Environmental Engineering

University of Missouri - Columbia

Johnson County Community College Transfer Program to the University of Missouri - Columbia	Engineering Advising Office
College of Engineering	(573) 884-6961
Environmental Engineering, BS	muengradvising@missouri.edu
Academic Year 2025-2026	https://catalog.missouri.edu/collegeofengineering/environmentalengineering/bs-environmentalengineering/

Program Description

The environmental engineering BS program combines a solid background in science and engineering (chemistry, math, physics, thermodynamics) with discipline core classes in water quality and treatment, air pollution, and solid and hazardous waste management and civil and environmental engineering or interdisciplinary elective courses. Optional tracks are offered in public health and emerging contaminants, data analytics and big data or biological and agricultural engineering. The program culminates with a capstone environmental engineering design project.

Program graduates can become licensed environmental engineers or/and continue to graduate programs in environmental or related fields. Environmental engineers work in industrial facilities, consulting firms, research laboratories and in the public sector, mostly in government/regulatory agencies or municipal facilities. Typically, environmental engineers work in the design of projects that lead to environmental protection. Those may include water reclamation facilities or air pollution control systems, and they are also involved in the operation and monitoring of those projects. Environmental engineers conduct environmental investigations and prepare reports; they review and update reports, plans, permits, and standard operating procedures related to environmental aspects. Environmental engineers lead inspections of industrial and municipal facilities and programs in order to ensure compliance with environmental regulations. In a consulting role, they advise private companies and government agencies about assessment and remediation of contaminated sites.

In addition to the major core requirements, students must complete all University graduation (https://catalog.missouri.edu/academicdegreerequirements/universityrequirements/) requirements including University general education (https://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/), as well as all degree and college or school requirements.

Visit the JCCC/MU General Education guide (https://www.jccc.edu/student-resources/transfer/files/transfer-guides/mu-gen-ed-reqs.pdf) for equivalent courses.

Major Program Requirements -

The electrical engineering degree offers course work in all traditional areas of the electrical engineering field. Focused areas of work are offered in the areas of communications, digital systems, discrete and integrated electronics, electromagnetics, energy systems and power electronics, robotics and system control. (Focus areas are not listed on transcripts or diplomas).

Students are introduced to Environmental Engineering and professional engineering design practices in the CV_ENG 1000 course. Basic science and engineering courses ground the students in the fundamentals necessary for future course work: biology (BIO_SC 1500), general chemistry (CHEM 1400 and CHEM 1410), organic chemistry (CHEM 2100), physics (PHYSCS 2750 and PHYSCS 2760), soil science (SOIL 2100) and thermodynamics (ENGINR 2300).

Engineering topics required courses impart general engineering foundations necessary for the discipline-specific courses. Civil Engineering topics required courses in the sophomore and junior years provide students with the basic fundamentals in the areas of environmental engineering (CV_ENG 3200), water resources (CV_ENG 3702), data analysis and modeling (CV_ENG 4001), fluid mechanics (CV_ENG 3700), water (CV_ENG 4290), air (CV_ENG 4001) and solid waste (CV_ENG 4220) pollution and control.

Civil Engineering elective courses provide students with an opportunity to specialize in different aspects of environmental engineering and water resources. With the Program elective courses, students may further focus on environmental engineering or opt for one of the three tracks: public health and emerging contaminants, big data and data analysis or, biological and agricultural engineering.

Design and communication skills are integrated throughout the curriculum, culminating in a capstone design project. This "final" course requires working in teams, making oral and written presentations, and completing a final design report. Oversight, interaction, and evaluation are provided by practicing engineers from industry and governmental organizations.

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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 on probation will not be admitted to the College of Engineering.

International Admission -

International undergraduate students interested in studying in the College of Engineering can visit the MU Office of International Admissions (https://admissions.missouri.edu/apply/international/) for information on academic and English language admission requirements. Any questions regarding international student admissions (https://catalog.jccc.edu/archives/2025-26/transferadmin/192/inter@missouri.edu) can be directed to that office.

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.

It is the STUDENT'S RESPONSIBILITY to check for updates to all transfer information. This transfer guide is provided as a service and is updated as needed. Degree requirements at the four-year colleges are subject to change by those institutions. To ensure you have the most accurate information about the program, you must meet with an advisor at the transfer institution.

Environmental Engineering Transfer Requirements:

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	**Title**	**Hours**			
Core requirements:					
BIOL 135	Principles of Cell and Molecular Biology	4	BIO_SC 1500	Intro Biological Systems w/Lab	3-5
CHEM 124 & CHEM 125	General Chemistry I Lecture* and General Chemistry I Lab*	4/1	CHEM 1400 & CHEM 1401	College Chemistry I and College Chemistry I Lab	1
CHEM 220	Organic Chemistry I*	5	CHEM 2100	Organic Chemistry I	3
HORT 260	Horticulture Soils	3	SOIL 2100	Intro to Soils	3
MATH 241	Calculus I*	5	MATH 1500 & MATH 1500H	Analytic Geometry/ Calculus I and Analytic Geometry Calc I	5
MATH 242	Calculus II*	5	MATH 1700	Calculus II	5
MATH 243	Calculus III*	5	MATH 2300	Calculus III	3
MATH 254	Differential Equations*	4	MATH 4100	Differential Equations	3
PHYS 220	Engineering Physics I*	5	PHYSCS 2750	University Physics I	5
PHYS 221	Engineering Physics II*	5	PHYSCS 2760	University Physics	5
Engineering Topics - General					
ENGR 284	Thermodynamics*	4	ENGINR 2300		

* JCCC course has a prerequisite or corequisite.

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