

ISE 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

NA

Other Core Classes

Students select four courses from this list.

CE 5240 Groundwater Hydrology and Contaminant Transport

CE 5400 Traffic Operations

CE 5600 Civil Infrastructure Systems Analysis

CE 5700 Foundations

CE 6015 Project Management

CE 6220 Water Chemistry

CE 6230 Hydrology

CE 6260 Environmental Microbiology and Biological Waste Treatment

CE 6410 Introduction to Transportation Planning

CE 6470 Transportation Economics and Finance

CE 6490 Transportation Data Acquisition and Analysis

CE 6215 Stormwater Management CE

Modern Practice Electives

Students select two courses from this list.

CE 5020 Introduction to Geographic Information Systems

CE 5500 Smart and Healthy buildings

CE 6025 VDC Coordination and Control

CE 6030 Green Engineering

CE 6250 Environmental Systems Modeling and Management

CE 6290 Hydroinformatics

CE 6360 Smart Structures

CE 6440 Advanced Transportation Systems

CE 6780 Cyber Physical Systems Technology and Ethics

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 TRN track include: college calculus calculus-based probability and statistics; engineering economics (CE 2020 or equivalent), and a course in Transportation Infrastructure Design (CE 3400 or equivalent). or equivalent). SYS 6070 may be used to meet the requirement for CE 2100 equivalent for students entering without a CEE BS.

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.