MECHANICAL ENGINEERING

- Doctor of Engineering, Mechanical Engineering (p. 1)
- Doctor of Philosophy in Engineering, Mechanical Engineering (p. 1)
- Master of Science in Mechanical Engineering (p. 1)

Kelly Kissock, Department Chairperson

Doctor of Engineering, Mechanical Engineering (MEE)
See the Doctoral Degree Requirements section on the School of Engineering page and consult with the department chair.

Doctor of Philosophy in Engineering, Mechanical Engineering (MEE)
See the Doctoral Degree Requirements section on the School of Engineering page and consult with the department chair.

Master of Science in Mechanical Engineering (MEE)
The program of study leading to the Master of Science in Mechanical Engineering degree, developed by the student in conjunction with her/his advisor, must include a minimum of 30 semester hours. The program of study must include 18 or more semester hours of MEE/AEE/RCL credits and a minimum of 3 semester hours of mathematics. Students may pursue a thesis or non-thesis option. A thesis option requires 6 semester hours of MEE 599 Mechanical Engineering Thesis credits, which includes both an oral defense and a written thesis.

Students may elect to include an area of focus in their program of study by selecting courses from these areas:

**Materials**
- MEE 501 Principles of Materials I
- MEE 502 Principles of Materials II
- MEE 503 Introduction to Continuum Mechanics
- MEE 505 Thermodynamics of Solids
- MEE 506 Mechanical Behavior of Materials
- MEE 508 Principles of Material Selections
- MEE 509 Introduction to Polymer Science-Thermoplastics
- MEE 525 Principles in Corrosion
- MEE 541 Experimental Mechanics of Composite Materials
- MEE 542 Advanced Composites
- MEE 543 Analytical Mechanics of Composite Materials
- MEE 544 Mechanics of Composite Structures
- MEE 570 Fracture Mechanics
- MEE 575 Fracture & Fatigue of Metals & Alloys I
- MEE 576 Fracture & Fatigue of Metals & Alloys II

**Thermo-Fluids**
- MEE 503 Introduction to Continuum Mechanics
- MEE 504 Fundamentals of Fluid Mechanics
- MEE 505 Thermodynamics of Solids
- MEE 511 Advanced Thermodynamics
- MEE 512 Microscopic Thermodynamics
- MEE 513 Propulsion
- MEE 514 Physical Gas Dynamics with Aerospace Applications
- MEE 515 Conduction Heat Transfer
- MEE 516 Convection Heat & Mass Transfer
- MEE 517 Radiation Heat Transfer
- MEE 540 Tribology
- MEE 552 Boundary Layer Theory
- MEE 553 Compressible Flow
- MEE 555 Turbulence
- MEE 558 Computational Fluid Dynamics
- MEE 565 Fundamentals of Fuels & Combustion
- MEE 566 Combustion Theory
- MEE 567 Smart Structures & Materials Overview
- MEE 568 Internal Combustion Engines
- MEE 569 Energy Efficient Buildings
- AEE 501 Fundamental Aerodynamics
- AEE 502 Advanced Aerodynamics
- AEE 556 Hypersonic Aerodynamics
- AEE 558 Computational Fluid Dynamics

**Solid Mechanics**
- MEE 503 Introduction to Continuum Mechanics
- MEE 519 Analytical Dynamics
- MEE 533 Theory of Elasticity
- MEE 534 Theory of Plates & Shells
- MEE 535 Advanced Mechanical Vibrations
- MEE 536 Random Vibrations
- MEE 537 Introduction to Aeroelasticity
- MEE 538 Theory of Plasticity
- MEE 543 Analytical Mechanics of Composite Materials
- MEE 544 Mechanics of Composite Structures
- MEE 545 Computational Mechanics of Composite Materials
- MEE 546 Finite Element Analysis I
- MEE 547 Finite Element Analysis II
- MEE 548 Energy Methods in Solid Mechanics
- MEE 549 Theory of Elastic Stability
- MEE 570 Fracture Mechanics
- MEE 575 Fracture & Fatigue of Metals & Alloys I

**Design and Manufacturing**
- MEE 503 Introduction to Continuum Mechanics
- MEE 506 Mechanical Behavior of Materials
- MEE 520 Theoretical Kinematics
- MEE 521 Kinematic Principles in Design
- MEE 522 Geometric Methods in Kinematics
- MEE 523 Engineering Design Optimization
- MEE 527 Automatic Control Theory
- MEE 533 Theory of Elasticity
- MEE 534 Theory of Plates & Shells
- MEE 535 Advanced Mechanical Vibrations
- MEE 536 Random Vibrations
- MEE 537 Mechatronics
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See also Master’s Degree Requirements in School of Engineering section in the catalog and consult with the advisor.