

# 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
OSE 4601	Optical Product Technology ("Optics")

## **Chemical and Biomedical Engineering**

ECH 3702	Instrument Systems
ECH 4931	Modern Biomedical Technology

## **Industrial and Management Systems Engineering**

EGN 3615	Engineering Economics with Social and Global Implications
ESI 4244	Design of Experiments
EIN 4601C	Automation and Robotics

## **Electrical Engineering**

EGN 3375	Electromechanical Systems
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## **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