

Technical Electives

Notes

Technical electives can double-count toward **minor** or **certificate** courses. However, they **cannot** double-count toward other Aerospace or Mechanical Engineering degree requirements (ex. One course **cannot** count as both a science elective requirement and a technical elective requirement).

Retroactive credit will not be granted for prior research, internship, or co-op experiences. Students must register for credit at the beginning of the term in which they are actively working.

A maximum of three credits of internships will count toward the degree. A maximum of eight combined internship/co-op/research credits will count toward the degree.

If you take a course listed here and it does not fall automatically into your Degree Audit, email advising@mae.ufl.edu and we will move it for you. Courses not listed will need to be petitioned using the [Petition to Substitute for a Required Course](#).

Artificial Intelligence

EEE4773: Fundamentals of Machine Learning (3)

EEL3872: Artificial Intelligence Fundamentals (3)

Astronomy

AST3018: Astronomy and Astrophysics I (3)

AST3019: Astronomy and Astrophysics II (3)

AST3722C: Techniques of Observational Astronomy I (3)

AST4402: Galaxies and Cosmology (3)

Biology

BSC2010: Principles of Biology I (3)

BSC2010L: Principles of Biology I Lab (1)

BSC2011: Principles of Biology II (3)

BSC2011L: Principles of Biology II Lab (1)

BSC3096: Human Physiology (3)

Technical Electives

Biomechanics

- APK2100 or APK2105C: Human Anatomy/Physiology with Lab (4)
- BME3234: Mechanical Behavior of Biological Tissues and Systems (3)
- BME4621: Biomolecular Thermodynamics and Kinetics (3)
- BME4632: Biomedical Transport Phenomena (3)
- BME4931: Biomechanics of Human Movement (3)
- EGM4592: Bio-Solid Mechanics (3)
- EGM4853: Bio-Fluid Mechanics (3)
- EML4930: Orthopedic Biomechanics (3)
- EML4930: Microfluidics and BioMEMS (3)
- EML4930: Cell Mechanics and Mechanobiology (3)
- EML4930: Biological Control Systems (3)

Business Administration

- FIN3403: Business Finance (4)
- ISM3254: Business Systems I (2)
- ISM3255: Business Systems II (2)
- ISM4113: Business Systems Design and Applications (2)

Chemistry

- BCH4024: Introduction to Biochemistry and Molecular Biology (4)
- CHM2046: General Chemistry II (3)
- CHM2046L: General Chemistry II Lab (1)
- CHM2096: Chemistry for Engineers (3)
- CHM2210: Organic Chemistry I (3)
- CHM2211: Organic Chemistry II (3)
- CHM3217: Biochemistry I (4)
- CHM3218: Biochemistry II (4)

Technical Electives

Computer and Information Science

- CDA3101: Intro to Computer Organization (3)
- COP2271L: MATLAB Lab (1)
- COP2274: C++ Programming for Engineers (3)
- COP3502C: Programming Fundamentals I (4)
- COP3503C: Programming Fundamentals II (4)
- COP3530: Data Structures and Algorithm (3)
- COP4600: Operating Systems (3)
- COT3100: Applications of Discrete Structures (3)

Digital Arts and Sciences

- DIG3713: Game Content Production I (3)
- DIG3715: Game Content Production II (3)
- DIG3873: Game Systems Development I (3)
- DIG3878: Game Systems Development II (3)
- DIG4527C: Game Design and Production (3)

Electrical Engineering

- EEE3308C: Electronic Circuits I (4)
- EEE3396C: Solid-State Electronic Devices (4)
- EEL3008: Physics of Electrical Engineering (3)
- EEE4310: VLSI Circuits and Technology I (3)
- EEL3112: Circuits II (3)
- EEL3135: Intro to Signals and Systems (4)
- EEL3211C: Basic Electric Energy Engineering (4)
- EEL3701C: Digital Logic & Computer Systems (4)

Technical Electives

Engineering Leadership, Entrepreneurship, and Innovation

- EGN4641: Engineering Entrepreneurship (3)
- EGN4643: Engineering Innovation (3)
- EGS4038: Engineering Leadership (3)
- EGS4625: Engineering Project Management (3)
- EGS4680: Advanced Engineering Leadership (3)
- EGN6640: Entrepreneurship for Engineers (3) [Graduate Course]
- EGN6642: Engineering Innovation (3) [Graduate Course]
- EGS6039: Engineering Leadership (3) [Graduate Course]

Materials Science and Engineering

- EMA3011: Fundamentals Principles of Materials (3)
- EMA3050: Introduction to Inorganic Materials (3)
- EMA3066: Introduction to Organic Materials (3)
- EMA3413: Electronic Properties of Materials (3)
- EMA4125: Transport Phenomena in Materials Processing (3)
- EMA4223: Mechanical Behavior of Materials (3)

Mathematics

- MAA4211: Advanced Calculus I (3)
- MAA4212: Advanced Calculus II (3)
- MAD4401: Intro to Numerical Analysis (3)
- MAP4305: Differential Equations for Engineers and Physical Scientists (3)
- MHF4102: Elements of Set Theory (3)
- MAS4105: Linear Algebra I (4)
- STA3032: Engineering Statistics (3)
- STA4210: Regression Analysis (3)
- STA4321: Intro to Probability (3)

Technical Electives

Packaging Science

PKG3001: Principles of Packaging (3)

PKG4008: Distribution and Transport Packaging (3)

PKG4011: Packaging Production and Processing (3)

PKG4101C: Computer Tools for Packaging (3)

Physics

PHY3101: Intro to Modern Physics (3)

PHY3221: Mechanics I (3)

PHY3323: Electromagnetism I (3)

PHY3513: Thermal Physics (3)

PHY4222: Mechanics II (3)

PHY4324: Electromagnetism II (3)

PHY4604: Quantum Mechanics I (3)

Sales Engineering

EGN4930: Sales Engineering Seminar (1)

EIN3354: Engineering Economy (3)

Work Experience

EAS4905/EML4905: Independent Study (1-3 per semester)

EAS4949/EML4949: Engineering Co-op (1 per semester)

EGN4912: Engineering Research (1-3 per semester)

EML4930: Industry Practicum (3)

EML4945: Engineering Internship (1 per semester)