

Programs in Civil Engineering, Applied Mechanics, and Structural Engineering

MASTER OF SCIENCE IN ENGINEERING. OPTION: APPLIED MECHANICS

SPECIAL REQUIREMENTS:

1. Students entering the program are expected to have completed Vibration Analysis (AM 410) and Structure I (CE 435). 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 Applied Mechanics 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)
AM 697 Comprehensive Exam (3)
or
AM 698 Graduate Project (3) or Graduate Thesis (6)
2. Required Core Courses (3-7 units)
CE 436/L Structures II 3/1
AM 509 Methods of Applied Mechanics 3
NOTE: If **CE 436** or equivalent was completed as part of a B.S. degree program, additional Group I or Group II units must be included in the program.
4. Group I 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 640 Energy and Approximate Methods in Elastomechanics 3
AM 642 Finite Element Method in Mechanics 3
5. Group II Courses (3-12 units), selected with the guidance and prior approval of the faculty advisor and Department:
AM 421 Aerostructures 3
ME 430 Machine Design Applications 3
ME 490 Fluid Dynamics 3
ME 590 Advanced Fluid Dynamics 3
AM 637 Optimum Structural Design 3
AM 636 Structural Dynamics 3
AM 644 Advanced Finite Element Methods 3
MSE 427/L Mechanical Properties of Materials 4
MSE 622 Fracture Mechanics 3
MSE 623 Composite Materials Design 3