer. Case studies are used as a means of exercising practical application of concepts.


USAF 481. National Security/Active Duty 1. 3 Hr. PR: USAF 100-level classes and USAF 200-level classes or special permission form Aerospace Studies Department. Examines the national security process, regional studies, leadership ethics, and USAF doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, active duty preparation, and issues affecting military professionalism.
USAF 482. National Security/Active Duty 2. 3 Hr. PR: USAF 100-level courses and USAF 200-level courses or special permission from Aerospace Studies Department. USAF 131, 132, 251, 252, 371, 372, 481, and 482 may be taken out of sequence if unusual circumstances warrant and the student received approval from the professor of Aerospace Studies.

USAF 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

USAF 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

USAF 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

USAF 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

USAF 496. Senior Thesis. 1-3 Hr. PR: Consent.

USAF 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

University (UNIV)
UNIV 101. Orientation: First-Year Experience. 1 Hr. Support the first-year student to make a successful transition from high school to college; develop a better understanding of the learning process including critical thinking; and acquire basic academic and personal “survival skills.”

UNIV 194 A-Z. Freshman Seminar. 1-3 Hr. Presentation and discussion of topics of mutual concern to students and faculty.

Veterinary Science (VETS)
VETS 302. Animal Pathology. 3 Hr. PR: ANPH 301 or consent. Diseases of farm animals with special emphasis on their cause, prevention, and control.

VETS 401. Veterinary Anatomy. 3 Hr. PR: Junior standing or consent. Functional study of domestic and farm animal anatomy.

VETS 405. Parasitology. 3 Hr. PR: (BIOL 101 and BIOL 102 and BIOL 103 and BIOL 104) or (BIOL 115 and BIOL 116). Common parasites of farm animals, their life cycles, effects on the host, diagnosis, control, and public health importance. (3 hr. lec., 1 hr. lab.)

VETS 411. Principles of Laboratory Animal Science. 3 Hr. PR: Consent for undergraduates. The production, genetics, physiology, nutrition, disease and regulations of laboratory animals used in research and teaching. This course meets minimal requirements for laboratory animal technical certification programs of the American Association of Laboratory Animal Science (AALAS).

VETS 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

VETS 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

VETS 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

VETS 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.
VETS 496. Senior Thesis. 1-3 Hr. PR: Consent.

VETS 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.

Visual Journalism (VISJ)
VISJ 210. Visual Journalism and New Media. 3 Hr. PR: JRL 101 or consent. Theory and principles of visual communication and image culture. Visual literacy, critical thinking, and ethics by visual journalists in digital media. Software applications for photography, graphic design, video and web publishing.

VISJ 220. Introduction to Photojournalism. 3 Hr. Basic techniques of journalistic photography, digital imaging and editing. Students must have access to a film or digital camera. A lab fee will be assessed to non-majors.

VISJ 320. Advanced Photojournalism. 3 Hr. PR: VISJ 220 or consent. Introduction to advanced techniques and concepts in visual journalism for print and electronic media. Color, lighting, studio and digital camera techniques.

VISJ 321. Media Design. 3 Hr. PR: JRL 318. An introduction to the design of newspapers, magazines and Internet publications.

VISJ 431. Multimedia Reporting. 3 Hr. PR: VISJ 220 or consent. Reporting/production for online media. Ethics and role of visual journalist. Software basics and use of audio video and still photography in online reporting.

VISJ 440. Visual Storytelling For Media. 3 Hr. PR: VISJ 220 or Consent. Development of advanced practical and analytical skills in digital photojournalism, photo editing and cross-media design. Analysis of images, visual narratives, new media storytelling, digital imaging, media asset management, and ethical and social issues.

Wildlife and Fisheries Management (WMAN)
WMAN 100. The Tradition of Hunting. 3 Hr. Introduction to the cultural and spiritual role of hunting; use of hunting as a wildlife management tool; and its economic value in wildlife conservation programs. Includes discussions on gun control, anti-hunting, and animal rights.

WMAN 150. Principles of Conservation Ecology. 3 Hr. Overview of the science of conservation ecology with emphasis on the concepts of biological diversity, extension, habitat loss and fragmentation, establishment of protected areas, endangered species, and establishment and preservation of new populations.

WMAN 160. Ecology of Invading Species. 3 Hr. Survey of invasive/exotic plant and animal species and their affects on native ecosystems, including the breakdown of natural barriers to invasion by the increase of world commerce which unites widely dispersed resources.

WMAN 175. Introduction to Wildlife and Fisheries. 3 Hr. Introduction to the study and management of wildlife and fisheries resources of the Appalachians. Includes an overview of resource management history, career opportunities, natural resources policy, and the basic life of birds, mammals, and fishes.

WMAN 200. Restoration Ecology. 3 Hr. Principles and practice of restoring natural ecosystem function, structure, and integrity.

WMAN 221. Interpretive Bird Study. 3 Hr. PR: BIOL 117 or consent. Intensive field studies in recognition through sight, song, and behavioral patterns of birds, and their ecology in the Central Appalachians. (2 hr. lec., 2 hr. lab.)
WMAN 224. Vertebrate Natural History. 3 Hr. PR: BIOL 117 or consent. Relationships of fish, amphibians, and reptiles to the forest, with emphasis on the ecology, taxonomy, evolution, natural history, and field identification of these groups. Laboratory emphasizes natural history and anatomy of fish, amphibia, and reptiles.

WMAN 234. Forest Wildlife Management. 3 Hr. Principles and problems of forest wildlife management with emphasis on habitat management at the stand and landscape levels. Habitat manipulations through use of appropriate silvicultural practices, wildlife enhancement techniques, and regulations are evaluated.

WMAN 250. Big Game Ecology and Management. 3 Hr. Intensive field trip and online material emphasizing white tailed deer and black bear ecology with additional material on western game species and exotics.

WMAN 260. Waterfowl Ecology. 3 Hr. Intensive field trip and online material emphasizing the ecology of waterfowl and management of wetland habitats.

WMAN 293A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses

WMAN 300. Wildlife and Fisheries Techniques. 3 Hr. PR: WMAN 150 and WMAN 175 and WMAN 224 and WMAN 234 and FOR 205. Field and laboratory techniques for the scientific management and evaluation of wildlife and fisheries resources.

WMAN 313. Wildlife Ecosystem Ecology. 4 Hr. PR: BIOL 115 and BIOL 117. Basic principles of ecosystem, community, and population ecology. Emphasizing structure, function, succession, physiological ecology, population growth and regulation, and systems modeling.

WMAN 314. Marine Ecology. 3 Hr. Study of key coastal species and their interactions. Self-paced lectures and exercises culminating with one-week capstone trip to Atlantic coast for hands-on study of invertebrates, coastal fishes and birds, and marine ecology.

WMAN 421. Renewable Resources Policy & Governance. 3 Hr. PR: Consent. Forest, wildlife, fisheries, and recreation resource policies of the world, with an emphasis on the U.S. important federal and state laws; governance of public and private lands and renewable natural resources. (Crosslisted with FOR 421.)

WMAN 425. Mammalogy. 3 Hr. PR: BIOL 117 or consent. Mammals and their biological properties with emphasis on life history, ecology, and distribution of regional forms.

WMAN 426. Ornithology. 3 Hr. PR: BIOL 115 and BIOL 117 or consent. Identification, distribution, and ecology of birds (particularly of forest lands.) (2 hr. lec., 1 hr. lab.)

WMAN 431. Wildlife Habitat Techniques. 3 Hr. PR: Wildlife major or consent; WMAN 313 and FOR 205. Field and laboratory techniques necessary in management and study of wildlife; collection of field data, mapping, censusing, habitat evaluation, wetland delineation, use of literature and scientific writing.

WMAN 445. Introduction to Fisheries Management. 3 Hr. PR: WMAN 224 or consent. Basic principles of management of fishery resources, with an emphasis on freshwater stocks. Includes current environmental and management issues, concepts, and methods used in management of commercial and recreational fisheries.

WMAN 446. Limnology. 4 Hr. PR: (BIOL 101 and BIOL 103) or WMAN 224 or consent. Physical, chemical, and biological characteristics of inland waters with emphasis on the structure and function of stream ecosystems.

WMAN 449. Stream Ecosystem Assessment. 3 Hr. Self-paced lectures and exercises culminating in a one-week trip to the mountains of West Virginia for hands-on study of stream fishes, invertebrates, water and habitat quality, geomorphology, and ecology.
WMAN 450. Advanced Wildlife and Fisheries Management. 4 Hr. PR: WMAN 300. Principles and practices of wildlife and fisheries habitat and species management.

WMAN 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

WMAN 491. Professional Field Experience. 1-18 Hr. PR: Consent (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

WMAN 492 A-Z. Directed Study. 1-6 Hr. Directed study, reading and/or research.

WMAN 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

WMAN 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

WMAN 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

WMAN 496. Senior Thesis. 1-3 Hr. PR: Consent.

WMAN 498. Honors. 1-3 Hr. PR: Students in the Honors Program and consent by the honors director. Independent reading, study or research.

Women’s Studies (WMST)
WMST 150. Women in Movies. 3 Hr. Through viewing popular Hollywood films, we will analyze femininity across the life span. Critical thinking and cultural analysis will be practiced as we study heroines, working girls, motherhood, brides, cheerleaders, and old women on screen.

WMST 170. Introduction to Women’s Studies. 3 Hr. (May be credited to University LSP Cluster A or B.) The major contexts in which woman’s identity has been and is defined and of the relationships between these definitions and the roles and history of women (and men) in society and culture.

WMST 215. African Women Writers. 3 Hr. Selected works by African women writers. (Also listed as FLIT 215.)

WMST 220. Medieval Women Mystics. 3 Hr. History, writings, and impact of mystics, including but not limited to, Hildegard of Bingen, Saint Clare of Assisi, Julian of Norwich, Saint Catherine of Siena, Saint Catherine of Genoa, and Saint Teresa of Avila.

WMST 225. Women in Appalachia. 3 Hr. Use variety of sources to explore how race, class, ethnicity, sex and gender impact lives of diverse Appalachian women, including portrayal of women, stereotypes, impact of stereotypes, and how women construct their own identities.

WMST 242. Women’s Health and Fitness. 3 Hr. In this applied class, students will be actively learning about college-age women’s health and participating in fitness activities, as well as creating a personal plan to improve one’s health.

WMST 245. Women in International Development. 3 Hr. To examine the cultural diversities in the definition of women’s roles and status, to investigate women’s access to education, health, income, credit and technology, and to study women’s contributions in third world development. (Also listed as TE 430.)

WMST 250. Women in Science. 3 Hr. History of women in science and methods of gender analysis applied to issues facing women in science in the United States.

WMST 281. American Indian Women Writers. 3 Hr. Studies tribal oral tradition and its continuing existence in prose, myths, poetry, and stories. The works of contemporary Native American women writers will be studied and discussed as an outgrowth of this tradition.
WMST 293 A-Z. Special Topics. 1-6 Hr. Investigation of topics not covered in regularly scheduled courses.

WMST 310. The Aging Woman. 3 Hr. Does gender make a difference in the aging process? This course examines the female experience of growing older. Lecture, discussion, review of literature, with focus on selected works of literature and the creative arts.

WMST 320. Women, Religion & Spirituality. 3 Hr. Explores the exclusion of women from leadership in institutions of religion, the nature of the development of theology and spirituality that has disavowed the contributions of women, diversity of religious experience, writings of feminist theologians.

WMST 330. Feminist Theory. 3 Hr. Explores current feminist theory through works by diverse scholars, focusing on questions of essentialism, difference, sexuality, bodies, language, power, economic and ecological justice, intersections of race, class and gender, and global social justice struggles.

WMST 340. Gender and Violence. 3 Hr. Gender violence has implications for all members of society. This course will examine violence in the lives of women across the lifespan. Etiology, theories, effects, and prevention modalities will be evaluated.

WMST 393. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

WMST 448. Sexuality in American Culture. 3 Hr. Explores changes in sexuality in the United States from the seventeenth century to the present, examining social and cultural struggles and debates over the meaning of sexuality and sexual orientation in American society.

WMST 449. Women's Movements Since 1960. 3 Hr. Comparison of U.S. “Second wave” and “Third Wave” feminisms; validity of the concepts of “waves” of feminism; and impact of race, class, sexual orientation, on perspectives on women’s status.

WMST 484. Seminar: Capstone. 3 Hr. PR: Consent. Required of all women’s studies students. Students will broaden their theoretical definitions of feminism and women’s studies to include non-western models and solutions, pairing this study with a local service project informed by global activists.

WMST 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

WMST 491. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

WMST 493 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

WMST 494 A-Z. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

WMST 495. Independent Study. 1-3 Hr. PR: Consent. Faculty supervised study of topics not available through regular course offerings.

WMST 496. Senior Thesis. 1-3 HR. PR: Consent.

WMST 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
Wood Science (WDSC)

WDSC 100. Forest Resources in US History. 3 Hr. Examines human use of forest resources in America from pre-Colombian times to present. Exploration of factors that impact the use of wood products.

WDSC 223. Wood Anatomy and Structure. 3 Hr. PR: FOR 205. Anatomy and structure of commercial wood species of the U.S. survey of basic properties of wood.

WDSC 232. Wood Grading and Procurement. 3 Hr. PR: Forestry major or consent. Conversion and grading of raw materials in log form to primary wood products. Introduction to timber procurement systems.

WDSC 293 A-Z. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

WDSC 320. Sustainable Construction. 3 Hr. Introduction to common building practices used in residential construction with emphasis on sustainable, “green” construction.

WDSC 330. Wood Machining. 3 Hr. PR: WDSC 223. Introduction to basic concepts of wood machining with emphasis on production equipment and furniture manufacturing. Special topics of wood joining techniques and methods. Analysis of operational safety, health hazards and accident prevention. (Fall of even years.)

WDSC 337. Wood Adhesion and Finishing. 3 Hr. PR: WDSC 223. Fundamentals of the bonding and finishing of wood including preparation, processing, and evaluation of adhesive and finishing systems.

WDSC 340. Physical Properties of Wood. 3 Hr. PR: WDSC 223. Specific gravity and density of wood; relationships between wood and liquids and applications in wood seasoning; thermal electrical and acoustical properties.

WDSC 341. Wood Mechanics. 3 Hr. PR: WDSC 223, and MATH 155, and PHYS 101. Introduction to static properties of selections, elementary mechanics of deformable bodies, axial loading, column and beam analysis, and design considerations. (2 hr. lec., 1 hr. lab.)

WDSC 351. Forest Products Protection. 3 Hr. PR: WDSC 223. Biological organisms responsible for deterioration of wood products, their control by preservative methods, and study of fire retarding methods.

WDSC 362. Forest Product Decision-Making. 4 Hr. PR: Junior standing in forestry and MATH 155 and STAT 211. Use of decision making tools and techniques by forest products industry professionals, including examples of control chart techniques and acceptance sampling techniques, simulation modeling, linear programming, forecasting and network analysis. (4 hr. lec.)

WDSC 400. Forest Measurement Field Practice. 3 Hr. PR: Wood industry major and FOR 205 and FMAN 322 and CE 200. Application of surveying and mensurational practices with emphasis on field problems.

WDSC 401. Wood Industries Field Trip. 1 Hr. A one-week trip to observe manufacturing methods and techniques of commercial wood industry plants. Plants visited include furniture, plywood, veneer, hardboard, pulp and paper, sawmilling, and preservation.

WDSC 413. Wood Chemistry. 3 Hr. PR: CHEM 231 or CHEM 233. Chemical composition of wood including cellulose, hemicellulose, and extractives. Chemical processing of wood.

WDSC 422. Harvesting Forest Products. 3 Hr. PR: MATH 128 or equivalent and WDSC 232. Analysis of ground-based and cable harvesting systems, including time and motion studies, productivity and cost analysis, occupational safety and health, environmental issues, equipment evaluation and selection, and trucking of forest products. (2 hr. lec., 1 hr. lab.)
WDSC 423. Forest Roads. 4 Hr. PR: CE 200 and CS 101. A study of techniques and methods of design, layout and construction details of various standards of forest roads.

WDSC 460. Plant Layout for Wood Industries. 3 Hr. PR: Senior standing. Relates knowledge of wood product processes to optimize production. Study of proper arrangement of machines, and work and storage areas.

WDSC 465. Wood-based Composite Materials. 3 Hr. PR: WDSC 232 and WDSC 340 and WDSC 341. Fundamentals of manufacturing wood-based composite materials, including processing, products, evaluation, and applications in the marketplace. (2 hr. lec., 1 hr. lab.)

WDSC 490. Teaching Practicum. 1-3 Hr. PR: Consent. Teaching practice as a tutor or assistant.

WDSC 491. Professional Field Experience. 1-18 Hr. PR: Consent. (May be repeated up to a maximum of 18 hours.) Prearranged experiential learning program, to be planned, supervised, and evaluated for credit by faculty and field supervisors. Involves temporary placement with public or private enterprise for professional competence development.

WDSC 493. Special Topics. 1-6 Hr. PR: Consent. Investigation of topics not covered in regularly scheduled courses.

WDSC 494. Seminar. 1-3 Hr. PR: Consent. Presentation and discussion of topics of mutual concern to students and faculty.

WDSC 495. Independent Study. 1-6 Hr. Faculty supervised study of topics not available through regular course offerings.

WDSC 496. Senior Thesis. 1-3 Hr. PR: Consent.

WDSC 498. Honors. 1-3 Hr. PR: Students in Honors Program and consent by the honors director. Independent reading, study or research.
West Virginia University Faculty

College of Business and Economics

Accounting

Professors
Barbara Apostolou, Ph.D. (LSU). CPA Auditing, Assurance Services, Fraud and forensic accounting.
David B. Pariser, Ph.D. (So. Ill.). CPA, CMA, CFE, CVA, CMAP, CGFM. Financial accounting, Advanced accounting, Mergers and acquisitions, Governmental and not-for-profit accounting, Managerial accounting.

Associate Professors
Bonnie W. Morris, Ph.D. (U. Pitt.). CPA. Accounting information systems, Intelligent systems, E-commerce, Information technology auditing.
Timothy A. Pearson, Ph.D. (U. Wisc.). CPA. Fraud and forensic accounting, Data Analytics and IT Auditing, Financial accounting, Managerial cost accounting, Information technology.

Assistant Professors

Teaching Instructors

Emeriti

Economics

Professors
Ronald J. Balvers, Ph.D. (U. Pitt.). Financial economics, Macroeconomic theory.
Russell S. Sebel, Ph.D. (Fla. St.). Public economics, Public choice.
Tom S. Witt, Ph.D. (Wash. U., St. Louis). Econometrics, Energy economics, Regional economics.

Associate Professors
Arabinda Basistha, Ph.D. (U. Wash.). Open economy macroeconomics, Monetary.
George Hammond, Ph.D. (Ind. U). Regional economics, Economic forecasting.
Donald Lacombe, Ph.D. (Fla. St.). Spatial econometrics, Industrial organization, Public finance and public choice.
Santiago Pinto, Ph.D. (U. Ill.). Public economics, Urban economics.

Assistant Professors
Eran Guse, Ph.D. (U. Ore.). Macroeconomics. Monetary and fiscal policy.
Feng Yao, Ph.D. (Ore. St. U.). Theoretical and applied econometrics, Industrial organization.
Andrew Young, Ph.D. (Emory). Macroeconomics.

Emeriti
Kern Kymn, Ph.D. (U. Chi.). Emeritus.
Patrick C. Mann, Ph.D. (Ind. U.). Emeritus.
Finance

Professors
Victor Chow, Ph.D. (U. Ala.). Corporate finance, Portfolio management.

Associate Professors
Ashok Abbott, Ph.D. (VPI & SU). Financial institutions, Corporate finance, Mergers and acquisitions.

Assistant Professors

Lecturer

Emeriti
Howard L. Brewer, Ph.D. (U. La.). Emeritus.
Frederick C. Scherr, Ph.D. (U. Pitt.). Emeritus.

Management and Industrial Relations

Professors
Neil Bucklew, Ph.D. (Wisc.). Economics, Industrial relations.
Jack A. Fuller, Ph.D. (U. Ark.). Heuristic decision making, Production planning and control, Systems analysis and design.

Associate Professors
Gerald Blakely, Ph.D. (U.N.C.). Human resources management, Organizational behavior.
David Dawley, Ph.D. (Fla. St. U.). Strategic management.
James Denton, Ph.D. (Kent St. U.). Decision science, Operations management.
Joyce Heames, Ph.D. (U. Miss.). Human resources management, Organizational behavior, Management.
Jeffrey Houghton, Ph.D. (Va. Tech.). Labor relations and human resources management.
Nancy McIntyre, Ph.D. (U. Rhode Island). Management, Organizational behavior.
Abhishek Srivastava, Ph.D. (U. Md.). Organizational behavior.

Assistant Professors
Timothy Munyon, Ph.D. (Fla. St. U.). Organizational behavior and human resources management.
Linda Sypolt, J.D. (WVU). Copyright/patents, Labor law.

Lecturers

Emeritus

Management Information Systems

Associate Professors
Virginia F. Kleist, Ph.D. (U. Pitt.). Management information systems.
Graham Peace, Ph.D. (U. Pitt.). Management information systems.
Nanda Surendra, Ph.D. (U. Cinn.). Management information systems.

Assistant Professor
Oran Alston, Ph.D. (U. of Pitt.). Management information systems.

Emeritus

Marketing

Professors
Cyril M. Logar, D.B.A. (Kent St. U.). Health-care marketing, Strategic marketing and planning, Marketing research.

Associate Professors

Assistant Professors
Annie Peng Cui, Ph.D. (Kent St. U.). Brand management, International marketing, Consumer behavior.
Michael Walsh, Ph.D. (U.Pitt). Integrated marketing communications, Services marketing, Public policy and marketing.
Emeritus

College of Creative Arts
Art and Design
Professors
Eve Faulkes, M.F.A. (Rhodes Island Sch. of Design). Graphic design.
Bernard Schultz, Ph.D. (U. of Pitt.). Dean, Art history, Italian Renaissance.
Janet Snyder, Ph.D. (Columbia U.). Art history, Medieval art and architecture, Native American.

Associate Professors
Victoria Fergus, Ph.D. (Purdue U.). Art education.
Kristina Olson, M.A. (Stony Brook U.). Art history, Art criticism, Modern and contemporary art.

Assistant Professors
Christopher Barr, M.F.A. (U. of Buffalo). Graphic design.


Music
Professors
Peter Amstutz, D.M.A. (Peabody Cons.). Coordinator of keyboard instruments, Piano.
John Beall, Ph.D. (Eastman Sch. of Music). Composition, Theory.
Janet Robbins, Ph.D. (Ohio St. U.). General music education.
Virginia Thompson, D.M.A. (U. of Ia.). Horn, Chamber music.

Associate Professors
Cynthia Anderson, M.M. (Manhattan Sch.). Oboe, Theory.
David Bess, Ph.D. (WVU). Instrumental music education.
Rose M. Crain, Emeritus.
John E. Croft, Ph.D. (Eastman Sch. of Music). Music theory.
Mary Ferer, Ph.D. (U. Ill). Music history.
John Hendricks, M.M. (WVU). Coordinator of conducting and large ensembles, Director of Bands, Conducting.
Andrew Kohn, Ph.D. (U. of Pitt.). Coordinator of theory and composition. Double bass, Theory.
Paul Scea, M.M. (U. of Ia.). Director and coordinator of jazz studies. Jazz, Chamber music, Theory.


Molly Weaver, Ph.D. (U. Mich.). Coordinator of music education, Instrumental music education.

**Assistant Professors**


**Lecturers**


Brian Pilnik, M.M. (WVU). Trombone, Chamber music.


**Theatre and Dance**

**Professors**


John C. Whitty, Ph.D. (U. La.). Emeritus.


**Associate Professors**


Jay Malarcher, Ph.D. (LSU). History/literature/criticism.


**Assistant Professors**


**Assistant Professors - Teaching**


**Clinical Assistant Professor**

Steven Neuschwander, M.F.A. (Yale). Technical direction, Production manager.

**Part-time Instructors**


Renee Nicholson, Dance.

Barbara Yuirick, B.S. (WVU). Dance.

**College of Engineering and Mineral Resources**

**Chemical Engineering**

**Professors**


Eugene V. Cilento, Ph.D. (U. Cinn.). Dean, Physiological transport phenomena, Biomedical engineering, Image analysis, Mathematical modeling.

Dady B. Dadyburjor, Ph.D. (U. Cinn.). Catalysis, Reaction engineering, Micellization, Fuels and chemicals from synthesis gas, Synthesis gas from coal.


Rakesh K. Gupta, Ph.D. (U. Del.). Dept. Chair, Berry Chair. Polymer processing, Rheology, Non-Newtonian fluid mechanics, Composite materials.


**Associate Professors**


**Assistant Professors**


Robin S. Hisam, Ph.D. (U. Del.). Biomacromolecules, Biopolymers, Drug delivery, Biomedical engineering, Materials science.


**Research Associate Professor**


**Research Assistant Professors**


**Visiting Professors and Adjunct**


**Civil and Environmental Engineering Professors**


Udaya B. Halabe, Ph.D., P.E. (MIT). Nondestructive evaluation and in-situ condition assessment of structures and materials, Elastic and radar wave propagation, Structural analysis and design, Structural dynamics and wind/earthquake resistant design.


**Associate Professors**

Karl Barth, Ph.D. (Purdue U.). Jack H. Samples Distinguished Professor of Structures, Steel structures, Bridge design and rehabilitation, Connections, Stability analysis, Experimental mechanics.


**Assistant Professors**

Leslie Clark Hopkins, Ph.D. (Va. Tech.) Hydrology, Nonpoint source pollution and storm drainage classification; Focus on watershed management, stream restoration, bank stability, and vegetation-fluid interactions.


John D. Quanta, Ph.D., P.E. (WVU). Geotechnical/geoenvironmental engineering, Soil testing and characterization, Soil and mine waste dewatering, Geosynthetics, Soil and groundwater remediation.

Jennifer L. Weidhaas, Ph.D. (U. Ca. at Davis). Biotechnology, bioenergy production, and remediation of emerging contaminants in soils and ground water.

**Research Associate Professor**


**Research Assistant Professors**


William Donald Ravenscroft, B.A. (U. Mi). Geographic information systems (GIS), field work, and water quality monitoring.


**Visiting Professors and Adjuncts**


Samir Shoukry, Ph.D. (Aston, UK). Structural dynamics. Finite element modeling, Pavement dynamics. Measurements and instrumentation.

**Computer Science and Electrical Engineering, Lane Department of Professors**


Muhammad A. Choudhry, Ph.D. (Purdue U.). Graduate coordinator for Cpe & EE. Power system control. DC transmission, Stability, Power electronics.


Franz X. Hiegeist, Ph.D. (U. Pitt.). Retired.


Afzel Noore, Ph.D. (WVU). VLSI design and testing. Software engineering. Information assurance and biometrics.


Matthew C Valenti


**Associate Professors**

Donald Adjeroh, Ph.D. (Chinese U. of Hong Kong). Multimedia information systems (images, video, and audio). Distributed multimedia systems.


V. Jagannathan, Ph.D. (Vanderbilt U.). Distributed intelligent systems, Internet and security technologies.
Xin Li
Timothy J. Menzies
Natalia A Schmid
K. Subramaniam, Ph.D. (U. Md.). Scheduling, Computational biology, Computational complexity, Polyhedral combinatorics.
Frances L. VanScoy, Ph.D. (U. Va.). Programming languages and compilers, Multisensory computing, High performance computing.

**Assistant Professors**
Xian-An Cao
Gianfranco Doretto
David W. Graham
Guodong Guo
Vinodkrisnan Kulathumani
Yuxin Liu
Timothy E. McGraw
Sarika K Solanki

**Research Associate Professors**
Alan V. Barnes

**Assistant Professors**
Jeremy M. Dawson

**Research Assistant Professors**
Thirimachos Bourlai
Sarika K Solanki

**Lecturers**
Kenneth A. Costello
Dale G. Dzielski
Jeffrey T. Edgell
Michael D. Eavonoff
Marcus S. Fisher
Camille A. Hayhurst
Lawrence Arthur Jacowitz
Rebecca Littleton, M.S.C.S. (WVU). Design and development of multimedia, instructional, web-based systems.
Cynthia D. Tanner, M.S.C.S. (WVU). Graduate coordinator for software engineering.
Scott A. Warden

**Industrial and Management Systems Engineering Professors**
B. Gopalakrishnan, Ph.D. (VPI). Manufacturing processes and systems engineering, Information systems, Artificial intelligence applications, Expert systems development, Mechatronics, Facilities planning and materials handling, Databases, Industrial energy/waste productivity management.

Majid Jaraiedi, Ph.D. (U. Mich.). Statistics, Quality control, Forecasting and transportation research.

Warren R. Myers, Ph.D. (WVU). Associate Dean for Academic Affairs. Industrial hygiene and safety, Worker exposure assessment and modeling, Aerosol filtration, Occupational respiratory protection design and testing.


Gary Winn, Ph.D. (Ohio St. U.). Construction safety, Transportation safety and program evaluation, Total quality management, Theory of paradigm shifts.

Associate Professors


Assistant Professors


Oipeng Zheng, Ph.D. (U. of Fla.). Operations research, Optimization, and Energy systems.

Assistant Professors and Adjuncts
Ali Afshari, Ph.D. (WVU) Manufacturing

Christopher Coffey, Ph.D. (WVU). Occupational safety and health, Assessment, Evaluation of respiratory protective equipment.

Ren Dong, Ph.D. Industrial hygiene, Exposure assessment.

Martin Harper, Ph.D. (London Sch. of Hygiene and Tropical Med.). Industrial hygiene, Exposure assessment.

James Harris, Ph.D. (WVU). Safety, Human factors.


Christopher Pan, Ph.D. Industrial hygiene, Exposure assessment.


Ziqing Zhuang, Ph.D. (WVU). Exposure assessment, Assessment and evaluation of respiratory protective equipment.

Mechanical and Aerospace Engineering Professors


Larry Banta, Ph.D. (Ga. Tech.). Automation, Controls, Energy management.


Ismail Celik, Ph.D. (U. Iowa). Fluids engineering, Fuel cell technology.


Bruce Kang, Ph.D. (U. Wash.). Experimental mechanics, Advanced materials.


Associate Professors


Gregory Thompson, Ph.D. (WVU). Thermodynamics, Machine design.


Assistant Professors


Research Professors
Steve Lewellen, Ph.D. (UCLA). Fluid dynamics.
Donald W. Lyons, Ph.D. (Ga. Tech.). Alternate fuels engines and emissions.
John E. Sneckenberger, Ph.D. (WVU). Mechanical engineering design.

Research Associate Professor

Research Assistant Professors
Patrick Browning, Ph.D. (WVU). Aerodynamics, Aircraft design
Pete Gall, Ph.D. (WVU). Aerospace systems design.
Yu Gu, Ph.D. (WVU). Flight control systems.
Jagannath Nanduri, Ph.D. (Case Western Reserve U.). Fluid dynamics and heat transfer.
Andrew Nix, Ph.D. (VPI & SU). Engines and emissions.
Brad Seantor, Ph.D. (WVU). Flight controls, Parameter estimation, Flight testing, UAV technology.
Nathan Weiland, Ph.D. (Ga. Tech.). Fluid dynamics and heat transfer.

Visiting Professors and Adjunct Professors
Julio Davalos, Ph.D. (VPI & SU). Adjunct Prof., Structural mechanics.
Renguang Dong, Ph.D. (Concordia U., Canada). Adjunct Prof. Biomechanics, Human vibrations
Donald H. Ferguson, Ph.D. (WVU). Adjunct Asst. Prof. Thermal fluid sciences.
Luis A. Godoy, Ph.D. (U. of London, UK). Adjunct Prof. Structural stability.
Nabil S. Hakim, Ph.D. Adjunct Prof. Engines and emissions.
Paul E. King, Ph.D., (Oregon St.U.). Adjunct Prof. Materials science.
Alejandro Lozano-Guzman, Ph.D. (U. Newcastle Upon Tyne, UK). Adjunct Prof., Mechanical engineering design.
Eugene A. McKenzie, Ph.D. (WVU). Adjunct Asst. Prof. Mechanical engineering design.
Koorsh Mirfakhraie, Ph.D. Adjunct Prof. Space systems.
Vincenzo Mulone, Ph.D. (U. of Rome Tor Vergata, Italy). Adjunct Asst. Prof. Internal combustion engines, Emissions.
Michael Palmer, Ph.D. (WVU). Visiting Professor. Instrumentation, Microprocessor applications.
Ming Pei, Ph.D. (Peking U. China). Adjunct Asst. Prof. Tissue engineering.
Steve Raque, (VPI & SU) Instructor. Space systems design.
Benjamin Shade, Ph.D. (WVU). Adjunct Asst. Prof. Engines and emissions.
Constantine Spyarakos, Ph.D. (U. of Minn.). Adjunct Prof. Structural stability, Finite elements.
Steven D. Woodruff, Ph.D. (U. of Mich.). Adjunct Prof. Laser applications and diagnostics.

Mining Engineering Professors
A. Wahab Khar, Ph.D. (Penn. St.). Emeritus.
Syd S. Peng, Ph.D. (Stanford U.). Charles E. Lawall Chair in Mining Engineering. Mining engineering and longwall mining, Ground control.
Y.J. Wang, Ph.D. (Penn. St.) Emeritus.

Associate Professors
Yi Luo, Ph.D. (WVU). Surface subsidence.

Assistant Professor
Mining and Industrial Extension
Mining and Industrial Extension is a unit within the College of Engineering and Mineral Resources (CEMR) that is composed of two programs: Mining extension and Industrial extension.

Professors

Industrial Extension Service
Industrial Extension Specialists

Petroleum and Natural Gas Engineering
Professors
Khassayar Aminian, Ph.D. (U. Mich.). Natural gas engineering, Reservoir engineering.

Associate Professor

Assistant Professor

Research Associates
Vida Gholami
Yasaman Khazaeni

College of Human Resources and Education
Child Development and Family Studies
Professors
Carol A. Markstrom, Ph.D. (Utah St. U.). Ethnicity and diversity in children, adolescents, and families; Native American adolescents and families; Adolescent psychosocial and identity development.

Assistant Professors
Suzanne C. Hartman, Ph.D. (George Mason U.). Early childhood development; Learning and school outcomes; At-risk populations.
Kristin L. Mllanen, Ph.D. (U. of Neb.). Adolescent development; Self regulation; Risk behavior; Family relationships.
Jessica E. Troilo, Ph.D. (U. of Mo.). Fathering after divorce; Stereotypes of family members; Depictions of fathers in media.

Undergraduate Coordinator
Nancy Wolfe-Dilgard, M.A. (WVU). Communication in families; Adolescent drug and alcohol use/abuse; Gambling and families; Parenting infants, toddlers, and adolescents.

Educational Psychology
Professors
Anne H. Nardi, Ph.D. (WVU). Developmental psychology, Problem solving, Adult learning.

Associate Professors
Neal Shambaugh, Ph.D. (Va. Tech.). Instructional design, Instructional technology integration, Cognition, Professional development

Assistant Professors
Ugur Kale, Ph.D. (Ind. U.). Instructional design, Multimedia learning, Online professional development, Teacher education, Content analysis, Social network analysis.
Teaching Assistant Professor
Patricia Haught, Ed.D. (WVU). Adult cognitive development, Learning strategies, Educational psychology, Medical education, Learning and development.

Special Education Professors

Associate Professor
Ann M. Richards, Ph.D. (U. of Az.). Multicultural special education, transition, law and policy issues.

Assistant Professors

Teaching Assistant Professor
Melissa D. Hartley, Ph.D. (SDSU). Special education, Quantitative research methods.

Speech Pathology and Audiology Professors
Mary Ellen Tekieli Koay, Ph.D. (U. Okla.). Speech pathology, Cleft palate, Neuropsychology, Neuropathologies, Clinical supervision.
Robert F. Orliff, Ph.D. (Columbia U.). Speech and voice physiology, Assessment and management of voice disorders, Clinical measurements.
Kenneth O. St. Louis, Ph.D. (U. Minn.). Speech pathology, Fluency, Voice, Clinical supervision.
Charis M. Woodford, Ph.D. (Syracuse U.). Emeritus.

Associate Professors

Assistant Professors

Clinical Assistant Professor

Teaching Assistant Professors
Leslie C. Graebe, M.S. (WVU). Speech pathology, Dysphagia and adult communication disorders, Clinical supervision.

Teaching Instructor

Teacher Education
Curriculum and Instruction/Literacy Studies with Social Cultural Foundations Professors
Helen M. Hazi, Ph.D. (U. Pitt.). Legal issues affecting instructional supervision.
Elizabeth F. Howard, Ph.D. (U. of Pitt.). Emeritus.
Layle D. Lawrence, Ph.D. (LSU). Emeritus.


**Associate Professors**

Allison Swan Dagen, Ph.D. (U. of Pitt.). Professional development, Adolescent reading, Reading specialist.


Stacy A. Gartin, Ph.D. (Ohio St. U.). Adjunct, Adult agricultural education, Communications, Leadership development, Teaching methods.


**Assistant Professors**

Sheila Benson, Ph.D. (U. of Ia). English, language, literacy, and culture.


Sharon B. Hayes, Ph.D. (U. of Fla.). Curriculum and instruction, Elementary education.


Aimee L. Morewood, Ph.D. (U. of Pitt.). Reading education, Elementary education, Effective teaching strategies.

Ted Price, Ph.D. (U. So. Ca.). Superintendent, Dynamics of educational organizations.


Eva Erdosne Toth, Ph.D. (U. of Ill.). Science education, Biology, Chemistry.


**Clinical Professor**


**Clinical Instructors**


Beth Satterfield, M.S. (WVU). Early childhood education, Child development.

Sarah Steel, M.A. (WVU). Program coordinator, Five-year teacher education program.

**College of Physical Activity and Sport Sciences**

**Professors**


Lynn Housner, Ph.D. (U. of Pitt.). Physical education teacher education.

Andrew C. Ostrow, Ph.D. (U. Calif.). Emeritus.


**Associate Professors**


Beatrice Hurst, M.A. (Columbia U.). Emeritus.

Dennis Floyd Jones, Ph.D. (U. of Pitt.). Sport management.

Michelle Sandrey, Ph.D. (U. Kan.). Graduate athletic training director.


**Assistant Professors**

Gonzalo Bravo, Ph.D. (Ohio St.). Sport management.

Damien Clement, Ph.D. (WVU). Sport and exercise psychology and athletic training.
Emily Jones, Ph.D. (U. Ga.). Physical education teacher education.
Cindy Lee, Ph.D. (Ohio St. U.). Sport management.
Aaron Livingston, Ph.D. (U. New Mexico). Sport management.
Vanessa Shannon, Ph.D. (U. Tenn.—Knoxville). Sport and exercise psychology.
Andrea Taliaferro, Ph.D. (U. of Va.). Physical education teacher education.

Adjunct Associate Professor
John C. Spiker, M.Ed. (U. of Pitt.). Athletic training.

Clinical Instructor
Michelle Deli-Pruett, M.S. (Middle Tenn. St.). Athletic training.
Melinda Eskridge, M.S. (WVU). Aquatic facility management minor.
Allison Hetrick, M.Ed. (U. Cinn.). Athletic training.
Randall Meador, M.S. (WVU). Athletic training.

Adjunct Faculty
Dale W. Porter, Ph.D. (WVU). Toxicology.
Alfred H. Stiller, Ph.D. (U. of Cinn.). Chemistry.

Faculty Emeriti
Gerald C. Anderson, Ph.D. (U. Mo.). Reproductive physiology.
Donald J. Horvath, Ph.D. (Cornell U.).
Paul M. Smith, M.S. (WVU). Food science.
John Warren (U. Md.). Reproductive Physiology.
James A. Welch, Ph.D. (U. Ill.).

Division of Design and Merchandising
Design Studies
Associate Professor
Cindy V. Beacham, Ph.D. (VPI & SU). Design for children, Intergenerational design, Interior design pedagogy, Design for special needs.
Assistant Professor
Visiting Assistant Professor

Fashion Design and Merchandising
Professor
Assistant Professors
Holly Lentz, Ph.D. (UNCG). Social psychology of dress, Consumer behavior, Fashion merchandising.
Faculty Emeriti
William H. Hagerty
Mary Rose Jones
Marian B. Liddell
Betty Lou Ramsey
Janice I. Yeager

Interior Design
Associate Professors
Cindy V. Beacham, Ph.D. (VPI & SU). Design thinking, Design for children, Intergenerational design, Interior design pedagogy, Design for special needs.
Barbara S. McFall, Ph.D. (Saybrook). Director, Design for quality of living.
Assistant Professors
Ronald Dulaney Jr., M.Arch. (VPI & SU). Architectural design, Design and culture, Design media, Material and fabrication processes, Poetics of construction.
Visiting Assistant Professors
Visiting Lecturer

Division of Forestry and Natural Resources
Professors
Joseph F. McNeel, Ph.D. (VPI & SU). Director. Forest engineering/forest operations.
Steven W. Selin, Ph.D. (U. Ore.). Human dimensions of natural resources; Collaborative stewardship.
Associate Professors
Kathryn Arano, Ph.D. (Miss. St. U.). Forest economics.
Chad D. Pierskalla, Ph.D. (U. of Minn.). Wildland recreation management and policy.
David A. Smaldone, Ph.D. (U. of Idaho). Environmental interpretation and education.
Jingxin Wang, Ph.D. (U. of Ga.). Forest operations, management, and bioenergy.

Assistant Professors
Gregory Dahle, Ph.D. (Rutgers). Aboriculture.
Jinyang Deng, Ph.D. (U. of Alberta, Canada). Recreation and leisure studies.
Nicolas Zegre, Ph.D. (Or. St. U.). Forest hydrology.

Research Assistant Professors
Stuart Moss, M.S.F., MBA. (VP). Forest business management.
Jim Rentch, Ph.D. (WVU). Forest ecology and management.

Teaching Assistant Professor
George Merovich, Ph.D. (WVU). Fisheries and aquatic ecology, Quantitative ecology.

Adjunct Faculty

Faculty Emeriti
Eugene C. Bammel, Ph.D. (Syracuse U.).
Lei L. Bammel, Ph.D. (U. Utah).
Samuel Brock, Ph.D. (U. Minn.).
Jack Coster, Ph.D. (Tex. &AM).”
Ray R. Hicks Jr., Ph.D. (SUNY).
William E. Kidd Jr., M.S.F. (VP & SU).
Elermer M. Lang, Ph.D. (VPI & SU).
David E. Samuel, Ph.D. (WVU).
Robert L. Smith, Ph.D. (Cornell U.).
Stanislaw Tajchman, Ph.D. (U. of Munich).
Dee E. White, Ph.D. (SUNY).
Harry V. Wiant Jr., Ph.D. (Yale U.).
David O. Yandle, Ph.D. (N.C. St. U.).

Division of Plant and Soil Sciences

Professors
Cameron R. Hackney, Ph.D. (N.C. St. U.). Dean and Director. Food safety, Environmental microbiology.
Louis McDonald, Ph.D. (U. Ky.). Soil chemistry.
Jeffrey Skousen, Ph. (Tex. & M. U.). Agronomy, Soil science, Land reclamation.

**Associate Professors**
James B. Kott, Ph.D. (U. Wisc.). Plant pathology, Nematology.
James A. Thompson, Ph.D. (U. of Minn.). Agronomy, Soil science, Water resources.
Sven Verlinden, Ph.D. (Purdue U.). Horticulture.

**Assistant Professors**
Eugenia M. Pena-Yewutkiw, Ph.D. (U. of Ky.). Soil science.
Nicole Waterland, Ph.D. (Ohio St. U.). Horticulture.

**Adjunct Faculty**
Tong-Man Ong, Ph.D. (III. St. U.). Genetics.
Thomas van der Ziet, Ph.D. (LSU). Plant pathology.

**Faculty Emeriti**
Robert E. Anderson, Ph.D. (U. Wisc.).
John A. Balasko, Ph.D. (U. Wisc.).
Bradford C. Bearse, Ph.D. (U. Calif.).
James L. Brooks, Ph.D. (U. Calif.).
Linda Butler, Ph.D. (U. Ga.).
Edward S. Elliott, Ph.D. (WVU).
Mannon E. Gallegly Jr., Ph.D. (U. Wisc.).
L. Morris Ingle, Ph.D. (Purdue U.).
Robert F. Keefer, Ph.D. (Ohio St. U.).
Joginder Nath, Ph.D. (U. Wisc.).
Oscar E. Schubert, Ph.D. (U. III.).
John C. Sencindiver, Ph.D. (WVU).
Rabindar N. Singh, Ph.D. (VPI & SU).
Charles B. Sperow Jr., M.S. (WVU).
Robert J. Young, Ph.D. (Ore. St. U.).
Richard K. Zimmerman, Ph.D. (WVU).

**Division of Resource Management**

**Agricultural and Extension Education**

**Professor**
Stacy A. Gartin, Ph.D. (Ohio St. U.). Communications, Program planning, Leadership development, Teaching methods.

**Associate Professors**
Deborah A. Boone, Ph.D. (Ohio St. U.). Computing technology, Teaching methods, Social science research.

**Assistant Professor**
Douglas D. LaVergne, Ph.D. (Tex. A&M). Diversity and multicultrism, Teacher education, Qualitative research.

**Agricultural and Resource Economics**

**Professors**
Michael J. Dougherty, Ph.D. (Va. Tech.). Environmental design and planning.
Tim T. Phipps, Ph.D. (U. Cal.). Associate Dean. Resource economics, Agricultural policy.
Peter V. Schaeffer, Ph.D. (U. Southern Cal.). Regional science, Applied microeconomics.

**Associate Professors**
Cheryl Brown, Ph.D. (U. Cal. Bk.). Agricultural and food policy and economics, Agribusiness.
Donald J. Lacombe, Ph.D. (Fla. St. U.). Spatial ecomometrics, Public choice and industrial organization.

**Assistant Professors**
Fonda Holehouse, J.D. (WVU). Agricultural and natural resource, Environmental, and Enterprise development and law.
Blessing Maumbe, Ph.D. (Mich. St.). Agribusiness management and marketing.
Doolarie Singh-Knights, Ph.D. (WVU). Natural resource economics.
Landscape Architecture
Associate Professors
Michael Strager, Ph.D. (WVU). Spatial analysis of natural resources.

Assistant Professors
Peter M. Butler, M.L.A. (Iowa St.). Cultural landscape planning and interpretation, Community design.
Hodjat Ghadimi, Ph.D. (Ohio St. U.). Sustainable development.

Professors Emeriti
Donald R. Armstrong, M.L.A. (La. St.).
Alfred L. Barr, Ph.D. (Okla. St. U.).
Dale K. Colyer, Ph.D. (U. Wisc.).
Gerald V. Eagan, Ph.D. (U. Tenn.).
Warren G. Kelly, Ed.D. (U. Mo.).
Marion L. Kimmons, Ph.D. (U. Mo.).
Walter C. Labys, Ph.D. (U. Nottingham).
Layle D. Lawrence, Ph.D. (L.S.U.).
George W. Longenecker, M.F.A. (U. IId.).
Beryl B. Maurer, Ph.D. (Penn. St. U.).
O. Claude McGhee, Ph.D. (Ohio St. U.).
Kenneth D. McIntosh, Ph.D. (U. Wisc.).
Leonard M. Sizer, Ph.D. (WVU).
Ronald L. Stump, M.S. (WVU).
Mary E. Templeton, M.S. (WVU).
Delmar R. Yoder, Ph.D. (U. Wisc.).

Eberly College of Arts and Sciences
Biochemistry/Biology
Professors
Robert Jones, Ph.D. (SUNY-ESF Syracuse). Dean of the Eberly College of Arts and Sciences. Forest ecology.

Associate Professors
Clifton P. Bishop, Ph.D. (U. Va.). Molecular genetics, Developmental biology, Forensic biology.
Kevin C. Daly, Ph.D. (U. Az.). Sensory neurobiology, Neural coding, Brain-behavior interactions, Comparative psychobiology.

Assistant Professors
Carina Barth, Ph.D. (Heinrich Heine U.). Stress Physiology: Plant defense signaling in response to biotic and abiotic stress.
Sarah M. Farris, Ph.D. (U. Ill.). Evolution and development of the insect brain, Neuroanatomy.

Clinical Associate Professor

Teaching Assistant Professors
Catherine Merovich, Ph.D. (WVU). Amphibian conservation.
Jennifer Stueckle, Ph.D. (WVU). Aquatic toxicology.

**Senior Lecturers**
Sue Raylman, Ph.D. (Bucknell U.). Animal behavior.
Susan Studlar, Ph.D. (U. Tenn.). Bryology and botany.
Beth Thomas, M.S. (Clemson U.). Invertebrate zoology.

**Professors Emeriti**
Charles H. Baer, Ph.D. (U. Md.).
David F. Blaydes, Ph.D. (Ind. U.).
Roy B. Clarkson, Ph.D. (WVU).
William E. Collins, Ph.D. (U. of Wisc.).
Dorothy C. Dunning, Ph.D. (Tufts U.).
Ramsey H. Frist, Ph.D. (U. Pitt.).
Roland B. Guthrie, Ph.D. (WVU).
Joseph A. Marshall, Ph.D. (U. Md.).
Ethel C. Montiegel, M.S. (WVU).
Richard P. Sutter, Ph.D. (Tufts U.).
Leah A. Williams, Ph.D. (WVU).

**Chemistry**

**Professors**
Terry Guillot, Ph.D. (William and Mary). Chairperson. Physical chemistry, Solid state NMR, Biological materials, Polymers.
Charles Jaffe, Ph.D. (U. Colo.). Theoretical chemistry, Molecular dynamics, Nonlinear mechanics.
Fred L. King, Ph.D. (U. Va.). Analytical chemistry, Mass spectrometry, Trace elements, Gas-phase in chemistry.
Kenneth Showalter, Ph.D. (U. Colo.). Bennett Distinguished Professor. Physical chemistry, Chemical kinetics, Multi-stability and oscillating systems.
Björn Söderberg, Ph.D. (Royal Inst. of Tech., Sweden). Organic synthesis using transition metals.

**Associate Professors**
Ronald B. Smart, Ph.D. (U. Mich.). Environmental analytical chemistry, Electrochemistry, Trace metals, Coal chemistry.
Alan M. Stolzenberg, Ph.D. (Stanford U.). Inorganic chemistry, Bioinorganic chemistry, Organometallic chemistry.

**Assistant Professors**
Suzanne Bell, Ph.D. (New Mexico St. U.). Analytical chemistry, Forensic science.

**Communication Studies**

**Professors**
Melanie Booth-Butterfield, Ph.D. (U. Missouri). Interpersonal, nonverbal, health, and instructional communication.
Donald Klopf, Ph.D. (U. Wash.). Emeritus.
Matthew M. Martin, Ph.D. (Kent St.). Chair. Instructional communication, Interpersonal and family communication, Personality.
Scott A. Myers, Ph.D. (Kent St.). Instructional, small group, interpersonal, and family communication.
Virginia P. Richmond, Ph.D. (U. Neb.). Emeritus.

**Associate Professors**
Theodore A. Avtgis, Ph.D. (Kent St.). Organizational communication, Personality, Medical communication.
Maria Brann, Ph.D. (U. of Ky.). Health communication, Interpersonal communication, Qualitative methods.
Brian R. Patterson, Ph.D. (U. of Okla.). Interpersonal communication, Communication theory, Communication and development.
John D. Shibley, Ph.D. (Ohio St. U.). Film appreciation, Communication and nonviolence.

**Assistant Professors**
Christine Rittenour, Ph.D. (U. of Neb.). Family communication, Communication and aging, Social identity and intergroup communication.

**Economics**

**Professors**
Ronald J. Balvers, Ph.D. (U. of Pitt.). Financial economics, Macroeconomic theory.
Victor Chow, Ph.D. (U. Ala.). Adjunct. Corporate finance, Portfolio management, Microeconomics.
Randall W. Jackson, Ph.D. (U. of Ill.). Adjunct. Geography, Regional research.
Patrick C. Mann, Ph.D. (Ind. U.). Emeritus.
Russell S. Sobel, Ph.D. (Fla. St.). Public economics, Public choice.
Tom S. Witt, Ph.D. (Wash. U., St. Louis). Econometrics, Energy economics, Regional economics.

**Associate Professors**
Arabinda Basistha, Ph.D. (U. of Wash.). Open economy macroeconomics, Monetary theory.
Donald Lacombe, Ph.D. (Fla. St.). Spatial econometrics, Industrial organization, Public choice.
Santiago Pinto, Ph.D. (U. of Ill.). Microeconomic theory, Public economics, Urban economics.

**Assistant Professors**
Eran Guse, Ph.D. (U. of O.). Macroeconomics, Monetary economics.

**English Language and Literature**

**Professors**
Dennis Allen, Ph.D. (U. Minn.). Critical theory, Prose fiction.
Rudolph P. Almasy, Ph.D. (U. Minn.). Renaissance and Reformation studies, Composition.
Laura Brady, Ph.D. (U. Minn.). Eberly Family Distinguished Professor of Outstanding Teaching, Composition and rhetorical theory, Writing program administration.
Donald E. Hall, Ph.D. (U. Md.). Chair. Jackson Family Distinguished Professor, Victorian literature, Gender theory.
Thomas Miles, Ph.D. (SUNY). Emeritus.
Judith G. Stitzel, Ph.D. (U. Minn.). Emeritus.
Timothy Sweet, Ph.D. (U. Minn.). American studies, Literature and environment, Native American literature.

**Associate Professors**
Sandy Baldwin, Ph.D. (NYU). Digital/media poetics, Critical theory, Experimental literature.
Lara Farina, Ph.D. (Fordham U.). Medieval literature and culture, History of sexuality and reading.
Marilyn Francus, Ph.D. (Columbia). Restoration and eighteenth century literature.
Catherine Gouge, Ph.D. (WVU). Professional writing, Distance learning, Media studies.
Ellesa C. High, Ph.D. (Ohio U.). Native American studies, Appalachian literature, Creative writing.
Adam Komisaruk, Ph.D. (UCLA). British Romanticism, 18th-century British literature.
Susan Shaw Sailer, Ph.D. (U. Wash.). Emeritus.
Dorothy Sedley, M.A. (Sonoma St. C.). Emeritus.
Lisa Weihman, Ph.D. (NYU). Modern British and Irish literature and culture.

**Assistant Professors**

Brian Ballentine, Ph.D. (Case Western U.). Rhetoric, Technical and professional communication.
Ryan Claycomb, Ph.D. (U. Md.). 20th-century British literature, Drama, Gender studies.
Winston Fuller, M.A. (U. Colo.). Emeritus.
Margaret Racine, M.A. (WVU). Emeritus.
Nathalie Singh-Corcoran, Ph.D. (U. Az.). Writing Center theory and practice, Writing program administration, Writing assessment.

**Teaching Assistant Professors**

Mary Angel Blount, M.F.A. (LSU). Composition, Creative writing.
Thomas Bredehoft, Ph.D. (Ohio St. U.). Composition, Medieval studies.
Jennifer Juckett, Ph.D. (Penn.). Composition, Victorian literature, Women writers.

**Visiting Assistant Professor**

Sandy Florian, Ph.D. (U. Denver). World literature, Creative writing.

**Teaching Instructors**

Lindsey Joyce, M.A. (WVU). Composition.

**Foreign Languages Professors**

Valerie Lastinger, Ph.D. (U. Ga.). 18th century French literature, French women writers.
Kathleen McNerney, Ph.D. (U. N.M.). Spanish, Catalan language and literature, Spanish literature and culture.

**Associate Professors**

Susan Braid, Ph.D. (U. Del.). ESL, Applied linguistics, Second language acquisition, Syntax.
Cynthia Chalupa, Ph.D. (Ohio St. U.). Fin-de-siécle German and Austrian literature, Poetry, Foreign language pedagogy.
Axel Claesges, Ph.D. (Vanderbilt U.). Emeritus, German cultural and intellectual history, 19th century German literature, Commercial German.
Deborah Janson, Ph.D. (UCLA). German, 18th through 21st century German literature.
Sandra Stjepanovic, Ph.D. (U. Conn.). Linguistics, Syntax, Psycholinguistics.
Angel Tuninetti, Ph.D. (Wash. U.). Latin American literature and culture, Travel literature.

**Assistant Professors**

Lisa DiBartolomeo, Ph.D. (U.N.C. Chapel Hill). Russian, Russian and Polish language and literature, Slavic folklore, culture, and cinema; Science fiction, the Holocaust. Teaching Assistant Professor.
Yilin Liao, Ph.D. (Purdue U.). Chinese Culture and Literature. Teaching Assistant Professor.
Hannah Lin, Ph.D. (Ohio St. U.). Chinese, Chinese pedagogy and pragmatics. Teaching Assistant Professor.
Tania De Miguel Magro, Ph.D. (SUNY Stony Brook). Spanish literature and culture, Spanish language.
Jennifer Onikoff, Ph.D. (Rutgers U.). French, 16th, 18th, and 19th century French literature, Second language acquisition and methodology. Art history, Feminist criticism. Teaching Assistant Professor.
D. Catalina Mendez Vallejo, Ph.D. (Ind. U.). Hispanic Linguistics, Spanish Language. Teaching Assistant Professor.
Annastella Vester, Ph.D. (UCLA). Italian, Contemporary Italian literature, 18th and 19th century Italian literature.

Instructors
Tracy Dingess, M.A. (WVU). Teaching English to Speakers of Other Languages (TESOL).
Stacy Fint, M.A. (WVU). Teaching English to Speakers of Other Languages (TESOL).
Beatrice Malvisi, M.A. (U. of Pitt.). Italian.
Lindsei Pereira, M.A. (WVU). Teaching English to speakers of other languages (TESOL).
Kristen Williams, M.A. (WVU). Teaching English to speakers of other languages (TESOL).

Forensic and Investigative Science
Associate Professor
Clifton Bishop, Ph.D. (U. Va.). Molecular genetics, Forensic biology.

Assistant Professors
Suzanne Bell, Ph.D. (N.M. S. U.). Forensic chemistry.

Clinical Assistant Professor
Keith Morris, Ph.D. (U. of Port Elizabeth, South Africa). Director, Fingerprints, Microscopy, Crime scene investigation, Forensic chemistry.

Teaching Assistant Professors
Patrick Buzzini, Ph.D. (U. Of Lausanne, Switzerland). Microscopy, Trace evidence analysis.

Senior Lecturer
Ryan Postlethwait, B.S. (WVU). Forensic and investigative science.

Geology and Geography
Professors
Timothy Carr, Ph.D. (U. Wisc.). Sedimentary and petroleum geology.
Trevor M. Harris, Ph.D. (Hull U.). Eberly Professor. Geographic information science.
Randall W. Jackson, Ph.D. (U. Ill.). Director Regional Research Institute. Economic geography.
Ann M. Oberhauser, Ph.D. (Clark U.). Regional development, Gender studies.
John J. Renton, Ph.D. (WVU). Geochemistry.
Richard A. Smosna, Ph.D. (U. Ill.). Sedimentation stratigraphy.
Thomas Wilson, Ph.D. (WVU). Geophysics.

Associate Professors
Amy E. Hessl, Ph.D. (U. of Az.). Biogeography, Forest ecosystems.
J. Steven Kite, Ph.D. (U. Wisc.). Department Chair. Geomorphology, Surficial geology.
Helen M. Lang, Ph.D. (U. Ore.). Associate Chair for Geology. Mineralogy, Petrology.
Brent McCusker, Ph.D. (Mich. St.). Land use change, Africa.
Jame Toro, Ph.D. (Stanford U.). Structural geology, tectonics.

Assistant Professors

Research Assistant Professor
Rick Landenberger, Ph.D. (WVU). Remote sensing, Geosciences education.
History
Professors
Robert E. Blobaum, Ph.D. (U. Nebr.). Chairperson. Eberly Family Distinguished Professor. Modern Central and Eastern Europe, Poland, Social and political.
Emory L. Kemp, Ph.D. (U. Ill.). Emeritus.
Mary Lou Lustig, Ph.D. (Syracuse U.). Emeritus.
Associate Professors
Katherine B. Aaslestad, Ph.D. (U. Ill.). Modern Europe, Germany, Cultural.
Joseph Hodge, Ph.D. (Queen's U. Canada). Modern British, British Empire.
A. Michal McMahon, Ph.D. (U. Tex.). Emeritus.
Matthew A. Vester, Ph.D. (UCLA). Early modern Europe, Italy.
Assistant Professors
Humanities
Associate Professor
Ralph Clark, Ph.D. (Colorado). Coordinator, Humanities.
International Studies
R. Scott Crichlow, Ph.D. (LSU). Advisor, Associate Professor of Political Science.
Karen Culcas, Ph.D. (Syracuse, U.). Assistant Professor of Geography.
Christina Fattore, Ph.D. (U. of Fla.). Advisor, Assistant Professor of Political Science.
Joe D. Hagan, Ph.D. (U. Ky.). Director and advisor; Barnette Professor of Political Science.
David M. Hauser, Ph.D. (U. Pitt.). Teaching Assistant Professor of Political Science.
Karen Jones-West, Ph.D. (U. of Iowa). Advisor, Assistant Professor of Political Science.
Kenneth C. Martis, Ph.D. (U. Mich.). Associate chair, Professor of Geography.
William N. Trumbull, Ph.D. (U.N.C.). Associate Professor of Economics.
Mathematics
Professors
John Goldwasser, Ph.D. (U. Wisc.-Madison). Combinatorics, Graph theory.
Hong-Jian Lai, Ph.D. (Wayne St. U.). Graph theory, Matroid theory.
Dening Li, Ph.D. (Fudan U.). Partial differential equations.
Michael E. Mays, Ph.D. (Penn. St. U.). Number theory.
Sherman D. Riemenschneider, Ph.D. (Syracuse U.). Approximation theory, Wavelet theory.
Jerzy Wojciechowski, Ph.D. (Cambridge U.). Combinatorics, Graph theory.
Cun-Quan Zhang, Ph.D. (Simon Fraser U.). Graph theory, Combinatorics.
Adjunct Professor
Yuesheng Xu, Ph.D. (Old Dominion U.). Integral equations, Wavelet theory.

Associate Professors
Betty L. Miller, M.S. (WVU). Emeritus.
James E. Miller, Ph.D. (U. Ky.). Emeritus.

Assistant Professors

Multidisciplinary Studies
Associate Professor
Evan Widders, Ph.D. (U. Calif. Santa Barbara)

Teaching Assistant Professors
Clarissa Estep, Ph.D. (WVU).
Carol Zwickel, Ph.D. (WVU).

Instructors
Benjamin Brooks, M.E. (U. Cinn.).
Andrea Soccorsi, M.A.: (WVU).

Native American Studies
Senior Lecturer

Lecturers
The Native American Studies Program is a multidisciplinary program. Faculty members at all ranks from a host of WVU's departments, schools, and colleges teach NAS classes, as well as part-time lecturers from outside the University. These lecturers include the following: Leilani Browning, John C. Candillo, John J. Candillo, Isaac Emrick, Dr. Ellesa C. High, Thomas Keopuhiwa, Karen Manzo, Dr. Carol A. Markstrom, Dr. Daniel W. McNeil, and Robert Pirner.

Philosophy
Professors
Ralph W. Clark, Ph.D. (U. Colo.). Ethics, Business ethics, Metaphysics.
Daniel Shapiro, Ph.D. (U. Minn.). Social and political philosophy, Ethics, Philosophy of law.
Mark Wicclair, Ph.D. (Columbia U.). Philosophy of law, Medical ethics, Ethics.

Associate Professors
Richard Montgomery, Ph.D. (U. Ill. at Chicago). Philosophy of mind/cognitive science, Philosophy of science.

Assistant Professors
Matthew Talbert, Ph.D. (U. Calif. at Riverside). Ethics, Philosophy of action.

Physics
Professors
Wathiq Abdul-Razzaq, Ph.D. (U. of Ill. - Chicago). Experimental solid state, Particulate matter in the environment.
Gurudas Ganguli, Ph.D. (Boston Coll.). Adjunct Professor. Plasma physics theory.
Nancy C. Giles, Ph.D. (N.C. St.). Adjunct Professor. Experimental solid state physics; Nonlinear optical materials and semiconductors.
Larry E. Halliburton, Ph.D. (U. of Missouri-Columbia). Optical and magnetic properties of point defects.
David Lederman, Ph.D. (U. of Calif. - Santa Barbara). Carroll Professor. Experimental solid state physics; Magnetic
materials, Super conductors, Molecular electronics.
Ray Raylman, Ph.D. (U. of Mich.). Adjunct Professor, Radiology.
Duane Smith, Ph.D. (U. of Chicago). Adjunct Professor. Statistical and applied physics, Fluids.

**Associate Professors**

**Assistant Professors**
Alan Bristow, Ph.D. (U. of Sheffield, UK). Experimental condensed matter physics.
Feruz Ganikhanov, Ph.D. (Moscow St. U.). Nonlinear optics.
Paul Miller (WVU.) Teaching Professor. Physics education.

**Political Science Professors**
Joe D. Hagan, Ph.D. (U. Ky.). Barnette Professor in Political Science and Chair. International politics, Comparative foreign policy analysis.
Hong N. Kim, Ph.D. (Georgetown U.). Comparative politics, East Asia.
Kevin Leyden, Ph.D. (U. Ua.). Director, Institute for Public Affairs. American politics, Congress, Interest groups.
Sophia L. Peterson, Ph.D. (UCLA). Emerita.

**Associate Professors**
Neil Berch, Ph.D. (Wash.). State and local government, Public policy (economic policy), Policy evaluation.
R. Scott Crichtow, Ph.D. (LSU). International politics, Foreign policy decision making.

**Assistant Professors**
Erin C. Cassese. (Stony Brook—SUNY). Political psychology, Political behavior, Women and politics, Research methods.
Kareen Jones-West. (U. Iowa). Comparative politics (developing areas), Latin American politics.
Jason MacDonald. (George Wash.). American politics, Congress, Research methods.
Philip Michelbach. (U. of San Diego, Calif.). Political theory.

Daniel W. McNeil, Ph.D. (U. Ala.). Eberly Family Professor for Outstanding Public Service. Experimental psycho-pathology, Behavioral dentistry and behavioral medicine, Clinical research training and clinical supervision.


JoNell Strough, Ph.D. (U. Utah). Collaborative problem solving, Peer relationships, Gender issues.

**Associate Professors**


Elisa Knackow, Ph.D. (Binghamton U. SUNY). Psychology and law, Eye witness testimony, Childhood depression.


Claire Montgomery-Downs, Ph.D. (U. of Conn.). Sleep and sleep disorders.

Amy Fiske, Ph.D. (U. of So. Calif.). Late life depression and suicide.

Amy Gentzler, Ph.D. (Kent St. U.). Emotion regulation and coping in childhood, Adult attachment.

Elisa Knackow, Ph.D. (Binghamton U. SUNY). Psychology and law, Eye witness testimony, Childhood depression.


**Assistant Professors**

Amy Gentzler, Ph.D. (Kent St. U.). Emotion regulation and coping in childhood, Adult attachment.


B. Kent Parker, Ph.D. (U. Utah). Associate Professor Emeritus. Stimulus control, memory, and complex sequential learning in animals. Research design.


Karen V. Harper-Dorton, Ph.D. (Ohio St. U.). Professor and Chair, Title IV-E Project in child welfare, Rural social work, Social administration.

Nancy Lohmann, Ph.D. (Brandeis U.). Professor. Social administration, Research measurement.

**Social Work Professors**

Karen V. Harper-Dorton, Ph.D. (Ohio St. U.). Professor and Chair, Title IV-E Project in child welfare, Rural social work, Social administration.


**Religious Studies**

**Associate Professor**


**Social Work Professors**

Karen V. Harper-Dorton, Ph.D. (Ohio St. U.). Professor and Chair, Title IV-E Project in child welfare, Rural social work, Social administration.

Nancy Lohmann, Ph.D. (Brandeis U.). Professor. Social administration, Research measurement.

**Associate Professors**


Carrie Rishel, Ph.D. (U. Pitt). Associate Professor, Child mental health, Program evaluation.

Leslie Tower, Ph.D. (Barry U.). Associate Professor. Domestic violence, Women’s issues, Health care administration.

Michael Zakour, Ph.D. (Wash. U.). Associate Professor and Associate Director, Nova Institute. Organizations and communities, Non-profit management, Disaster response.

**Assistant Professors**


Steve Hardin, MSW. (U. of S.C.). Teaching Assistant Professor. Clinical practice, Mental health.

Helen Hartnett, Ph.D. (Ohio St. U.). Assistant Professor. Community and organizational practice, Homelessness.

Emily McCave, Ph.D. (U. of Kans.). Assistant Professor, Research LGBT.


**Instructors and Faculty Equivalents**

Rebekah Bledsoe, M.S.W. (WVU). Research Associate, Title IV-E, Child welfare.

Vanessa Drew-Branch, (M.S.W., WVU). Coordinator of Admissions and Advising.


Chatman Neely, M.S.W. (WVU). Teaching Instructor, Coordinator, Wheeling MSW site, Clinical practice.


**Emeritus Faculty**

Marjorie H. Buckholz-Cleveland, Ph.D. (WVU).


Roger A. Lohmann, Ph.D. (Brandeis U.).

Caroline T. Mudd, M.S.W. (U. of Pa.).

**Sociology and Anthropology**

**Professors**

**Associate Professors**

**Assistant Professors**
- Corey Colyer, Ph.D. (Syracuse U.). Sociology. People processing systems, Agencies of social control.

**Statistics**

**Professors**
- Erdogan Gunel, Ph.D. (SUNY-Buffalo). Bayesian inference, Biostatistics, Categorical data analysis.

**Associate Professors**

**Assistant Professors**
- Yao Li, Ph.D. (U. of Fla.). Statistical genetics and genomics, Bioinformatics, Functional and longitudinal data analysis, Computational biology.

**Clinical Assistant Professor**

**Adjunct Assistant Professors**
- Desta Fekedulegn, Ph.D. (WVU). Ecological modeling, Nonlinear regression analysis, Multivariate modeling, Biostatistics, Biometry, Statistical consulting.

**Adjunct Professor**
- Michael E. Andrew, Ph.D. (U. of Wy.). Experimental design and analysis, Epidemiological models, Statistical consulting, Multiple logistic regression.

**Research Associates**
- Dajie Luo, M.S. (WVU). Statistical programming, R development, Java programming, Statistical education.

**Senior Lecturer**
Women's Studies
Professor

Assistant Professor
J. Kasi Jackson, Ph.D. (U. Ky.). Biology and women's studies.

Faculty Associates
Over 100 faculty members at all ranks from nearly all of the University's departments, schools, and colleges are affiliated with the Center for Women's Studies through their teaching, research, and service. Contact the center for a current list.

Adjunct Faculty
Carl M. Carpenter
W. Graeme Donovan
Ruth E. Kershner
S. Melissa Latimer
Kathleen E. McNerney
Shelly Barrick Parsons
Cynthia K. Stackpole
Carroll Wetzel Wilkinson

Perley Isaac Reed School of Journalism

Professors
Maryanne Reed, M.S.J. (Northwestern U.). Dean. Television journalism, Journalism history, Documentary.

Associate Professors
Joel Beeson, M.S.J. (U. Mo.). Photojournalism, Multimedia, Visual communications.
Christine M. Martin, M.A. (U. Md.). News and feature writing, Journalism history.

Assistant Professors

Teaching Assistant Professor

Visiting Assistant Professors
Kelley Crowley, Ph.D. (Duquesne U.). Public relations writing and principles of advertising.

Program Coordinators and Directors
Rick Bebout, M.S.J. (WVU). IMC technology coordinator, Mass communication, Integrated marketing communications.

Jan Boyles, M.S.J. (WVU). Director of Advising. Orientation, News writing and reporting, Media ethics.
Jason Broadwater, B.A. (Bethany). Student Services Coordinator.

programs coordinator
Kimberly Brown, M.A. (WVU). Director of Communications.

Chad Mezera, M.S.J. (WVU). IMC Program Coordinator. Integrated marketing communications.


Shelly Stump, M.S.J. (WVU). IMC Student Advising Director. Integrated marketing communications.

Christa Vincent, B.S.J. (WVU). External Relations Coordinator.

Alex Wilson, M.S. (Syracuse). External Relations Coordinator.

Professors Emeriti
Paul A. Atkins, M.A. (U. Va.).
John H. Boyer, Ph.D. (U. Mo.).
Charles F. Cremer, Ph.D. (U. La.).

Robert M. Ours, Ph.D. (Coll. of William & Mary).
Guy H. Stewart, Ph.D. (U. Ill.).

William R. Summers Jr., M.A. (U. Mo.).
Pamela D. Yagle, M.S.J. (WVU).
School of Dentistry  See the WVU Health Sciences Center Catalog

School of Medicine
Community Medicine

Professors
Jeffrey Cohen, M.D. (U. Pitt.).
Geri Dino, M.S., Ph.D. (Kan. St.).
Edward J. Doyle, M.D. (George Wash.). M.Sc. (So. Calif.). Emeritus
Alan Ducatman, M.D. (Wayne St.). MSc (City U. of New York). Department Chair.
George Kelley, M.S., (Wash St. U.). D.A. (Middle Tenn. St.).
Sarah Knox, M.S., Ph.D. (U. Stockhol).m
Peter Shaffron, M.S., Ed.D. (WVU).
Anoop Shankar, M.D., Ph.D. (Mahatma Gandhi U).

Associate Professors
Matthew Gurka, Ph.D. (UNC).
Michael S. Hendryx, M.S., Ph.D. (Northwestern).
Gerry Hobbs, M.S., Ph.D. (Kan. St.).
Kimberly Horn, M.S.W., Ed.D. (WVU).
Kim (Karen) Innes, M.S.P.H. (Colorado), Ph.D. (Cornell).
Christopher Martin, M.D. (Memorial), M.Sc. (Alberta).

Assistant Professors
Rachel Abraham, M.B. B.S., M.P.H. (Bangalore).
Anna Allen, M.D., M.P.H. (WVU).
Robert Gerbo, M.D. (WVU).
Lan Guo, M.S., Ph.D. (WVU).
Chuanfang Jin, M.D. (ShanXi Medical).
Michael McCawley, M.S.E. (WVU), Ph.D. (NYU).
Cecil Pollard, M.A. (WVU).
Nancy O’Hara Tompkins, M.A., Ph.D. (Maryland).
Kimberly Williams, Ph.D. (McMaster).
Motao Zhu, M.D., Ph.D. (SUNY at Albany).

Instructors
Toni Morris, M.S. (WVU).

Teaching Assistant Professor
Janet Hunt, MPH (Tenn.).

Teaching Instructor
Natalie Bright, MPH (WVU).

Department of Human Performance and Applied Exercise Science

Exercise Physiology

Professors

Associate Professors
W. Guyton Hornsby, Ph.D. (LSU). Diabetes and exercise, Strength and conditioning.

Assistant Professors
Dan Bonner, M.S. (WVU). Cardiopulmonary, Adult fitness.
Paul D. Chantler, Ph.D. (Liverpool John Moores U.) Arterial-Ventricular Coupling in Metabolic Syndrome.
Diana Gilleland, M.S., M.B.A. (WVU, Waynesburg Coll.). Cardiac rehab.
Mark Offert, Ph.D. (Loma Linda U. Calif.). Muscle adaption, Pulmonary disease, Pulmonary ventilation.
Hao Yanlei, Ph.D., M.D. (Taishan Medical Coll.). Muscle wasting, IGF1 in muscle.

**Adjunct Faculty**
Robert W. Brock, Ph.D. (U. of Western Ontario). Diabetes, Renal disease.

**Instructor**
Beth Nardella, M.A. (WVU). Writing and research methods.

**Occupational Therapy**

**Associate Professors**

**Assistant Professors**
Amanda Acord-Vira, M.O.T., O.T.R./L. (WVU)

**Medical Laboratory Science**
Anna August, B.S. (IUP). Adjunct assistant professor.
Cathy Browning, B.S. (WVU). Adjunct assistant professor.
Joyce Compton, M.S. (WVU). Adjunct assistant professor.
Joyce Gacek, M.A. (WVU). Adjunct assistant professor.
Barbara J. Gutman, M.Ed. (U. Pitt.). Associate professor emeritus.
Sharon Hall, B.S. (WVU). Adjunct instructor.
Beverly Harki, B.S. (WVU). Adjunct instructor.
Mary Ellen Koenn, M.S. (WVU). Associate professor emeritus.
Martha J. Lake, Ed.D. (WVU). Director of Medical Laboratory Science, Professor.
Karen S. Long, M.S. (WVU). Associate professor emeritus.
Paula Mays, B.S. (WVU). Adjunct instructor.
Lauren Sensen, M.A. (WVU). Instructor.

**School of Nursing**
* Regular graduate faculty, * Associate graduate faculty.

Nancy Atkins, M.S.N., R.N.C., N.P. (Bellarmine Coll.). Lecturer, Charleston Division.
Emily Brinker Barnes, D.N.P., F.N.P.-C (WVU). Clinical Assistant Professor.
Taura Barr, Ph.D., R.N. (U. of Pitt). Assistant Professor
Debra Bostic, M.S.N., R.N. (WVU). Lecturer, WVU Tech Division.
Erin Brozik, M.S.N., RN (Waynesburg U.). Lecturer
K. Joy Buck, Ph.D., R.N. (U. Va.). Associate Professor.
Peggy Burkhardt, Ph.D., R.N., F.N.P. (U. of Tx.). Associate Professor, Charleston Division.
Roger Carpenter, Ph.D., R.N. (WVU). Chair of Department of Health Restoration. Clinical Assistant Professor.
Ilana Chertok, Ph.D., R.N., IBCLC (Ben-Gurion U. of the Negev). Associate Professor.
Lori Constantine, M.S.N., R.N.-B.C. (WVU). Senior Lecturer.
Sandra Cotton, M.S., C.R.N.P. (U. of Md.). Director of Faculty Practice. Clinical Assistant Professor.
Susan Coyle, Ph.D., R.N. (WVU). Assistant Professor.
Faculty

Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Pamela Deiriggi, Ph.D., R.N., P.N.P., C.P.N.P. (U. Tex.). Coordinator PNP Track. Associate Professor.
Carolyn Donovan, M.S.N., R.N. (WVU). Clinical Assistant Professor
Barbara Douglas, M.S.N., R.N. (Wright St. U.). Senior Lecturer, WVU Tech Division.
Peggy Fink, M.S.N., R.N. (WVU). Assistant Professor, WVU Tech Division.
Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Pamela Deiriggi, Ph.D., R.N., P.N.P., C.P.N.P. (U. Tex.). Coordinator PNP Track. Associate Professor.
Carolyn Donovan, M.S.N., R.N. (WVU). Clinical Assistant Professor
Barbara Douglas, M.S.N., R.N. (Wright St. U.). Senior Lecturer, WVU Tech Division.
Peggy Fink, M.S.N., R.N. (WVU). Assistant Professor, WVU Tech Division.
Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Pamela Deiriggi, Ph.D., R.N., P.N.P., C.P.N.P. (U. Tex.). Coordinator PNP Track. Associate Professor.
Carolyn Donovan, M.S.N., R.N. (WVU). Clinical Assistant Professor
Barbara Douglas, M.S.N., R.N. (Wright St. U.). Senior Lecturer, WVU Tech Division.
Peggy Fink, M.S.N., R.N. (WVU). Assistant Professor, WVU Tech Division.
Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Pamela Deiriggi, Ph.D., R.N., P.N.P., C.P.N.P. (U. Tex.). Coordinator PNP Track. Associate Professor.
Carolyn Donovan, M.S.N., R.N. (WVU). Clinical Assistant Professor
Barbara Douglas, M.S.N., R.N. (Wright St. U.). Senior Lecturer, WVU Tech Division.
Peggy Fink, M.S.N., R.N. (WVU). Assistant Professor, WVU Tech Division.
Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Pamela Deiriggi, Ph.D., R.N., P.N.P., C.P.N.P. (U. Tex.). Coordinator PNP Track. Associate Professor.
Carolyn Donovan, M.S.N., R.N. (WVU). Clinical Assistant Professor
Barbara Douglas, M.S.N., R.N. (Wright St. U.). Senior Lecturer, WVU Tech Division.
Peggy Fink, M.S.N., R.N. (WVU). Assistant Professor, WVU Tech Division.
Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Pamela Deiriggi, Ph.D., R.N., P.N.P., C.P.N.P. (U. Tex.). Coordinator PNP Track. Associate Professor.
Carolyn Donovan, M.S.N., R.N. (WVU). Clinical Assistant Professor
Barbara Douglas, M.S.N., R.N. (Wright St. U.). Senior Lecturer, WVU Tech Division.
Peggy Fink, M.S.N., R.N. (WVU). Assistant Professor, WVU Tech Division.
Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Pamela Deiriggi, Ph.D., R.N., P.N.P., C.P.N.P. (U. Tex.). Coordinator PNP Track. Associate Professor.
Carolyn Donovan, M.S.N., R.N. (WVU). Clinical Assistant Professor
Barbara Douglas, M.S.N., R.N. (Wright St. U.). Senior Lecturer, WVU Tech Division.
Peggy Fink, M.S.N., R.N. (WVU). Assistant Professor, WVU Tech Division.
Stacey Culp, Ph.D. (U. of Mich.). Research Assistant Professor.
Elisabeth N. Shelton, Ph.D., R.N. (Widener U.). Associate Dean for Undergraduate Academic Affairs. Associate Professor.
Patricia Simoni, Ed.D., R.N. (WVU). Associate Professor Emeritus.
Mary Jane Smith, Ph.D., R.N. (N.Y.U.). Associate Professor Emeritus.
Patricia Simoni, Ed.D., R.N. (WVU). Associate Professor Emeritus.
*Marilyn Smith, Ph.D., R.N. (U. of Tenn.). Assistant Professor, Charleston Division.
Patricia Simoni, Ed.D., R.N. (WVU). Associate Professor Emeritus.
*Mary Jane Smith, Ph.D., R.N. (N.Y.U.). Associate Dean for Graduate Academic Affairs. Professor.
Amy Sparks, M.S.N., F.N.P.-B.C., R.N. (WVU). Clinical Assistant Professor.
Mary Kaye Staggers, M.S.N., R.N. (Wayne St.). Nursing Coordinator, Potomac State College of WVU. Associate Professor.
Fredona Stenger, M.S.N., R.N. (Boston U.). Associate Professor Emeritus.
*Irene Tessaro, Dr.P.H., M.S.N. (U. N.C., Chapel Hill). Research Professor.
*Laurie Theeke, Ph.D., R.N., C.F.N.P. (WVU). Assistant Professor.
Sharon Thrailis, M.S.N., R.N. (Waynesburg Coll.). Lecturer.
Gail O’Malley Van Voorhis, M.S.N., R.N., C.N.A.A. (WVU). Director of LRC. Teaching Assistant Professor.
Janet Wang, Ph.D., R.N., F.A.A.N. (U. Pitt.). Professor.
Joanne E. Watson, M.S.N., R.N. (U. of Va.). Senior Lecturer.
*Mary Kaye Staggers, M.S.N., R.N. (Wayne St.). Nursing Coordinator, Potomac State College of WVU. Associate Professor.
Ashley Wilson, M.S.N. (WVU). Lecturer.
Alison Witte, DLitt et Phil, M.S., R.N.C.S. (U. of South Africa). Coordinator, GSC/WVU Joint Nursing Program, Assistant Professor, Glenville State College.

Adjoint Faculty

*Regular graduate faculty

Alia Accad, M.S.N., R.N. (WVU). Adjunct Instructor.
Murrita C. Bolinger (U. of Va.). Adjunct Instructor.
Diana Boyle, M.S.N. (WVU). Adjunct Assistant Professor.
Lucinda M. Brown, M.S.N., C.N.M. (U. of Ky.). Adjunct Instructor.
Karen Campbell, M.S.N. (Vanderbilt U.). Adjunct Instructor.
Lena Antimonova Cerbone, M.S.N., C.N.M. (Yale SoN). Clinical Adjunct Instructor.
Malene Davis, M.S.N., M.B.A. (WVU). Adjunct Assistant Professor.
Jann E. Foley, M.S.N., R.N., C.N.M. (Case Western Reserve). Adjunct Instructor.
Shirley Zinn Gainer, B.S., B.S.N. (WVU). Adjunct Clinical Instructor.
Patricia Horstman, M.S.N., R.N. (WVU). Adjunct Instructor.
Elizabeth Hupp, M.S.N., R.N. (WVU). Adjunct Instructor.
Patricia Johnston, Ed.D., R.N., M.S.N. (WVU). Adjunct Assistant Professor.
Judith D. Klingensmith, M.S.N., R.N. (U. of Pitt.). Adjunct Assistant Professor.
Roberta McKee, M.S.N., F.N.P. (WVU). Adjunct Instructor.
Barbara M. Mulich, M.S.N., C-F.N.P. (WVU). Adjunct Clinical Instructor.
Kathleen Murphy, M.S.N., R.N. (U. of Phoenix). Adjunct Instructor.
Joy Henson Penticuff, Ph.D. (Case Western Reserve). Adjunct Professor.
Denice Reese, M.S.N. (Case Western Reserve). Adjunct Instructor.
Dawn M. Scheick, M.N., R.N-C.S. (U. of Pitt.). Adjunct Instructor.
Janet Stout, M.S.N. (Syracuse U.). Adjunct Assistant Professor.

School of Pharmacy See the WVU Health Sciences Center Catalog

ROTC
Aerospace Studies/Air Force ROTC
Jeremy A. Anfinson, Professor.
Jason Booze, SSgt, NCOIC, Knowledge Operations Management.
Darnell Holyfield, SSgt., NCOIC, Personnel Management.
Harley Ironfield, Captain, Assistant Professor.
Karissa Skiba, Captain, Assistant Professor.

Military Science/Army ROTC
Grant E. Boudreau, 1st Lieutenant, Assistant Professor of Military Science.
Robert J. Buffey, 1st Lieutenant, Assistant Professor of Military Science.
Joseph L. Cullinan, Captain, Assistant Professor of Military Science.
John M. Feiler, Master Sergeant, Senior Instructor.
Donald W. Ferguson, Master Sergeant, Chief Instructor.
Michael Nastari, 1st Lieutenant, Assistant Professor of Military Science.
Lawrence J. Perella, Captain, Recruiting Officer.
Jonathan Regets, 1st Lieutenant, Assistant Professor of Military Science.
Daniel L. Rice, Major, Professor of Military Science.