Construction Engineering and Management (CEM), Master of Engineering (ME) Curriculum

Updated July 2025

Students pursuing an ME degree in Civil Engineering must complete a minimum of 30 graduate-level credits, with at least 18 credits from Civil Engineering (CE) courses. The curriculum is designed to provide flexibility based on individual goals, and students can tailor their courses to an area of specialization within Civil Engineering. Students are required to meet with their ME advisor to develop a personalized Plan of Study and ensure steady progress throughout the program. The ME advisor will help guide students in course selection to align with both academic and professional goals.

The following is the recommended curriculum for students interested in Construction Engineering and Management. In the lists below, the typical semester of offering is indicated. Not all courses will be offered every year.

Foundational Coursework
Students are strongly encouraged to take the following courses as they provide foundational knowledge and essential skills for pursuing a career in construction engineering and management.
CE 5025 Construction Planning, Scheduling, and Control (Fall)
CE 5035 Construction Estimating and Bidding (Spring)
CE 6015 Project Management (Spring)

Other Core Classes
Students are recommended to select one course from the following list to complement their foundational knowledge and enhance their specialization.
CE 6025 VDC Coordination and Control (Spring)
CE 6500 Sustainability & Systems in the Built Environment (Spring)
CE 6500 Land Development Engineering (Fall)

Modern Practice Electives
Students are encouraged to select two courses from this list to gain additional skills in modern practices within the field.
CE 5045 Construction Practice (Fall)
CE 6070 Smart and Healthy Buildings (Fall)
CE 6500 Risk Analysis (Fall and Spring)
ARCH 8480 Professional Practices (Spring)
PLAC 5240 Collaborative Planning for Sustainability (Fall)
PLAN 5200 Real Estate Development Process I (Spring)
PLAN 5220 Real Estate Finance Fundamentals (Fall)
SYS 6582 Introduction to Lean Enterprise and Six Sigma (Summer)

Technical Electives
Students are encouraged to complete four technical electives, which can be selected from 5xxx-level or above courses from Civil Engineering (CE) or from the following programs. These electives offer flexibility to explore different areas of interest: Applied Mathematics (APMA), Architecture (ARCH), Chemical Engineering (CHE), Computer Science (CS), Data Science (DS), Economics (ECON), Environmental Science (EVSC/EVHY/EVGE/EVEC/EVAT), Landscape Architecture (LAR), Planning (PLAN/PLAC), Public Health Sciences (PHS), Public Leadership (PSPL), Statistics (STAT), and Systems Engineering (SYS).

With the approval of the ME advisor, up to two electives (each 3 credits) may be taken as research and/or professional experience, using CE 6993 or CE 6995. Of these, no more than one may be professional experience.

Prerequisites:

Students without an undergraduate degree in civil engineering are strongly encouraged to take CE 5750 Civil Engineering Design and Practice.

Depending on a student's academic background and preparation, an applicant may be advised or expected to complete prerequisites as a condition of admission. Any such expectations will be communicated during the admissions process.