

Mechanical Engineering B.S. Curriculum

First Year/ Freshman

Semester One:

- Physical Education 1
- First Year Writing Seminar 1
- CS: 111X, Intro to Computer Science (Matlab Recommended)
- **MATH 1910:** Calculus for Engineers (unless AP, take during current term)
- CHEM 2090: Engineering General Chemistry

Semester Two:

- Physical Education 2
- First Year Writing Seminar 2
- ENGR1 1XX0: Intro to Engineering
- **MATH 1920:** Multivariable Calculus for Engineers (unless AP, take during current term)
 - Prerequisite: MATH 1910
 - Co-requisite: PHYS 1112, ENGRD 2020
- **PHYS 1112:** Mechanics and Heat (unless AP, take during current term)
 - Co-requisite: ENGRD 2020, MATH 1920

Second Year/ Sophomore

Semester One:

- **Liberal Studies** (can take any term)
- **ENGRD 2210:** Thermodynamics (must take during current term)
 - Prerequisite: PHYS 1112, MATH 1920,
 - Co-requisite: MAE 3230
- **ENGRD 2020:** Statics & Mech. of Solids (must take during current term)
 - Prerequisite: PHYS 1112
 - Co-requisite: MATH 1920
- **MATH 2930:** Differential Equations
 - Prerequisite: MATH 1920
- **PHYS 2213:** Electromagnetism (unless AP, take during current term)
 - Prerequisite: MATH 1920, PHYS 1112

Semester Two:

- **Liberal Studies** (can take any term)
- **MAE 2250:** Mech. Synthesis (must take during current term)
 - Prerequisite: ENGRD: 2020
 - Co-requisite: MAE 2030
- **MAE 2030:** Dynamics (must take during current term)
 - Prerequisite: ENGRD 2020, MATH 2930

- Co-requisite: MATH 2940
- **MATH 2940:** Linear Algebra (unless AP, take during current term)
 - Prerequisite: MATH 1920

Junior Standing

Semester One:

- **Liberal Studies** (can take any term)
- **MAE 3230:** Fluid Mechanics (must take during current term)
 - Prerequisite: MAE 2030
 - Co-requisite: ENGRD 2210
- **MAE 3270:** Mechanics of Engineering Materials (must take during current term)
 - Prerequisite: ENGRD 2020, MATH 2940
- **MAE 3780:** Mechatronics or ECE 2100 or PHYS 3360 (must take during current term)
 - Prerequisite: MATH 2930, PHYS 2213

Semester Two:

- **Liberal Studies** (can take any term)
- **MAE 3240:** Heat Transfer (must take during current term)
 - Prerequisite: MAE 3230
- **MAE 3260:** System Dynamics (must take during current term)
 - Prerequisite: MAE 2030, MATH 2930, MATH 2940

Senior Standing

Semester One:

- **Liberal Studies** (can take any term)
- **MAE 4272:** Fluid/ Thermo Lab (must take during current term)
 - Prerequisite: MAE 3240
- **MAE 4300:** Professor Practice in Mechanical Engineering (must take during current term)
- MAE 4XX1: Senior Design (must be taken first or second semester of senior year)
- Optional: Apply for early admittance to Master of Engineering

Semester Two:

- **Liberal Studies** (can take any term)

Flexible Timing Courses:

- Technical Elective
- Math Elective
- PHYS 2214: Oscillations, Waves, and Quantum Physics
 - Prerequisite: MATH 1920, MATH 2930, PHYS 2213
- Advisor approved Elective 1

- Advisor approved Elective 2
- Major approved Elective 1
- Major approved Elective 2
- Major approved Elective 3

Notes:

- MAE 4272 satisfies the Engineering Communications requirement
- The probability and Statistics requirement is satisfied by some (not all) Math Elective Courses. Consult mae.cornell.edu for a list of courses and more information