

Department of Civil Engineering
Technical Requirements Policy
2009-2010 – 2016-2017 Curricula

Students are required to take at least 18 units of technical requirements, including the design and restricted technical requirements. Any variation from the courses listed below must be pre-approved by the Department Chair.

Course No.	Course Title
CE 4010	Indeterminate and Matrix Structural Analysis
CE 4020	Reinforced Concrete Design
CE 4040	Masonry Structural Design
CE 4060	Structural Steel Design
CE 4070	Wood Design
CE 4080	Structural Loads and Systems
CE 4100	Traffic Engineering Operations
CE 4110	Roadway Geometric Designs
CE 4120	Urban Transportation Planning
CE 4210	Geotechnical Engineering Design
CE 4240	Earth Slopes and Retaining Structures
CE 4250	Soil-Structure Interaction
CE 4330	Construction Planning and Scheduling
CE 4340	Construction Estimating and Project Control
CE 4350	Infrastructure Project Planning
CE 4360	Sustainable Construction
CE 4370	Sustainable Energy Project Design & Analysis
CE 4380	Construction Support Operations
CE 4390	Construction Equipment Selection and Maintenance
CE 4400	Sustainable Energy Engineering
CE 4430	Water Resources Engineering
CE 4460	Flood Hazards and Protective Design
CE 4470	Stormwater Management
CE 4560	Pavement Design and Construction
CE 4570	Materials Testing and Inspection
CE 4620	Coastal Engineering I
CE 4820	Groundwater and Containment Transport
CE 4900 ¹	Special Projects (Permission of Dept. Chair)
CE 4910 ¹	Selected Topics in Civil Engineering
CE 4910 ²	Selected Topics in Civil Engineering (Transportation)
CE 4910 ²	Selected Topics in Civil Engineering (Geotechnical)
EE&S 4020	Water and Waste Treatment Systems
EE&S 4100	Environmental Radiation Protection I
EE&S 4300	Air Pollution Engineering
EE&S 4840	Municipal Solid Waste Management
EE&S 4850	Hazardous Waste Management
EE&S 4860	Pollution Prevention
ME 3100**	Thermodynamics and Heat Transfer
ECE 3070 and 3090**	Basic Electrical Engineering/Electrical Engineering Laboratory I
MSE 2100**	Introduction to Materials Science
CSM 3040**	Environmental Systems I
CSM 3050**	Environmental Systems II
LAW 3220**	Legal Environment of Business
LAW 3330**	Real Estate Law
Approved Science** ³	See Notes Below
GEOL 4080**	Geohydrology

**Students are permitted to take no more than one of their technical requirements from the courses marked with a double asterisk.

¹Depending on course content, may count as a technical requirement. Consult instructor.

²Depending on course content, may count as a restricted technical requirement. Consult instructor.

³A second approved science with laboratory selected from CH 1020, or BIOL 1030 and 1050, or 1100, or 1200 and 1210, 1220, 1230 or 1240.

List of Approved Technical Design Requirement Courses
2009-2010 – 2016-2017 Curricula

Students are required to take two design technical electives selected from different areas. Note that some of these classes may satisfy the restricted technical elective as well. Regardless, students must take at least 18 units of technical requirements, including the design and restricted technical requirements.

Geotechnical Area:

CE 4210 Geotechnical Engineering Design
CE 4240 Earth Slopes and Retaining Structures

Structures Area:

CE 4020 Reinforced Concrete Design
CE 4040 Masonry Design
CE 4060 Steel Design
CE 4070 Wood Design
CE 4080 Structural Loads and Systems

Transportation:

CE 4110 Roadway Geometric Design
CE 4560 Pavement Design and Construction

Applied Fluid Mechanics:

CE 4470 Stormwater Management

Environmental Engineering:

EE&S 4020 Water and Waste Treatment Systems

List of Approved Restricted Technical Requirement Courses
2009-2010 – 2016-2017 Curricula

Students are required to take one restricted technical elective selected from the following list:

Course No.	Course Title
CE 4100	Traffic Engineering Operations
CE 4110	Roadway Geometric Designs
CE 4120	Urban Transportation Planning
CE 4210	Geotechnical Engineering Design
CE 4240	Earth Slopes and Retaining Structures
CE 4560	Pavement Design and Construction
CE 4820	Groundwater and Contaminant Transport
CE 4910 ¹	Selected Topics in Civil Engineering (Transportation)
CE 4910 ¹	Selected Topics in Civil Engineering (Geotechnical)
EE&S 4020	Water and Waste Treatment Systems
EE&S 4100	Environmental Radiation Protection I
EE&S 4300	Air Pollution Engineering
EE&S 4840	Municipal Solid Waste Management
EE&S 4850	Hazardous Waste Management
EE&S 4860	Pollution Prevention

¹ Consult instructor to determine if course will satisfy the restricted technical requirement.