Approved Elective Courses for
Undergraduate Mechanical Engineering Students

All BSME students must take 12 hours (4 courses) of technical/design/science electives. Of these 12 hours, at least 9 hours (3 courses) must be within the Department of Mechanical Engineering. Note that many technical electives have very specific pre-requisite courses that all students might not have completed. Be sure to check the pre-requisites in the course catalog before trying to register. Approved electives must be at least 3000 level or higher.

Mechanical Engineering

- BME 4332 Cell and Tissue Engineering
- BME 4440 Introduction to Bioastronautics
- EAS 4121 Hydro and Aerodynamics
- EGN 4366 Materials Engineering II
- EML 4141 Thermal Management of Electronic Systems
- EML 4230 Intro to Composite Materials
- EML 4246 Tribology
- EML 4310 Microcontrollers
- EML 4326 Advanced Materials Processing
- EML 4419 Propulsion
- EML 4421 Internal Combustion Engines
- EML 4450 Alternative and Renewable Energy
- EML 4503 Sustainable Design and Materials
- EML 4552 Senior Mechanical Design
- EML 4575 Principles of Fracture Mechanics
- EML 4593 Haptics
- EML 4601 Air Conditioning Design
- EML 4702 Fluid Dynamics II
- EML 4703 Mechanics of Compressible Fluids
- EML 4905 Undergraduate Independent Study (3 credits)
- EML 4930 Applied FEA
- EML 4930 Robotic Systems
- EML 4930 Leadership in Engineering
- EML 4284 Compliant Mechanisms
- OSE 4601 Optical Product Technology (“Optics”)
- EGN 3615 Engineering Economics with Social and Global Implications

Chemical and Biomedical Engineering

- ECH 3702 Instrument Systems
- ECH 4931 Modern Biomedical Technology

Industrial and Management Systems Engineering

- ESI 4244 Design of Experiments
- EIN 4601C Automation and Robotics

Electrical Engineering

- EGN 3375 Electromechanical Systems

Civil and Environmental Engineering

- CES 3102 Structures I
- ENV 4001 Environmental Systems Engineering

College of Arts and Sciences

- MCB 3020C General Microbiology
- PHY 3101 Modern Physics
- BCH 3023 Introductory Biochemistry

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