

# Programs in Civil Engineering, Applied Mechanics, and Structural Engineering

## MASTER OF SCIENCE IN ENGINEERING. OPTION: STRUCTURAL ENGINEERING

### SPECIAL REQUIREMENTS:

1. Students entering the program are expected to have completed Soil Mechanics (CE 426) and Structure I (CE 435), Reinforced Concrete Design (CE 438), and Structural Steel Design (CE 439). Admitted students who have not completed such courses as part of an undergraduate program must satisfactorily complete them prior to continuing in the program. These courses cannot be applied toward the formal degree program of study.
2. This program is intended primarily for students holding a B.S. in Civil Engineering or in a closely related field. Prospective students whose undergraduate degree is not in a closely related field should contact the Department in order to discuss additional prerequisite courses with a faculty advisor.
3. The total number of 400-level units in the formal program of study for students pursuing either the Thesis or Project Plans may not exceed 9. The total number of 400-level units in the formal program of study for students pursuing the Comprehensive Examination Plan may not exceed 12.

### REQUIRED COURSES (30-33 Units):

1. Culminating Experience (3-6 units)  
**CE 697** Comprehensive Exam (3)  
or  
**CE 698** Graduate Project (3) or Graduate Thesis (6)
2. Required Core Courses (0-7 units)  
**AM 410** Vibration Analysis 3  
**CE 436/L** Structures II 3/1  
NOTE: If AM 410 and CE 436 or equivalent were completed as part of an undergraduate degree program, additional Group I or Group II units must be included in the graduate program.
3. Group I Courses (12-15 units), selected with the guidance and prior approval of the faculty advisor and Department  
**CE 526** Geotechnical Foundation Design 3  
**CE 638** Advanced Reinforced Concrete Design 3  
**CE 639** Advanced Structural Steel Design 3  
**ME 501A** Seminar in Engineering Analysis 3  
**CE 641** Earthquake Engineering 3
4. Group II Courses (12-15 units), selected with the guidance and prior approval of the faculty advisor and Department.  
**AM 610** Advanced Mechanical Vibrations 3  
**AM 618** Theory of Elastic Stability 3  
**AM 619** Theory of Plates and Shells 3  
**AM 636** Structural Dynamics 3  
**AM 637** Optimum Structural Design 3  
**AM 640** Energy and Approximate Methods in Elastomechanics 3  
**AM 642** Finite Element Method in Mechanics 3  
**AM 644** Advanced Finite Element Methods 3  
**CE 437** Timber Design 3  
**CE 643** Foundation Design 3