

MS in Civil and Environmental Engineering (Structural Specialization)

A MS degree is comprised of 45 units of 400/500 level coursework. The following is a list of potential courses that can be taken to satisfy the unit requirements for students who want to specialize in structural engineering.

Core Courses

CE 401 Advanced Mechanics of Materials

CE/ME 404 Applied Finite Element Analysis

CE405 Concrete Materials

¹CE 407 Structural Dynamics

CE 454 Structural Design

CE455 Design of Timber Structures

CE 457 Bridge Engineering

²CE 458 Fiber Reinforced Polymer (FRP) Design / CE 558 Advanced Fiber Reinforced Polymer (FRP) Design

³CE459 FRP Strengthening of Reinforced Concrete Structures / CE 556 Advanced FRP Strengthening of Reinforced Concrete Structures

CE 501 Advanced Matrix Analysis of Structures I

CE 502 Advanced Matrix Analysis of Structures II

CE/ME 504 Finite Element Analysis I

CE/ME 505 Finite Element Analysis II

CE 511/ME 501 Continuum Mechanics and Linear Elasticity

CE 513/ME 503 Inelastic Stress Analysis

CE 552 Analysis and Seismic Design of Reinforced Concrete

CE 557 Seismic Analysis and Design for Civil Engineers

CE 559 Prestressed Concrete Design

Related Courses

BRAE 446 CAD Software for Land Modeling

CE 481 Shallow Foundation Analysis and Design

CE 488 Engineering Risk Analysis

CE 583 Geotechnical Earthquake Engineering

CE 584 Lateral Support Systems

CE 586 Deep Foundation Analysis and Design

ME 401 Stress Analysis

¹ CE 456 Seismic Principles for Civil and Environmental Engineers should **NOT** be taken by graduate students emphasizing structures; instead, CE 407 and CE 557 should be taken

² Course credit may not be received for CE 458 and CE 558; graduate students should take CE 558. CE 458 shall count for graduate students if the course was taken while enrolled as an undergraduate.

³ Course credit may not be received for CE 459 and CE 556; graduate students should take CE 556. CE 459 shall count for graduate students if the course was taken while enrolled as an undergraduate.