Management Information Systems (MIS), B.S.B.A.D.

Degree Offered

- Bachelor of Science in Business Administration

Nature of the Program

Students in the MIS program gain the skills necessary to analyze an organization’s information needs and develop technological solutions to effectively 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 information needs of the organization, and to deliver the application of technology to meet those needs. Career opportunities include:

- Consulting
- Database Administration
- Information Systems Security
- Networking and Telecommunications
- Systems Analysis and Design
- Technology Management

This is an excellent major for students who enjoy technology and want to apply their knowledge in a business environment.

FACULTY

DEPARTMENT CHAIRPERSON

- A. Graham Peace - Ph.D. (University of Pittsburgh)
  Information Ethics, Database Management Systems

ASSOCIATE PROFESSORS

- Stephane Collignon - Ph.D. (Virginia Tech)
  Business Information and Technology
- A. Graham Peace - Ph.D. (University of Pittsburgh)
  Information Ethics, Database Management Systems
- Brad Price - Ph.D. (University of Minnesota)
  Statistics
- Nanda Surendra - Ph.D. (University of Cincinnati)
  Management information systems.
- Gary Templeton - Ph.D. (Auburn University)
  Management of Information Technology and Innovation

ASSISTANT PROFESSOR

- Jeongsub Choi - Ph.D. (Rutgers)
  Artificial Intelligence/Machine Learning
- Bin Liu - Ph.D.
  Artificial Intelligence/Machine Learning
- Salman Nazir - Ph.D. (McGill University)
  Management information systems
- Christopher Ramezan - Ph.D. (West Virginia University)
  Cybersecurity

EMERITUS

- Thomas L. Blaskovics

TEACHING ASSISTANT PROFESSOR

- Vincent Dobillas - M.B.A. (Rider University)
- Janet Fraser - Ph.D. (Pennsylvania State University)
  Business data analytics.
Admissions

For specific information regarding the admissions requirements for First Time Freshmen to the John Chambers College of Business and Economics, please visit http://catalog.wvu.edu/undergraduate/collegeofbusinessandeconomics/#admissionstext.

Students who are direct admitted to the major as first-time freshmen must possess an overall university GPA of at least 2.5 and have completed the course prerequisites listed in the table below with minimum grade of C-, unless otherwise noted, to be eligible to enroll in upper-division course work.

Students who are not direct admitted to the major (i.e. Business) will declare the major at the beginning of the semester in which they satisfy the course prerequisites listed below. Applicants also must possess an overall GPA of at least 2.5 to be considered for admission to the major.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201</td>
<td>Principles of Accounting 1</td>
<td>3</td>
</tr>
<tr>
<td>BCOR 121</td>
<td>Introduction to Business Applications</td>
<td>2</td>
</tr>
<tr>
<td>ECON 201</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202</td>
<td>and Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 225</td>
<td>Elementary Business and Economics Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or STAT 211</td>
<td>Elementary Statistical Inference</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose one of the following: 3-6

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101</td>
<td>Introduction to Composition and Rhetoric</td>
</tr>
<tr>
<td>&amp; ENGL 102</td>
<td>and Composition, Rhetoric, and Research</td>
</tr>
<tr>
<td>ENGL 103</td>
<td>Accelerated Academic Writing</td>
</tr>
</tbody>
</table>

Choose one of the following: a minimum of B- is needed in MATH 150 or C- in MATH 154 or MATH 155 3-4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 124</td>
<td>Algebra with Applications</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MATH 150</td>
<td>and Applied Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 129</td>
<td>Pre-Calculus Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MATH 155</td>
<td>and Calculus 1</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 153</td>
<td>Calculus 1a with Precalculus</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MATH 154</td>
<td>and Calculus 1b with Precalculus</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 20-24

* A minimum grade of B- in MATH 150 is required for admission to the program. A grade of C- in MATH 154 or a higher college calculus course satisfies the calculus requirement.

Students who are direct admitted to the major and meet the requirements listed above are guaranteed permission to enroll in upper-division course work. The Chambers College will accommodate as many majors as resources are available. Students who are denied admission to the major may apply for admission in a future application period or accept admission to an alternative major in the Chambers College.

Due to Covid-19 – Admission requirements may differ from what is listed on this page. Please review the most up-to-date program admission requirements for the Bachelor of Science in Business Administration in Management Information Systems (https://admissions.wvu.edu/academics/majors/management-information-systems/) major.

ADMISSION REQUIREMENTS 2023-2024

The Admission Requirements above will be the same for the 2023-2024 Academic Year.

Major Code: 2152

Click here to view the Suggested Plan of Study (p. 4)

General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/gef/)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric 3-6
ENGL 101 & ENGL 102 Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research
or ENGL 103 Accelerated Academic Writing

F2A/F2B - Science & Technology 4-6
F3 - Math & Quantitative Reasoning 3-4
F4 - Society & Connections 3
F5 - Human Inquiry & the Past 3
F6 - The Arts & Creativity 3
F7 - Global Studies & Diversity 3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree) 9

Total Hours 31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

**Degree Requirements**

To qualify for the Bachelor of Science in Business Administration students must meet the following criteria:

- Complete a minimum of 120 credit hours.
- Possess an overall GPA of 2.0.
- Possess a GPA of 2.0 for all major courses (i.e. ACCT, MIST), calculated using all attempted GPA hours unless excluded by the D/F repeat policy.
- The John Chambers College of Business and Economics accepts all baccalaureate transferable course work completed at public and private colleges in West Virginia and other regionally accredited institutions. Since the College is AACSB accredited, upper-division courses (courses equivalent to 300/400 level at WVU) must be evaluated by the Dean or designee before they may count toward business core, major core and major restricted electives in the Bachelor of Science in Business Administration or Bachelor of Science in Economics program.

<table>
<thead>
<tr>
<th>University Requirements</th>
<th>34</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Business Core Requirements</td>
<td>33</td>
</tr>
<tr>
<td>Management Information Systems Major Requirements</td>
<td>30</td>
</tr>
<tr>
<td>Total Hours</td>
<td>120</td>
</tr>
</tbody>
</table>

**University Requirements**

General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits)

| Outstanding GEF Requirements 2, 4, 5, 6, and 7 | 16 |
| BCOR 191 First-Year Seminar | 1 |
| General Electives | 17 |
| Total Hours | 34 |

**Program Requirements**

| ACCT 201 Principles of Accounting 1 (Minimum grade of C-) | 3 |
| BCOR 121 Introduction to Business Applications (Minimum grade of C-) | 2 |
| ECON 201 Principles of Microeconomics (Minimum grade of C-; may fulfill GEF 8) | 3 |
| ECON 202 Principles of Macroeconomics (Minimum grade of C-; may fulfill GEF 8) | 3 |

Select one of the following (Minimum grade of C-; may fulfill GEF 1):

| ENGL 101 & ENGL 102 Introduction to Composition and Rhetoric and Composition, Rhetoric, and Research | 3-6 |
| ENGL 103 Accelerated Academic Writing | |

Select one of the following (Minimum grade of C-; may fulfill GEF 8):

| ECON 225 Elementary Business and Economics Statistics | 3 |
| STAT 211 Elementary Statistical Inference | |

Select one of the following; minimum grade of B- in MATH 150 or C- in MATH 154 or higher; (may fulfill GEF 3):

| MATH 124 Algebra with Applications & MATH 150 and Applied Calculus | 3-8 |
Management Information Systems (MIS), B.S.B.A.D.

MATH 129 & MATH 155
Pre-Calculus Mathematics and Calculus 1
MATH 150
Applied Calculus
MATH 153 & MATH 154
Calculus 1a with Precalculus and Calculus 1b with Precalculus
MATH 155
Calculus 1

Total Hours
23

Business Core Requirements

ENTR 102
Applied Innovation Clinic 3
BCOR 199
Introduction to Business 3
BCOR 299
Business Communication (Fulfills Writing and Communication Skills Requirement) 3
BCOR 320
Legal Environment of Business 3
BCOR 330
Information Systems and Technology 3
BCOR 340
Principles of Finance 3
BCOR 350
Principles of Marketing 3
BCOR 360
Supply Chain Management 3
BCOR 370
Principles of Management 3
BCOR 380
Business Ethics 3
BCOR 460
Contemporary Business Strategy 3

Total Hours
33

Management Information Systems Major Requirements

Possess a minimum GPA of 2.0 for all major courses calculated using all attempted GPA hours unless excluded by the D/F repeat policy.

MIST 320
Managing Information Technology 3
MIST 351
Database Management Systems 3
MIST 352
Business Application Programming 3
MIST 353
Advanced Information Technology 3
MIST 355
Data Communications 3
MIST 450
Systems Analysis 3
MIST 452
Systems Design and Development 3

MIST Electives

MIST Electives

ACCT 321
Introduction to Accounting Systems 3
MIST 356
Network Security 3
MIST 357
Information Ethics 3
MIST 491
Professional Field Experience (maximum of six credits) 3

Upper-Division BUDA, CS, CYBR Courses

Other Courses Approved by Department

Total Hours
30

The College restricts students to six credit hours of Professional Field Experience toward completion of a degree. No more than three credit hours may apply toward the major.

Suggested Plan of Study

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BCOR 199</td>
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<td>ACCT 201</td>
<td>3</td>
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<tr>
<td>BCOR 191</td>
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<td>ECON 201 (GEF 8)</td>
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<td>BCOR 121</td>
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<td>ENGL 101 (GEF 1)</td>
<td>3</td>
</tr>
<tr>
<td>Select one of the following (GEF 3):</td>
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<td>Select one of the following:</td>
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<tr>
<td>MATH 124</td>
<td></td>
<td>MATH 150</td>
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Management Information Systems (MIS), B.S.B.A.D.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 129</td>
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<td>MATH 154</td>
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<td>MATH 150</td>
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<td>MATH 155</td>
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<td>MATH 153</td>
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<td>MATH 156</td>
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<td>MATH 155</td>
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<td>GEF (Choose from F2B, F4, F5, F6 or F7)</td>
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<td>ENTR 102</td>
<td>3</td>
<td>GEF (Choose from F2B, F4, F5, F6 or F7)</td>
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Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ECON 202 (GEF 8)</td>
<td>3</td>
<td>BCOR 299</td>
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<tr>
<td>ECON 225 (GEF 8)</td>
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<td>ENGL 102 (GEF 1)</td>
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<td>BCOR 350</td>
<td>3</td>
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<td>GEF (Choose from F2B, F4, F5, F6 or F7)</td>
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<td>BCOR 370</td>
<td>3</td>
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<td></td>
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<td>MIST 351</td>
<td>3</td>
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Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BCOR 340</td>
<td>3</td>
<td>BCOR 380</td>
<td>3</td>
</tr>
<tr>
<td>MIST 320</td>
<td>3</td>
<td>MIST 355</td>
<td>3</td>
</tr>
<tr>
<td>MIST 352</td>
<td>3</td>
<td>MIST 353</td>
<td>3</td>
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<tr>
<td>Minor or General Electives</td>
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<td>Minor or General Electives</td>
<td>6</td>
</tr>
<tr>
<td>GEF (Choose from F2B, F4, F5, F6 or F7)</td>
<td>3</td>
<td></td>
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<td>15</td>
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</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCOR 320</td>
<td>3</td>
<td>BCOR 460</td>
<td>3</td>
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<tr>
<td>BCOR 360</td>
<td>3</td>
<td>MIST 452</td>
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<td>MIST 450</td>
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<td>MIS Elective</td>
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<tr>
<td>MIS Elective</td>
<td>6</td>
<td>Minor or General Electives</td>
<td>6</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

Total credit hours: 120

Major Learning Outcomes

MANAGEMENT INFORMATION SYSTEMS

The objective of providing a foundational education in management information systems and innovation at the undergraduate level cannot be realized without appropriate curricula content, effective teaching, and ultimately, learning. Within the undergraduate management information systems major, we subscribe to the following learning goals for each of our undergraduate students:

- Competence in core technical areas associated with MIS, such as programming, data communications and databases
- Knowledge of the selection, implementation and use of management information systems in organizations
- Awareness of how to analyze business problems and to design, build and maintain appropriate technological systems to solve those problems
- An ability to apply business skills to technical problems while using an information ethics lens to achieving solutions

COURSES

MIST 320. Managing Information Technology. 3 Hours.
This course provides student with an understanding of how information systems are used in business and how they impact (positively or negatively) the competitive position of organizations.

MIST 351. Database Management Systems. 3 Hours.
Introduction to database theory, design, implementation, management, and models; development of database applications for management systems.

MIST 352. Business Application Programming. 3 Hours.
PR or CONC: MIST 351. Provides an understanding of fundamental programming concepts 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.
MIST 353. Advanced Information Technology. 3 Hours.
PR: MIST 352. Presents students 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.

MIST 355. Data Communications. 3 Hours.
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.

MIST 356. Network Security. 3 Hours.
PR or CONC: MIST 355. 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.

MIST 357. Information Ethics. 3 Hours.
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.

MIST 400. Advanced Information Security. 3 Hours.
PR: MIST 355 with a minimum grade of C- and PR or CONC: MIST 356 with a minimum grade of C-. This course will provide students with advanced knowledge on offensive security and penetration testing topics from a technical and management perspective. This is a highly technical course that will provide students with hands-on knowledge of a multitude of common penetration testing techniques and tools, as well as broad knowledge about offensive security from a business and information security management perspective.

MIST 450. Systems Analysis. 3 Hours.
PR: MIST 320 and MIST 351 and MIST 352. 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 communication are stressed.

MIST 452. Systems Design and Development. 3 Hours.
PR: MIST 353 and MIST 450. Follows the systems analysis course with the second half of the system development cycle; user interface design, data design, process design, system specifications, use of software development tools, documentation, testing, conversion, and maintenance.

MIST 491. Professional Field Experience. 1-18 Hours.
PR: Consent (May be repeated up to a maximum of 6 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.

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

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