Benjamin M. Statler College of Engineering and Mineral Resources

Contact Information
Website: http://www.statler.wvu.edu
E-mail: statler-info@mail.wvu.edu
Phone: (304) 293-4821

Degrees Offered

- Bachelor of Science in Aerospace Engineering (B.S.A.E.)*
- Bachelor of Science in Biomedical Engineering (B.S.Bm.E.)
- Bachelor of Science in Biometric Systems Engineering (B.S.B.S.E.)
- Bachelor of Science in Chemical Engineering (B.S.Ch.E.)*
- Bachelor of Science in Civil Engineering (B.S.C.E.)*
- Bachelor of Science in Computer Engineering (B.S.Cp.E.)*
- Bachelor of Science in Computer Science (B.S.C.S.)#
- Bachelor of Science in Cybersecurity (B.S.)
- Bachelor of Science in Electrical Engineering (B.S.E.E.)*
- Bachelor of Science in Industrial Engineering (B.S.I.E.)*
- Bachelor of Science in Mechanical Engineering (B.S.M.E.)*
- Bachelor of Science in Mining Engineering (B.S.Min.E.)*
- Bachelor of Science in Petroleum and Natural Gas Engineering (B.S.P.N.G.E.)*


Dual Degrees Offered

- Aerospace Engineering and Mechanical Engineering
- Biometric Systems and Computer Engineering
- Biometric Systems and Electrical Engineering
- Civil Engineering and Mining Engineering
- Computer Engineering and Computer Science
- Computer Engineering and Electrical Engineering
- Mining Engineering and Geology

Nature of Program

The Benjamin M. Statler College of Engineering and Mineral Resources (Statler College) undergraduate degree programs are administered through seven academic departments:

- Chemical and Biomedical Engineering
- Civil and Environmental Engineering
- Lane Department of Computer Science and Electrical Engineering
- Industrial and Management Systems Engineering
- Mechanical and Aerospace Engineering
- Mining Engineering
- 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 Statler College is committed to providing high-quality educational programs 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**

ABET accredits college and university programs in the disciplines of applied and natural science, computing, engineering and engineering technology at the associate, bachelor and master degree levels. With ABET accreditation, students, employers and society can be confident that a program meets the quality standards that produce graduates prepared to enter a global workforce.

The Bachelor of Science in Computer Science (B.S.C.S.) is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org.

The Bachelor of Science in Aerospace Engineering (B.S.A.E.), Bachelor of Science in Chemical Engineering (B.S.Ch.E.), Bachelor of Science in Civil Engineering (B.S.C.E.), Bachelor of Science in Computer Engineering (B.S.Cp.E.), Bachelor of Science in Electrical Engineering (B.S(571,699),(629,716).E.), Bachelor of Science in Industrial Engineering (B.S.I.E.), Bachelor of Science in Mechanical Engineering (B.S.M.E.), Bachelor of Science in Mining Engineering (B.S.Min.E.), and Bachelor of Science in Petroleum and Natural Gas Engineering (B.S.P.N.G.E.) are accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

**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. Technical electives allow students to develop depth in a specialty area or breadth among several fields. Study in the humanities and social sciences play an integral part of our programs, enabling students to understand and appreciate the technological, social, and cultural changes that challenge the world and providing the context of our ethical and responsible duties to society.

**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 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 program curriculum. Students must achieve a minimum grade point average of 2.25 for all courses taken at WVU, a major grade point average of 2.25 or better in courses completed within the student’s major, and a minimum overall grade point average of 2.25. Courses included in the major GPA calculation and how grades for repeated courses are handled for the GPA calculation are specified by individual program requirements.

Graduating students are expected to complete a survey regarding their academic and professional experiences at WVU, as well as post-graduation job placement or continuing education plans.

**Academic Minor**

The Statler College offers minors in Biomedical Engineering, Chemical Engineering, Computer Science, and Nanosystems 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 these minors. The completed minor will be recorded on the student’s permanent transcript.
Cooperative (Co-op) Education and Internship Programs

The co-op opportunity is available to any qualified student interested in pursuing a degree in any engineering major offered by the college 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.

International Exchange Programs

Students are strongly encouraged to prepare for their careers through learning abroad. The college participates in numerous international exchange programs for undergraduates, as well as the International Student Exchange Program (ISEP) managed through the WVU International Programs Office. There are short-term classes led by WVU faculty, semester and year-long exchange programs, study abroad programs, and service learning opportunities via Engineers Without Borders. The college strongly encourages students to participate in these unique study abroad opportunities. Individual program details vary, but in general, provide Statler College students the opportunity to take part in a study abroad experience that may be for a summer, semester, or full academic year taking courses that count toward their degree so graduation need not be delayed. The Statler College offers its students the opportunity to earn a Certificate in Global Competency which, if successfully completed, is recorded on the student's transcript. Students are encouraged to visit the International Programs website for more detailed information.

The Statler College cooperates with the Royal University of Women to deliver courses at the WVU-Bahrain campus in the Kingdom of Bahrain.

Scholarships

FIRST YEAR STUDENTS

The Statler College awards four-year scholarships to incoming first year students based on academic performance in high school and standardized test scores (ACT/SAT). These scholarships are automatic and students do not need to apply. Requirements can be found at https://www.statler.wvu.edu/undergraduate/paying-for-college. These scholarships would be awarded in conjunction to any other WVU scholarship a student may be receiving.

CONTINUING STUDENTS

The Statler College and its constituent departments offer numerous competitive scholarships to undergraduate students who have been in the college for at least one year. Scholarships are based on several factors including academic performance, financial need, and research involvement. These scholarships require applications to be completed by the end of the fall semester. More information can be found at http://www.statler.wvu.edu/undergraduate/paying-for-college/scholarships. These scholarships would be awarded in conjunction to any other WVU scholarship a student may be receiving.

ADMINISTRATION

DEAN

• Eugene V. Cilento - Ph.D. (University of Cincinnati)
  Glen H. Hiner Dean

ASSOCIATE DEAN FOR ACADEMIC AFFAIRS

• David A. Wyrick - Ph.D. (University of Missouri-Rolla)

ASSOCIATE DEAN OF RESEARCH

• Pradeep Fulay - Ph.D. (University of Arizona)

ASSISTANT DEAN FOR FUNDAMENTALS OF ENGINEERING

• Robin A. M. Hensel - Ed.D. (West Virginia University)

ASSISTANT DEAN FOR ADMINISTRATION

• R. Jason Dean - M.A. (West Virginia University)

Learning Outcomes for Degree Designations

Each degree offered in the Statler College has designated learning outcomes which students should achieve through the respective programs.

BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING (BSAE)

Upon graduation, all Bachelor of Science students in Aerospace Engineering will have the:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING (BSBME)

Upon graduation, all Bachelors of Science students in Biomedical Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN BIOMETRIC SYSTEMS ENGINEERING (BSBSE)

Upon graduation, all Bachelor of Science students in Biometric Systems Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING (BSCHE)

Upon graduation, all Bachelors of Science students in Chemical Engineering will:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING (BSCE)

Upon graduation, all Bachelor of Science students in Civil Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING (BSCPE)

Upon graduation, all Bachelor of Science students in Computer Engineering will have the:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE (BSCS)

Upon graduation, all Bachelor of Science students in Computer Science will have an ability to:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program’s discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

BACHELOR OF SCIENCE IN CYBERSECURITY (BS)

Upon graduation, all Bachelor of Science students in Cybersecurity will be able to:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program’s discipline.
6. Apply security principles and practices to maintain operations in the presence of risks and threats.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (BSEE)

Upon graduation, all Bachelor of Science students in Electrical Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING (BSIE)

Upon graduation, all Bachelor of Science students in Industrial Engineering will have acquired the:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING (BSME)

Upon graduation, all Bachelor of Science students in Mechanical Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN MINING ENGINEERING (BSMINE)

Upon graduation, all Bachelor of Science students in Mining Engineering will:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

BACHELOR OF SCIENCE IN PETROLEUM AND NATURAL GAS ENGINEERING (BSPNGE)

Upon graduation, all Bachelor of Science students in Petroleum and Natural Gas Engineering will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
Admissions
The Statler College will admit first year students to study under one of three distinct programs: Engineering Track 1, Engineering Track 2, or Engineering Track 3. Admission is based on high school grade point average and math readiness. The objective of having these individual tracks is to provide a first year curriculum tailored to the level of academic preparation of the student which maximizes the opportunity for success. Each track provides students the coursework necessary to meet the requirements to move into their intended major.

The following summarizes the admission requirements of each track to coincide with placement into the appropriate math, science, and engineering courses. Students must meet all of the criteria listed; these criteria are minimum requirements for admission to the Statler College. Admission to a discipline major is competitive and dependent on enrollment availability. Students must also meet all other WVU admission requirements (https://admissions.wvu.edu).

ENGINEERING TRACK 1
- High School GPA should be at least 3.00
- Math placement of MATH 155
- Students on this track can typically graduate in 4 years

ENGINEERING TRACK 2
- High School GPA should be at least 2.50
- Math placement of MATH 153
- Students on this track can typically graduate in 4 to 4.5 years

ENGINEERING TRACK 3
- High School GPA should be at least 2.50
- Math placement of MATH 126
- Students on this track can typically graduate in 5 years

Transfer Students

TRANSFERFING FROM WITHIN WVU
Students wishing to transfer into any Statler major from another program at WVU must have a GPA of at least a 2.25 in all college coursework attempted. Students with less than 24 credit hours can be admitted based on freshman admissions criteria. Otherwise, students must have completed at least one semester of college coursework and present evidence that they are eligible to enroll in MATH 155. These criteria are minimum requirements for admission into the Statler College, and at times a student’s full transcript can be taken into account during the admission process. Students meeting this criteria will be admitted into Engineering Track 2. Admission to a discipline major is competitive and dependent on enrollment availability.

TRANSFERFING FROM OUTSIDE WVU
Students wishing to transfer into any Statler major from outside WVU must have a GPA of at least a 2.50 in all college coursework attempted. Students with less than 24 credit hours can be admitted based on freshman admission criteria (shown in table above). Otherwise, students must have completed at least one semester of college coursework and present evidence that they are eligible to enroll in MATH 155. These criteria are minimum requirements for admission into the Statler College, and at times a student’s full transcript can be taken into account during the admission process. Students meeting this criteria will be admitted into Engineering Track 2. Admission to a discipline major is competitive and dependent on enrollment availability.

Students wishing to transfer directly into an engineering discipline must have a GPA of at least a 2.50 and have completed MATH 155, CHEM 115, ENGL 101, ENGR 101, ENGR 102, and ENGR 191 all with a C or better (students transferring in with more than 29 credit hours are exempt from ENGR 191). Students wishing to transfer directly into computer science or cybersecurity must have a GPA of at least 2.50 and have completed MATH 155, CHEM 115 or an approved lab science course, ENGL 101, ENGR 101, CS 110, and ENGR 191 all with a minimum grade of C or better (students transferring in with more than 29 credit hours are exempt from ENGR 191).

If students are sophomore level or above, have earned a C or better in CHEM 115, MATH 155, MATH 156, and PHYS 111, and have completed at least three credit hours in a discipline specific course, then they may take an approved elective (or approved transfer credit) as a substitute for either ENGR 101 or 102. If the combination of multiple engineering courses transferred to WVU matches the content of ENGR 101 and/or 102, those courses may be approved as a course substitution for ENGR 101 and/or 102. Other transfer courses that are not an exact match may be approved as a technical elective to substitute for ENGR 101 or 102 at the discretion of the Assistant Dean for Fundamentals of Engineering. These criteria are minimum requirements for admissions into the Statler College, and a student’s full transcript can be taken into account during the admission process. Admission to a discipline major is competitive and dependent on enrollment availability.
Biomedical Engineering Certificate

Please refer to the Department of Chemical and Biomedical Engineering section for information and requirements for the Biomedical Engineering Certificate.

Global Competency Certificate

CERTIFICATE CODE - CU01

OBJECTIVE

To provide students the opportunity to develop global competencies by working effectively across cultural and linguistic barriers while focusing on engineering and computer science issues that transcend their own culture.

LEARNING OUTCOMES

- Students will acquire basic knowledge of other languages and cultures while acquiring or applying engineering or computer science skills consistent with their programs of study.
- Students will develop communication and interpersonal skills to work with people of different backgrounds.
- Students will acquire an appreciation for contemporary issues and of the role of engineering or computer science solutions in a societal context.

GLOBAL COMPETENCIES DEFINED

- The ability to work effectively in different international settings
- An awareness of the major currents of global change and the issues arising from such changes
- Knowledge of global organizations and business activities
- The capacity for effective communication across cultural and linguistic boundaries
- Personal adaptability to diverse cultures

COMPONENTS OF THE CERTIFICATE PROGRAM

- Language and Culture Component: 6-9 credit hours completed at either WVU or a foreign academic institution (recognized by WVU's Office of International Programs) in international language, culture, literature, art or history. The courses need to be associated with the host country or region. If the foreign academic institution has a primary language requirement other than English the student can count no more than six credit hours of language in the language of the foreign academic institution toward the certificate. These credit hours can be applied to WVU’s GEF requirement as appropriate.

- Engineering or Computer Science Major Coursework Component: 6-9 credit hours of engineering or computer science course work completed internationally, either from a foreign academic institution or through a WVU sponsored program applicable to the student’s major at WVU. A minimum of 6 credit hours need to be equivalent to WVU upper division courses (300 and above). The student’s course work must include significant mentorship of engineering or computer science learning activity, involving both WVU students and foreign students. At least 3 credit hours must involve experiential learning activities, which may include an industry based internship, design class, or project with report and presentation or other team based activities, for example. Each individual Statler College department will be responsible for selecting the admissible graded coursework through the respective curriculum committee.

- Social Service Component: one credit hour, minimum of social or civic engagement. This can include participation in Engineers without Borders or participation in activities in professional society student chapters with a social impact. The community service must include oversight at a professional or academic level (in other words, either a faculty member, or engineering or computer science professional should be involved).

After the aforementioned requirements are fulfilled, the Certificate of Global Competencies will only be issued to participating students upon graduation from the degree program involved with the international activity.

COMPLETION OF DEGREE REQUIREMENTS

Individual departments will be responsible for assessing student performance to ensure achievement of ABET accreditation outcomes.

GENERAL COMMENTS

- This certificate requires learning abroad at a partner university for at least one semester.
- International institutions that have an existing agreement with WVU are preferred, however “new” institutions can be considered as well. The responsibility for course evaluation rests with the individual department.
- If a student decides to attend a school that doesn't have a WVU exchange agreement in place, they will be responsible for paying the local tuition and fees, housing, etc.
NANOSYSTEMS MINOR
MINOR CODE - U105

Using nano devices and systems as naturally integrative learning vehicles, technical, social, ethical and economic considerations are introduced and developed, enabling students to understand the role of their discipline and the value of others. The Nanosystems Minor culminates with students fulfilling their majors' capstone requirement by engaging in authentic interdisciplinary NSE nanosystems research within host faculty labs. As a result, engineering and science students grow together as young collaborating professionals using the unique environment afforded by NSE as they at the same time grow and form in their own disciplines.

ENGR 103 Introduction to Nanotechnology Design 3
ENGR 280 Sophomore Nanoscience Seminar 1
ENGR 380 Junior Nanoscience Seminar 1 1
ENGR 381 Junior Nanoscience Seminar 2 1
Project 1 3
Tech Elective 2 3
Tech Elective 2 3
Total Hours 15

1 400 level course, senior rank, eg. Capstone Project, Honors Thesis or Undergraduate research on an authentic research topic (see following definition for clarification).
2 300 level course or above from the student’s major which would be required/needed to work in the area of Nanotechnology

Authentic Research Topic

For the purposes of the Nanosystems Minor, an authentic research topic is defined as one that is part of a funded project and/or its results can be published and therefore it is of interest to the scientific community.

Procedures and Guiding Principles for Handling Transfer/Transient Credit

The Statler College strives to manage student transfer/transient credits in a fair, consistent, and uniform manner relative to students in the College who do not seek transfer/transient course credit and to exercise due diligence with meeting ABET prerequisite and curricular requirements for transfer credit. The College has adopted the following procedures/guiding principles to deal with transfer/transient credit issues.

CREDIT TRANSFER PROCEDURE

Chemistry, engineering, geology, math, or physics courses transferred to WVU for consideration of academic credit in the Statler College will be transferred as “Open Credit” (e.g., MATH 000, NOEQ, 1TC, 2TC, etc). The “open credit” will be reviewed to determine if it meets the academic requirements of the College and if so, processed by a course substitution action. The only exceptions to this policy will be if a student is transferring into the College:

• Advanced Placement Program (AP) credit
• International Baccalaureate (IB) credit
• College Level Examination Program (CLEP) credit
• Credit based on an approved Transient Approval Form by the dean or his designee before the course was taken
• Credit from a college or university with which Statler College has an approved articulation agreement

GUIDELINES FOR COLLEGE APPROVAL OF REQUESTS FOR TRANSIENT COURSE CREDIT

Students may request up to nine (9) credits of coursework to be taken in transient for use toward the degree requirements, defined to include mathematics, science, and Statler College courses. Students may request up to eighteen (18) credits of coursework in total, which includes English, Economics, general education elective courses, and free electives.

An Undergraduate Transient Application will typically be approved if:

• The student has met all the requirements (rank, prerequisite/co-requisites, etc.) to take the course at WVU
• The requested course has the same number of credit hours and pre or co-requisites as the WVU course or has otherwise been deemed academically equivalent by Statler College

An Undergraduate Transient Application will not be approved if:

• The student has previously earned a D, F, or W in the equivalent course at WVU
• Any online course fails to have proctored exams.
• Any online course that includes a laboratory component.
• The student is currently enrolled at WVU to take coursework in the same term/semester in which they are applying to be a transient student at another institution.

Meeting the guidelines for a transient application does not guarantee approval of the transient application. The associate dean for academic affairs has the right to set conditions more stringent than those set forth in these guidelines, as well as the right to limit transient course credit. Transient requests for summer session will be reviewed after March 1.

**COURSE SUBSTITUTION APPROVAL PROCESS**

A course designated as "open credit" can be petitioned for specific course credit through the established course substitution approval process. The student must present sufficient evidence that the course is equivalent to the specified WVU course. A course syllabus and transcript showing the student's grade in that course must be presented with the application for the course to be reviewed to determine equivalency. Since this review process may take significant time to complete, credit for courses presented for review within two weeks of the beginning of a semester may not be awarded credit in time for the student to register for a subsequent course for which the transfer course is a prerequisite.

**Smart Device Policy**

The use of programmable calculators or smart devices (including smart-phones, smart watches, tablets, cameras, wearable devices, etc.) on exams and quizzes prohibited unless specifically indicated by the instructor.

**Sanction Policy for Academic Integrity Offenses**

Graduates of the Statler College have the obligation to serve humanity with integrity, fairness, tolerance, and respect. Computing and engineering professionals are held to the highest standard of conduct. Academic integrity is fundamental to meeting this obligation and standard of conduct.

1. Cheating or plagiarism on minor course element (e.g., quiz, weekly lab report, homework as specified in the syllabus). The instructor reports academic dishonesty and assigns a grade of zero on the entire minor course element, and may reduce the course grade by one full letter grade. The student may receive an education supplement from the Office of Student Conduct and may face possible dismissal from Statler College if there are previous major or repeated minor offenses.

2. Cheating or plagiarism on a major course element (e.g., exam, project). The instructor reports academic dishonesty and assigns a grade of zero on the entire major course element, and may reduce the course grade to F, recommend a UF, and/or recommend the student be excluded from further participation in the course. The student may receive an education supplement from the Office of Student Conduct, dismissal from Statler College and/or recommendation for suspension or expulsion from WVU for a second AI offense.

3. Collusion on major course element. The instructor reports academic dishonesty and assigns a course grade of F, recommends a UF, and recommend the student be excluded from further participation in the course. The student will be recommended for dismissal from Statler College and expulsion from WVU.

4. Other (document alteration, tampering with records, and cases outside of cases 1-3). The instructor reports academic dishonesty and assigns a grade of zero on the course element (if applicable), and may impose a further grade reduction, recommend a UF, and/or recommend the student be excluded from further participation in the course. The student may receive an education supplement from the Office of Student Conduct, dismissal from Statler College and/or recommendation for suspension or expulsion from WVU for a second AI offense.

Student conduct violations can also be considered in dismissal cases. Dismissal from Statler College for academic integrity offenses is permanent.

**Probation, Dismissal and Readmission Policy**

**UNIVERSITY PROBATION AND SUSPENSION**

Students with a cumulative grade point average below 2.00 in all University coursework will be subject to probation and suspension by the University. Please refer to the Undergraduate Academic Probation and Suspension Policy found in the Undergraduate Information section of this catalog for further information on WVU probation and suspension.

**STATLER COLLEGE DISMISSAL**

Academic program dismissal identifies the status of a student who has failed to meet the minimum academic standards of the college and has been transferred to the Center for Learning, Advising, and Student Success. Dismissal from the Statler College means that a student will not be permitted to register for any classes in the college until the student has been officially reinstated to the college. Students are expected to maintain a minimum grade point average of 2.25 in their major coursework, for all WVU courses, and overall. Students whose academic major GPA, WVU-earned GPA or overall GPA continues below the minimum standards outlined in the following table will be subject to dismissal from the Statler College. If a major course is repeated, only the last grade received is counted in computing the major grade point average and the major credit hours attempted. Students eligible for dismissal may not transfer to another major program in the college. A student who has preregistered for classes and is subsequently dismissed shall have their registration in Statler College courses automatically canceled. The student has the right to appeal an academic performance dismissal. If a student appeal of dismissal is granted, the duration of any subsequent dismissal will be at the greater level. Students who have been dismissed from Statler College for academic integrity offenses may not appeal for reinstatement.
A student who has been dismissed for academic performance must petition to be readmitted to the Statler College; the decision to readmit will be on a case-by-case basis. The duration of the first dismissal for academic performance from the Statler College is one academic semester. The duration of subsequent dismissals will be one calendar year for a second dismissal and five years for a third dismissal. A student who has been dismissed from the Statler College, including from the Fundamentals of Engineering program, cannot transfer academic major course work taken at another institution, during the period of dismissal, for credit toward meeting their degree requirements.

The Statler College has established additional requirements for satisfactory academic progress. Failure to meet any of these requirements may lead to dismissal from the Statler College:

1. Students must maintain minimum GPAs (major, WVU, and overall) of 2.25. (Program requirements may be higher.)
2. Students have a maximum of two attempts (course grades of A-F and W) to pass a degree-applicable course; a third attempt may be requested once with approval of the Associate Dean for Academic Affairs.
3. The maximum number of consecutive semesters with an original term GPA less than 2.00 is two. Original term GPA is before any adjustments such as repeated courses.
4. The maximum DFW allowance for courses is 40% of credit hours attempted to be applied to the degree.

**MINIMUM MAJOR, WVU, AND OVERALL GPA REQUIREMENTS**

<table>
<thead>
<tr>
<th>Total Hours Attempted*</th>
<th>Minimum cumulative GPA*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 13</td>
<td>N/A</td>
</tr>
<tr>
<td>14 to 29</td>
<td>2.00</td>
</tr>
<tr>
<td>30 to 39</td>
<td>2.10</td>
</tr>
<tr>
<td>40 and more</td>
<td>2.25</td>
</tr>
</tbody>
</table>

* Total hours attempted include transfer work and courses with a grade of W.

Major GPA is for attempted credit hours within a program (e.g., CE or IENG)

**Graduation 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 program curriculum. Students must achieve a minimum grade point average of 2.25 for all courses taken at WVU, a major grade point average of 2.25 or better in courses completed within the student’s major, and a minimum overall grade point average of 2.25. Courses included in the major GPA calculation and how grades for repeated courses are handled for the GPA calculation are specified by individual program requirements.

Graduating students are expected to complete a survey regarding their academic and professional experiences at WVU, as well as post-graduation job placement or continuing education plans.

**Accreditation**

The Computer Science program is accredited by the Computing Accreditation Committee (CAC) of ABET, http://www.abet.org.

The following programs within the Benjamin M. Statler College of Engineering and Mineral Resources are accredited by the Engineering Accreditation Commission (EAC) of ABET, https://www.abet.org.

- Aerospace Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering
- Mining Engineering
- Petroleum & Natural Gas Engineering

The Biomedical Engineering was evaluated by ABET in 2018-19 and the accreditation action is pending at the time of publication of this Catalog.

The Biometric Systems Engineering and Cybersecurity programs are not accredited.