



## MSCE Curriculum Options

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Students choose a subdiscipline focus area (structural, coastal, transportation, geotechnical or environmental).

### Required Courses

CE 503 Civil Engineering in the Coastal Environment, 3 credits

SE 601 Systems Engineering Fundamentals, 3 credits

### 1. Structural Engineering Courses

CE 582 Timber Design

CE 583 Advanced Steel Design

CE 584 Advanced Structural Analysis

CE 587 Advanced Concrete Design

CE 588 Prestressed Concrete Design

CE 590 Bridge Design

CE 590 Structural Modeling

### 2. Coastal Engineering Courses

CE 560 Coastal Hydrodynamics

CE 563 Hydrodynamic Modeling

CE 566 Coastal and Harbor Engineering

CE 590 Coastal Processes

### 3. Transportation Engineering Courses

CE 551 Traffic Engineering

CE 552 Transportation Geometric Design

CE 590 Special Topics: Highway Safety

CE 590 Special Topics: Pavement Design

CE 590 Special Topics: Transportation Systems Evaluation & Analysis

CE 590 Special Topics: Intelligent Transportation Systems

### 4. Geotechnical Engineering Courses

CE 540 Advanced Soil Mechanics

CE 542 Foundation Engineering

CE 547 Groundwater

CE 590 Special Topics: Pile Foundations

### 5. Environmental Engineering Courses

CE 571 Biological Wastewater Treatment

CE 572 Physical Wastewater Treatment

CE 574 Industrial Waste Treatment

CE 590 Special Topics: Small Community & Onsite Wastewater Management

CE 590 Special Topics: Water Chemistry

### Supporting Courses

BLY 515 Ecotoxicology

CE 510 Construction Engineering

CE 512 Management & Sustainability of Civil Infrastructure

CE 542 Foundation Engineering

CE 566 Coastal and Harbor Engineering

CH 514 Environmental Chemistry

CSC 416 AI Theory and Programming

