

MSCE Degree without a BS in Civil Engineering

Preparatory Course Work for Students without an Undergraduate Civil Engineering Degree

Students without an undergraduate degree in Civil Engineering can eventually be admitted to the graduate program. However, they may be required to take some undergraduate courses to prepare them for graduate work in the department. Generally, these students fall into one of two categories:

1) Students with an Engineering Degree in Another Field

These students can be admitted directly to the program, provided they satisfy all other admissions criteria. However, they may need to take some undergraduate courses that are prerequisites for graduate courses in their field of study. This course sequence must be determined on an individual basis and will depend on the student's background and intended program of study. The preparatory course sequence will be selected in consultation with the CE faculty in the student's intended area of study. A member of that group must write a memo identifying the sequence to the CE Department's Director of Graduate Programs that will be placed in the student's file. The preparatory course sequence will ultimately be listed on the student's Program of Studies which is filed with the Office of Graduate Studies.

2) Students without an Undergraduate Engineering Degree

Students without an undergraduate engineering degree can be admitted to the program but must take a sequence of undergraduate classes with a cumulative GPA of 3.0 and no grade below a "C". This sequence of classes includes the following:

All Areas

- Calculus I (Math 162)
- Calculus II (Math 163)
- Calculus III (Math 264)
- Differential Equations (Math 316)

Construction Engineering

- Statics (CE 202)
- Mechanics of Materials (CE 302)
- Soil Mechanics (CE 360)
- Engineering Economy (CE 350)

Environmental Engineering and Water Resources

- 1 semester of college-level chemistry
- 1 semester of undergraduate or graduate science, such as biology, microbiology, geology, or an additional semester of chemistry. (*This course should be selected in consultation with an active or potential faculty advisor.*)
- Fluid mechanics (CE 331). (*Note that Statics (CE 202) and Dynamics (ME 306) are prerequisites, which may be waived at the discretion of the instructor, depending on the student's qualifications.*)
- Environmental Engineering (CE 335) or Hydrology (CE 442)

Geotechnical Engineering

- 1 semester of college-level chemistry

- Soil Mechanics (CE 360). (*Note that Statics (CE 202) and Mechanics of Materials (CE 302) are prerequisites, which may be waived at the discretion of the instructor, depending on the student's qualifications.*)

Structural Engineering

- Statics (CE 202)
- Dynamics (ME 306)
- Mechanics of Materials (CE 302)
- Soil Mechanics (CE 360)
- Structural Analysis (CE 308)

Transportation Engineering

- Probability and Statistics for Civil Engineers (CE 354) or Elements of Mathematical Statistics and Probability Theory (STAT 345)
- Engineering Economy (CE 350) or Intermediate Microeconomics I (ECON 300)

Students intending to study in an area where this sequence of preparatory courses is not appropriate may substitute one preparatory course in their area of study for one of the above courses. Permission to do so must be obtained through consultation with the CE faculty in the student's intended area of study. A member of that group will write a memo identifying the sequence to the CE Department's Director of Graduate Programs that will be placed in the student's file.

Students without an undergraduate engineering degree will not be considered for admission and should not apply to the program until the semester in which they are taking their last preparatory class(es). However, in extraordinary circumstances, the student can submit a petition to the CE Department Graduate Committee requesting consideration of his/her application for early admission.

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