

MSCE Cross Cutting Program

Structural Engineering

Required CROSS-CUTTING Courses (12 credits)

Course	Term	Name
ENVE 750 or ENVE 727	F/W	Data-Based Engineering Modeling or Risk Assessment
ENVE 555 or CIVE 615	F/F	Geographic Information Systems or Infrastructure Condition Evaluation
CIVE 605	F	Adv. Mechanics of Materials, I
CAEE 790	S	Life Cycle Analysis

Required Theme Program Courses (12 credits)

Course	Term	Name
CIVE 701	F	Structural Analysis I: Review of Fundamentals in Structural Analysis and in Leveraging Computer Software for Analysis
CIVE 702	W	Structural Analysis II: Theory and Implementations of Matrix Structural Analysis through the use of Computer Software
CIVE 703	S	Structural Analysis III: Modeling of Constructed Systems leveraging FE's and FEM Application Principles in Practice
CIVE 801	W	Dynamics of Structures I

Suggested Technical Elective Courses (12 credits)

These courses must be approved by the student's advisor and the graduate advisor. From any of the following that were not already counted for credit:

Course	Term	Name
CIVE 510	W	Prestressed Concrete Design
CIVE 520	S	Advanced Concrete Technology
CIVE 615	F	Infrastructure Condition Evaluation
CIVE 711	F	Engineered Masonry
CIVE 714	S	Advanced Reinforced Concrete Design I
CIVE 715	S	Advanced Reinforced Concrete Design II
CIVE 717	F	Behavior of Metal Structures I
CIVE 718	W	Behavior of Metal Structures II
CIVE 719	S	Behavior of Metal Structures III
CIVE 790	F	Experimental Mechanics
CIVE 802	S	Dynamics of Structures II
ENVE 555	F	Geographic Information Systems
ENVE 727	W	Risk Assessment
ENVE 750	F	Data-Based Engineering Modeling
MATH 520	F	Numerical Analysis I
MATH 521	W	Numerical Analysis II
MEM 591	F	Appl. Engineering Analytical Methods I
MEM 660	F	Theory of Elasticity I
MEM 663	S	Continuum Mechanics
MEM 664	W	Introduction to Plasticity
MEM 681	F	Finite Element Method I
MEM 682	W	Finite Element Method II
MEM 894	F	Engineering Mathematics

Electives or Thesis (9 credits)

For students writing an M.S. thesis, these nine credits should be 6 research credits and 3 Thesis Credits. Full-time Master students are encouraged to do a Thesis. Students opting not to do a Thesis will be required to select 9 credits of coursework from the Technical Elective Section listed above.