

College of Engineering

Administration

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About the College

The University of Missouri College of Engineering trains students to become engineering leaders prepared to solve the grand challenges facing the state, nation and world. With thirteen undergraduate degree programs, eight master's programs and seven doctoral programs, the College of Engineering offers opportunities in a wide variety of engineering fields. The vision of the College is to create a better world, through engineering.

Mission

The mission of the College of Engineering is to educate engineers, create leaders, advance technology, and develop entrepreneurs within an inclusive, research and interdisciplinary environment; resulting in well-informed citizens, economic development, job creation, and an improved standard of living for Missouri and beyond. This is accomplished through a focus on four core values: Respect, Responsibility, Discovery and Excellence.

Our mission is supported by the pursuit of the themes of the University of Missouri Strategic Plan:

- Promote Student Success
- Elevate High-Impact Research, Scholarship & Creative Works
- Foster Student Success and Meaningful Outreach & Engagement

Undergraduate

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The MU College of Engineering is committed to a longstanding tradition of educating future engineering leaders. Here, students are inspired and challenged. Students work, learn, research and create in an atmosphere where innovation, collaboration and finding ways to rise above challenges are more than aspirations — they are simply how we operate.

Admissions

Freshman Admission to Engineering

Entering freshmen are expected to have completed 17 units of approved high school course work (in grades 9-12), including 4 units in English, 4 in mathematics and 3 in science with laboratory. Mathematics should include 2 units of algebra, 1 unit of plane and solid geometry (combination course), and 1/2 unit of trigonometry. Additional senior mathematics is recommended.

Admission into Degree Programs in Engineering

Students pursuing BS degrees in the College of Engineering in Biological Engineering, Biomedical Engineering, Chemical Engineering, Computer Engineering, Computer Science, Civil Engineering, Data Science, Electrical Engineering, Engineering Technology, Environmental Engineering, Industrial Engineering, Information Technology, and Mechanical Engineering must meet MU's General Admission Standard to be admitted.

Transfer Students

Students wishing to transfer to MU from an accredited college or university are subject to University regulations described in this catalog. The College of Engineering cooperates with many colleges through articulation agreements that help students transfer to MU with maximum ease and minimum loss of credits. A student may contact the College of Engineering Admissions Office to determine if their home institution participates in an agreement with the College of Engineering. Students who have completed all courses specified in the articulation agreement will be admitted into their desired degree program. All other transfer students are admitted on program discretion. Typically, transfer students with freshmen status must satisfy the same requirements as students entering college for the first time. Other students are admitted only after review of their transcript.

To be recommended for a BS degree from the College of Engineering, a student transferring from an accredited institution must complete at least 30 upper-level credits in the degree program at a UM System campus. At least 21 of the 30 credits must be upper-level engineering courses approved by the department awarding the degree.

A student transferring with senior standing from another UM System campus must complete the last 15 credits in residence on the campus where the degree program is located. Twelve of these 15 credits must be in engineering and approved by the department awarding the degree.

Any student whose enrollment in any college-level academic program resulted in dismissal, departure or who is not on good academic standing will not be admitted to the College of Engineering.

International Admission

International undergraduate students interested in studying in the College of Engineering can find information on academic and English language admission requirements on the website of the MU Office of (https:// admissions.missouri.edu/international-students/)International Admissions. Any questions regarding international student admissions can be directed to that office at inter@missouri.edu.

Graduation Requirements

The curriculum provides a solid foundation of mathematics and physical sciences followed by the application of these sciences in engineering specialties. The balance of the curriculum encompasses communication skills, English, social sciences and humanities courses. In addition to the University's general education and graduation requirements, the degree programs in the College of Engineering may require further specific courses to better equip students to perform in their chosen fields of study. While many students complete BS degree programs in four years, some may find it advisable to extend the curriculum in order to carry lighter



semester loads, add preparatory courses or compensate for part-time work.

GPA Requirements for Graduation from the College of Engineering

- GPA of record of at least 2.0
- GPA of at least 2.0 in all engineering courses offered by one of the four campuses of the UM System. "Engineering courses" include all courses that are offered through the College of Engineering or its equivalent on the four campuses, or that have "Engineering" in the curricular designator. Only the last grade in a repeated course will be used in the calculation.

Academic Regulations

Departmental Honors

The college maintains an undergraduate honors program to further challenge those who have established a minimum GPA of 3.0 at the beginning of the junior year. A comparable grade point average is required of transfer students. The program leads to an undergraduate honors thesis on a research or advanced design project, provides for additional curricula flexibility and contains features that ease the transition to graduate school.

Opportunities available to honors students include:

- · More personal attention from an honors advisor
- Independent study or undergraduate research with a faculty member whose specialty interests the honors candidate

A student who successfully completes the engineering honors program, including the independent project, will be designated an "Honors Scholar in Engineering." Interested students should contact their departmental office.

Qualified engineering students are also welcome and encouraged to join the programs of the Honors College and may enroll in various honors courses and honors sections of regular courses.

Courses in Basic Skills

No basic skills courses may be taken to fulfill graduation requirements.

Curriculum of Record

The curriculum of record is the curriculum a student must satisfy to meet graduation requirements. For students who maintain continuous, full-time enrollment, the curriculum of record is the one approved by the College of Engineering at the time the student achieves upper-division status in the discipline of choice. For others, the curriculum of record is decided by the department faculty.

Academic Standing and Satisfactory Academic Progress

Refer to the university policies on academic standing and satisfactory academic progress in this catalog for the definition of academic standing (https://catalog.missouri.edu/academicpolicies/academicstanding/) and the policies that apply to all students at the University of Missouri. Students in the College of Engineering are also subject to the following policies.

- 1. Readmission:
 - Students who are dismissed from the College of Engineering and who wish to appeal their case for continuation must write an appeal letter and submit it to the academic appeals committee.
 - If the appeals committee allows a student to re-enroll, it may set conditions such as courses to be taken, minimum grades, total hours, etc to which the student must adhere.
 - A student who has been dismissed for academic reasons may be readmitted upon a successful appeal to the Academic Appeals Committee of the College of Engineering.
 - Similarly, students who wish to re-enroll in the College of Engineering after having been out of school as a result of a dismissal must write a letter of appeal to the College of Engineering Academic Appeals Committee requesting readmission.
 - Letters of appeal may be addressed to: Engineering Academic Appeals Committee, W1025 Lafferre Hall, University of Missouri, Columbia, MO 65211. A personal visit with the director of undergraduate studies of the student's department and advisor before appealing by letter is recommended and often helpful, both to the student and to the committee.
 - One of the primary objectives of the appeals committee is evaluate indicators of the likelihood of future success of the student. Accordingly, any appeal letter should include an explanation for past poor performance and reason for expecting better outcomes in the future.
- 2. Special considerations for students who withdraw from courses:
 - a. Students who withdraw from the same course twice will receive an advising hold on course registration. These students will be required to meet with their advisor to discuss their plan of study and obtain approval for registration.
 - b. Students who withdraw from all courses for 2 consecutive semesters will receive an advising hold. These students will be required to meet with their advisor to discuss their plan of study and obtain approval for registration.
 - c. Students who withdraw from all courses for 3 consecutive semesters will be ineligible to enroll in the College of Engineering and may appeal to the Engineering Academic Appeals Committee.

Satisfactory/Unsatisfactory Grading Option

Under Satisfactory/Unsatisfactory (S/U) grading, an S is assigned for a grade in the A, B or C range, and a U is assigned for a grade in the D range or for an F. Neither an S nor a U will be calculated into a student's grade point average.

A student enrolled in the College of Engineering may not take any math, science or engineering course that counts toward degree requirements under the S/U grading option, unless the course is only offered S/U. In addition, any course specifically required (by course number) in the curriculum may not be taken S/U.

This includes ENGLSH 1000 or ENGLSH 1000H. The 18 credits taken to fulfill the University general education distribution requirement may be taken S/U.

Restrictions

• First-semester freshmen are ineligible to take any course with satisfactory/unsatisfactory (S/U) grading unless it is only offered S/U.



- Only one course per semester may be taken S/U.
- Students are not in good academic standing are not allowed to take any course S/U.
- To be eligible for the Dean's List each term, a student must complete 12 graded credits (S/U courses are not considered "graded").

Personal Laptop Computer Requirements and College Computing Resources

Each student is required to have a personal laptop computer with software and hardware needed to facilitate completion of coursework and class participation. Each Engineering degree program maintains a recommendation for student owned laptop computers to ensure compatibility with software applications needed to complete coursework. The following websites contain computer recommendations: for Electrical Engineering, Computer Engineering, and Computer Science students, https://engineering.missouri.edu/departments/ eecs/eecs-students/, for Information Technology students, https:// engineering.missouri.edu/departments/eit/it-students/, and for all other students, https://doit.missouri.edu/students/laptops-the-right-fit/ (see link to Let Your Major Be Your Guide for specific Engineering student information). The College of Engineering also offers a variety of options with limited availability for accessing computers including spaces dedicated to general use computing as well as specialized computing resources in teaching laboratories.

Student Services

Academic Advising

Each student in the College of Engineering is assigned an academic advisor from the College of Engineering Advising Office who assists the student in reaching academic and professional goals, as well as with time management and academic success strategies. Students are encouraged to meet with their advisors as often as needed. Engineering students have advising holds placed on their accounts each semester and will work with their advisor to verify enrollment and degree progress before enrolling for the following semester.

Study Abroad

College of Engineering students have opportunities to pursue academic, leadership, and service opportunities around the world. Students can participate in short-term study abroad programs and earn college credit towards general education requirements, core engineering requirements, and engineering technical electives to complete graduation requirements. Students can also participate in semester long programs.

Professional Engineering Registration

The revised statutes of Missouri (Section 327.221) require that each applicant for registration as a professional engineer in Missouri must be a graduate of and hold a degree in an accredited engineering program. Senior students in engineering programs are strongly encouraged to take the Fundamentals of Engineering Exam leading to the Fundamentals in Engineering (FE) status as a first step toward registration.

Naval Reserve Officers Training Corps (NROTC)

NROTC was established in 1926 to offer college students the necessary naval science courses to qualify for commissions in the Navy or Marine Corps Reserve. Today, NROTC is one of the primary accession sources of officers for the Navy and Marine Corps. MU represent one of 77 host colleges across the country with an NROTC program.

Navy students should major in a technical course of study while Marine students may major in any course of study leading to a baccalaureate degree. Academic credit for naval science courses is accepted toward a baccalaureate degree by most MU schools and colleges. Midshipmen take one naval science course for credit each semester, which provides education and training in various aspects of the Navy or Marine Corps. These courses are available to any student at MU, who can earn a Minor in Naval Science (https://catalog.missouri.edu/collegeofengineering/ additionalcertificatesminors/minor-naval-science/). Associated with each course is a leadership laboratory for program students. NROTC activities include water survival, self-defense, physical fitness, orienteering, aviation, nuclear power indoctrination, pistol/rifle marksmanship and a variety of field trips.

Scholarship NROTC midshipmen incur no military obligation during their freshman year. This allows students to get a better understanding and appreciation of the life of a Navy or Marine Corps officer before committing. Navy NROTC graduates incur a minimum five years military obligation. Marine NROTC graduates incur a minimum four year military obligation. Upon graduation, midshipmen who successfully complete the program are commissioned as Ensigns in the Navy or Second Lieutenants in the Marine Corps.

For additional information, contact:

Department of Naval Science 105 Crowder Hall (573) 882-6693 or 888-MU-NROTC NROTCMU@missouri.edu https://engineering.missouri.edu/departments/naval-science/

Graduate

The College of Engineering graduate programs at the University of Missouri promote technology, innovation and entrepreneurship with abundant interdisciplinary opportunities in research and education. MU Engineering sustains a variety of research centers, programs, groups and facilities which allow the college to contribute significantly to MU's overall research activity.

MU Engineering graduate students have gone on to become faculty at world-class academic institutions in the U.S. and around the world, have created start-up companies as successful entrepreneurs and have secured jobs with leading Fortune 500 companies and National Laboratories.

Graduate engineering programs include

- Biological Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Industrial Engineering
- Mechanical & Aerospace Engineering

Note: Prospective graduate students must be accepted to both the degree program of interest and to the MU Graduate School. In most cases, the entire application process may be completed online. Find



admission and application details by selecting the degree program of interest on the Graduate School admissions webpage.