

CEM ME Curriculum

Updated March 2024

Students earning an ME in Civil Engineering take 30 credits comprising a mix of required and other core courses (4), modern practice electives (2), and technical electives (4). Course options for the groups of classes vary by subdiscipline (“track”). Across all tracks, students take no fewer than six courses (18 credits) of graduate CE coursework.

Required Courses

CE 5025 Construction Planning, Scheduling, and Control
CE 5035 Construction Estimating and Bidding
CE 6015 Project Management

Other Core Classes

Students select one course from this list.

CE 6025 VDC Coordination and Control
CE 6035 Leadership and Negotiation
CE 6500 Sustainability & Systems in the Built Environment
CE 6500 Land Development Engineering

Modern Practice Electives

Students select two courses from this list.

CE 5045 Construction Practice
CE 6500 Smart and Healthy Buildings
ARCH 5500 Design for Action: Who Builds What We Draw
ARCH 8480 Professional Practices
LAW 9020: Construction Law
PLAC 5240 Collaborative Planning for Sustainability
PLAN 5500 Intro to the Real Estate Development Process
PLAN 5500 Real Estate Investing
SYS 6582 Introduction to Lean Enterprise and Six Sigma

Technical Electives

Students select four courses (5xxx-level or above) from the following programs. One of the technical electives may constitute research or supervised professional experience [with appropriate approvals] via CE 6995. See website for additional details.

Civil Engineering (CE), 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), Systems Engineering (SYS).

NOTES:

Pre-requisites of the CEM track include: an introductory course in Construction Engineering and Management (i.e., construction management, construction engineering, or an equivalent) and an introductory course in Engineering Economics. Otherwise, applicants must take CE 2030 Management of Engineering and Construction Projects and CE 2020 Engineering Economic Analysis in addition to their other required graduate coursework. Applicants who do not have an undergraduate degree in engineering should satisfy the preceding requirements, and take the following two courses: CE 5500 Civil Engineering Design and Practice I, CE 5500 Civil Engineering Design and Practice II (again, in addition to their required graduate coursework).

Students must complete at least six CE courses.

Students may be permitted to modify this framework, pending approval of their academic advisor or the ME Program Director.