Benjamin M. Statler College of Engineering and Mineral Resources

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Degrees Offered
• Masters of science, aerospace engineering
• Masters of science, chemical engineering
• Masters of science, civil engineering
• Masters of science, computer science
• Masters of science, electrical engineering
• Masters of science, engineering
• Masters of science, industrial engineering
• Masters of science, industrial hygiene
• Masters of science, mechanical engineering
• Masters of science, mining engineering
• Masters of science, petroleum and natural gas engineering
• Masters of science, safety management
• Masters of science, software engineering
• Doctor of philosophy, aerospace engineering
• Doctor of philosophy, chemical engineering
• Doctor of philosophy, civil engineering
• Doctor of philosophy, computer science
• Doctor of philosophy, computer engineering
• Doctor of philosophy, electrical engineering
• Doctor of philosophy, industrial engineering
• Doctor of philosophy, mechanical engineering
• Doctor of philosophy, mining engineering
• Doctor of philosophy, occupational safety and health
• Doctor of philosophy, petroleum and natural gas engineering

Degree Programs
The Benjamin M. Statler College of Engineering and Mineral Resources graduate programs are administered through the Departments of 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 facilities are housed on the Evansdale campus in three buildings: the Engineering Sciences, the Mineral Resources, and the Engineering Research. These buildings house state-of-the-art research facilities, well-equipped teaching laboratories, computer classrooms, and offices for the faculty and administration of the graduate programs.

The college offers a doctor of philosophy in most disciplines. The Ph.D. programs prepare graduates for leadership in industrial, governmental, or academic fields. The areas of specialization in engineering are aerospace, chemical, civil, computer, electrical, industrial, mechanical, mining, and petroleum and natural gas. In addition, the college offers a Ph.D. in computer science and a Ph.D. in occupational safety and health.

Designated master’s degree programs in engineering are offered in aerospace, chemical, civil, electrical, industrial, mechanical, mining, petroleum and natural gas, software, and computer science. A master’s of science in engineering (M.S.E.) degree is offered to qualified students as determined at the departmental level. The college offers two accredited master’s of science degrees in industrial hygiene and safety management. These programs are accredited by the Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Currently, the college offers graduate certificate programs in computer forensics, information assurance and biometrics, and software engineering. For specific information about a program, students should review research and graduate studies information on the college website.
Special Requirements

A student desiring to take courses for graduate credit in the college must comply with the appropriate university regulations for graduate study. To become enrolled in a Statler College graduate program, a student must apply for admission through the Office of Admissions to the department housing the student’s choice of major. Acceptance will depend upon review of the student’s academic background and available facilities in the major program’s department.

An applicant with a baccalaureate degree, or its equivalent, from a program accredited by the ABET, Computer Science Accreditation Board (CSAB), or an internationally recognized program in engineering or computer science will be admitted on the same basis as engineering or computer science graduates of WVU. Lacking these qualifications, an applicant must first fulfill any special requirements of the department in which the student is seeking an advanced degree.

No credits which are reported with a grade lower than C are acceptable toward an advanced degree. To qualify for an advanced degree, the graduate student must have a grade point average of at least 3.0 based on all courses acceptable for graduate credit for which the student has received a grade from WVU. Graduate students in the college must also comply with the regulations of their major department.

Departments may establish more stringent requirements than those adopted for the college as a whole. These departmental requirements are contained in the individual program sections of the graduate catalog.

Course Load

A full-time graduate student must register for at least nine, but no more than fifteen, credit hours during each regular semester, or at least six, but no more than twelve, credit hours in the summer session. Permission to carry a heavier load must be obtained in writing from the dean.

Administration

Dean

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

Associate Dean for Academic Affairs

- Warren R. Myers - Ph.D. (West Virginia University)

Associate Dean for Administration

- Royce J. Watts - M.S. (West Virginia University)

Associate Dean for Research

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

Assistant Dean for Freshman Experience

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

Masters Program

There are three types of degrees granted within the Statler College of Engineering and Mineral Resources:

- M.S. in an engineering discipline (e.g. M.S.I.E., M.S.E.E., etc.)
- M.S. in engineering (e.g. M.S.E)
- M.S. in an applied science area (i.e., M.S. I.H., M.S.S.M., M.S.S.E., M.S.C.S.)

The M.S. degree in an engineering discipline requires an undergraduate degree in the same discipline. The master’s in engineering degree is intended for students who want an engineering master’s degree but do not have an undergraduate degree in the same field or a closely-allied field. The applied science programs are intended for students wishing to obtain a master’s in these non-engineering disciplines.

The two types of engineering degrees both require a calculus-based undergraduate education in an accredited program or an internationally recognized program; the applied science areas do not. Note: The admissions requirements are set by the individual department and program areas.

Students wishing to pursue a master’s of science degree who do not hold a correspondingly named bachelor’s degree may be admitted into either a discipline-designated program (including the M.S. degrees in computer science, industrial hygiene, safety management, and software engineering) or the undesignated Master of Science in Engineering Degree Program, depending on their credentials. For engineering degree programs, such students will normally be required to obtain a baccalaureate level of proficiency in subjects directly related to their area of graduate study by taking
undergraduate prerequisite courses, either prior to starting or as an integral part of their M.S. degree program. The degree designation and additional course requirements will be determined by the department admitting the student.

Entrance and Classification

Students admitted to the master’s degree program will be classified in one of three categories:

1. Regular – To be admitted as a regular graduate student, an applicant must have a grade point average (GPA) of 3.0 or better (out of a possible 4.0) in all previous college work and must meet all other requirements set by the department.

2. Provisional – An applicant not qualifying for the regular graduate student admission status, either due to insufficient GPA, incomplete credentials, or inadequate academic background, may be admitted as a provisional student. Any applicant with a GPA below 2.75 in any of his previous college work cannot be admitted without approval from the dean or designate. Requirements for attaining regular student status must be determined by the regularly constituted Admissions Committee and stated in a letter or form sent to the student by the department or program area prior to registration for coursework. The letter or form should include the following:
   • Reason not qualified for regular admission (e.g., deficient prerequisites, GPA, or both)
   • Coursework deficiencies, if any, and courses at WVU to correct the deficiencies (which must be passed with a “C” or better)
   • Notification that the student must attain at least a 3.0 in his or her first nine hours of graduate coursework
   • Notification that the student cannot graduate until all coursework deficiencies has been remediated

The student should be asked to sign the form or letter in acknowledgment that he or she received it. A copy of the form should be given to the student and another placed in the student’s file.

Additionally, the proposed plan of study for provisional students, including courses to remove deficiencies and courses to be counted for graduate degree credit, must be such that a decision regarding qualification for change of status to regular student can be made at the end of the semester in which the eighteenth credit hour is completed. It should be noted that the student may still be required to take additional regular courses upon attainment of regular student status.

3. Non-degree – A student who is not deemed qualified for admission to regular or provisional status, or who does not desire to pursue a degree, may be admitted as a non-degree student. Each department determines the minimum qualification requirements for admission as non-degree students. Such students are allowed to take graduate courses but are not allowed to pursue a graduate degree. These students may later request a change of status (see Section 3, Classification Change, and Section 12, Status Change).

Program Options

For all master’s degree students, an advisory and examining committee (AEC) consisting of at least three faculty members will be appointed. A plan of study must be jointly prepared and approved by the student and all members of the student’s AEC, the department chair, and the dean or designate, either at the end of the second semester of the student’s attendance or at the completion of the twelfth course credit hour, whichever is later. The college is authorized to grant master’s degrees under each of the following three options:

• Thesis Option – This option requires a minimum of twenty-four credit hours of coursework and at least six credit hours of research leading to the thesis.
• Problem Report Option – This option requires a minimum of thirty credit hours of coursework and at least three credit hours of a research or design project leading to a formal written report.
• Coursework Option – This option requires a minimum of thirty-three credit hours of coursework. There are two ways this option is implemented. First, although rarely permitted, this option is open to students who have practical engineering experience and/or have demonstrated an ability to organize and develop a project and write a technical report. Approval to pursue this option must be obtained from the student’s AEC, the graduate program coordinator, and the department chair. Second, a department can choose to offer students within a designated program the coursework-only option. Normally, for each option the coursework required is greater than that required for a student doing a thesis or problem report. In addition, the department must require successful completion of a written or oral comprehensive examination.

Advisory and Examining Committee

Each department will form an advisory and examining committee (AEC) for each of its master’s degree students, consisting of at least three members (with one member clearly designated as chairperson). The chair of the AEC and the majority of its members must be regular members of the graduate faculty and must have a primary faculty appointment in CEMR. The majority of the AEC members must be tenure track CEMR faculty. No more than one person may be a non-member of the graduate faculty.

The committee must be formed by the end of the second semester of attendance by the student or by the completion of the twelfth course credit hour applicable to the master’s degree requirements, whichever is later. Otherwise, the student will not be allowed to register for the following semester.

Plan of Study

A plan of study must be prepared by the student and the AEC chair. This plan must be approved by the student, all members of the AEC, the graduate program coordinator, the department chair, and the dean, before the end of the second semester of the student’s attendance or before the completion
of the twelfth course credit hour applicable to the master's degree requirements, whichever is later. This plan must also include a preliminary thesis research topic or problem report topic, if applicable.

Any revisions to a plan of study (including any changes to the AEC) will necessitate submission of a revised plan which incorporates all approved signatures. Any changes to the AEC must be signed by the previous and new members of the committee, to the extent that a previous committee member is available on campus. In addition, the removal of any member of the AEC requires submission of a Plan of Study Attachment.

Time To Completion

All requirements for the master’s degree must be completed within eight years preceding the student’s graduation.

Application for Transfer of Graduate Credit

A student wishing to apply graduate credit earned at another institution to a master’s degree at WVU must complete an application for transfer of graduate credit to WVU and have an official transcript submitted to the WVU Office of Admissions from the external institution. A maximum of twelve semester hours from other institutions may be acceptable for credit at WVU in master's degree programs in Statler College. Departmental programs may choose to accept fewer transfer credit hours with the restriction that only courses with grades of A or B may be considered for transfer.

Doctoral Program

Admission as a graduate student is required of all applicants for admission to a program of study and research leading to the degree of Ph.D. To be eligible for admission into a doctorate program in any engineering field, a candidate is expected to hold or to receive by time of enrollment a B.S. or an M.S. degree in one of the following fields:

- Some discipline of engineering from an institution which has an ABET-accredited program in that discipline or which has an internationally-recognized program in engineering/mineral resources
- Mathematics and physical sciences (as specified by individual programs)

To be eligible for admission into the doctoral program in the field of computer science, a candidate is expected to hold a B.S. or an M.S. degree in one of the following fields:

- Computer science
- Engineering
- Mathematics and physical sciences (as specified by the program)

To be eligible for admission into the doctoral program in the field of occupational safety and health, a candidate is expected to hold a B.S. or an M.S. degree in one of the following fields:

- Industrial hygiene
- Safety
- Engineering
- Mathematics and physical and life sciences (as specified by the program)

Although a bachelor's degree is the minimum requirement, applicants are normally encouraged to hold a master's degree in a relevant discipline. Admission to graduate study does not necessarily assure entrance into the college’s doctoral program. For complete details about admission criteria and other governance details of the doctor of philosophy programs please refer to the Guidelines for Doctor of Philosophy Programs which can be found on the college’s home page.

Entrance and Classification

Not all students who meet minimum college and program requirements will necessarily be accepted. Faculty members in a given graduate program have the right to set standards and conditions more restrictive than those set forth in these guidelines and the right to limit enrollment. For example, a program may choose to reject an applicant because his or her goals are not perceived to match the current needs and resources of the program. Similarly, although a student may be admitted solely for the purpose of enrolling in advanced coursework (e.g., non-degree students), program faculty may decline to allow that student to continue towards a doctoral degree even though the student has completed all required coursework successfully.

Students admitted to the Ph.D. program will be classified in one of two categories:

1. Regular - To be admitted as a regular graduate student, an applicant must have an equivalent grade point average (GPA) of 3.0 or better (out of a possible 4.0) in all previous college work, and must meet all other requirements set by the department and program, including minimum GRE scores. Any exceptions to the stated requirements must be approved by the dean.

2. Provisional - An applicant not qualifying for the regular graduate student admission status, either due to insufficient GPA, insufficient GRE scores, incomplete credentials, or inadequate academic background, may be admitted as a provisional student. Any applicant with a GPA below 2.75 in any of his/her previous college work cannot be admitted without a special approval from the dean. Applications will be returned to the
program coordinator if the application shows a GPA less than 2.75 unless it is accompanied by a signed approval from the dean. Students are notified of their provisional status by Admissions and Records. The admitting college program is responsible for communicating to the student the requirements they must meet before attaining regular status.

Note: Admission to the graduate program does not confer or guarantee candidacy for the Ph.D., which requires a separate decision.

Advisory and Examining Committee

Each department will form an advisory and examining committee (AEC) for each of its doctoral-level students, consisting of a minimum of five members. The dean and the department chair each has the right to appoint one member to this committee. At least one of the members of the committee must be from outside the department. The majority of the members of the AEC must be regular members of the graduate faculty. No more than one person may be a non-member of the graduate faculty. The committee must be formed by the end of the third semester of attendance by the student or by the completion of the twelfth course credit hour applicable to the doctoral degree requirements, whichever is later. Otherwise, the student may be refused permission to register for the following semester.

The chair of the AEC should be selected by the student in consultation with the graduate program coordinator or the chair of the department. Normally, the AEC chair should be a member of the degree-granting program. The chair must be a regular member of the college graduate faculty. Non-tenure track faculty may serve as chair if they are a regular member of the graduate faculty. Members should be selected by the student in consultation with the chair of the committee. The chair and all members should be selected based on their perceived ability to contribute to the progress and evaluation of the student’s research and their ability to work cooperatively with other members and the student. The members of the AEC must be listed on the plan of study, which must be signed by the graduate coordinator, chair of the department, and the dean to gain approval.

Program Requirements

Residency

Full-time attendance on campus is required for two consecutive semesters consisting of a minimum of nine credit hours each. A full summer, consisting of registration in both sessions and completion of a minimum of nine credit hours over both sessions, is considered equivalent to one semester of residence. However, an alternative plan by which the student can get an equivalent education experience may be followed if approved in the plan of study.

Course Requirements

Specific course requirements are determined by the student’s advisory and examining committee. However, a minimum of eighteen semester hours of coursework at WVU is required at the 500 and higher-levels with an average of 3.0 or better.

Requirements for Candidacy

Programs that admit students with only a B.S. degree are encouraged to require such students to demonstrate the competencies expected of a master’s graduate, in addition to the competencies required by the doctoral program before achieving candidacy.

Each department will specify in writing its own requirements and standards for a student to be admitted to candidacy. At a minimum, these requirements will include one written examination, completion of all course requirements, and an oral defense of a written research proposal. The successful outcome of this exam will demonstrate the student has the following:

• A grasp of the important phases and problems of the field of study and an appreciation of their relation to other fields of human knowledge and accomplishments
• The ability to employ the instruments of research developed in the student’s area of interest

The AEC may approve the research proposal conditioned upon stipulated changes to the proposal. In such cases, the chair of the AEC should ensure that the required changes to the proposal are made by the student before signing the Approval of Candidacy. The chair of the AEC must provide a copy of the revised research proposal to all members of the AEC before signing his or her approval.

At the completion of the candidacy requirements, the results must be reported to the dean by the student’s AEC. For a positive recommendation for admission to candidacy, no more than one negative vote may be cast. A minimum of one opportunity for reexamination must be available for each student. Students who fail to receive a positive recommendation for admission to candidacy are terminated at the end of that semester and may not reenter the program.

Research Requirements

The faculty of the college believe that the experience gained in performing and reporting a research endeavor should be over a prolonged period. Therefore, the Ph.D. in engineering and the Ph.D. in occupational safety and health degrees require a minimum of twenty-four credit hours of research at the Ph.D. level leading to a dissertation, while the Ph.D. in computer science requires eighteen research hours.
Credit Requirements

The degree of doctor of philosophy is not awarded solely on the basis of the accumulation of course credits and completion of a definite residence requirement. The amount and nature of the coursework undertaken by a doctoral student will be established for each individual student with the objective of ensuring a reasonable and coherent progression of academic development beyond the baccalaureate and/or master’s degree.

Application for Transfer of Graduate Credit

A student wishing to apply credit earned at another institution to a doctoral degree program at WVU must submit an application for transfer of graduate credit to WVU and have an official transcript from the institution forwarded to the WVU Office of Admissions. The approval of transfer credit is at the discretion of the student’s AEC with the restriction that only courses with grades of A or B may be considered for transfer.