

**MECHANICAL ENGINEERING UNDERGRADUATE CURRICULUM For Students
Starting in Fall 2022, Graduating in 2026**

| FIRST SEMESTER | | | SECOND SEMESTER | | |
|----------------|---|---------|-----------------|------------------------------------|---------|
| | | credits | | | credits |
| APMA 1110 | Single Variable Calculus II | (4) | APMA 2120 | Multivariable Calculus | (4) |
| CHEM 1410 | Intro to College Chemistry | (3) | CS 111X | Intro to Programming | (3) |
| CHEM 1411 | Intro to College Chem Lab | (1) | PHYS 1425 | General Physics I | (3) |
| ENGR 1624 | Introduction to Engineering | (4) | PHYS 1429 | General Physics I Workshop | (1) |
| STS 1500 | Sci, Tech, Contemporary Issues ¹ | (3) | _____ | Math-Science Elective ² | (3) |
| | | | _____ | HSS Elective 1 ³ | (3) |
| | | | | | |
| | Total | (15) | | | (17) |

| THIRD SEMESTER | | | FOURTH SEMESTER | | |
|----------------|-----------------------------|---------|-----------------|--------------------------------------|---------|
| | | credits | | | credits |
| APMA 2130 | Ordinary Differential Eq. | (4) | APMA 3140 | Applied Partial Differential Eq. | (3) |
| MAE 2020 | Intro to Mechanical Engr | (2) | MAE 2100 | Thermodynamics | (3) |
| MAE 2040 | Computer Aided Design | (1) | MAE 2310 | Strengths of Materials | (3) |
| MAE 2300 | Statics | (3) | MAE 2320 | Dynamics | (3) |
| PHYS 2415 | General Physics II | (3) | MAE 2330 | Mechanics Laboratory | (2) |
| PHYS 2419 | General Physics II Workshop | (1) | _____ | Unrestricted Elective 1 ⁵ | (3) |
| STS 2XXX/3XXX | STS Elective ⁴ | (3) | | | |
| | | | | | |
| | Total | (17) | | | (17) |

| FIFTH SEMESTER | | | SIXTH SEMESTER | | |
|----------------|--------------------------------------|---------|----------------|----------------------------|---------|
| | | credits | | | credits |
| APMA 3110 | Applied Statistics & Prob | (3) | MAE 3140 | Elem Heat & Mass Transfer | (3) |
| MAE 3210 | Fluid Mechanics | (3) | MAE 3420 | Computational Methods | (3) |
| MAE 3230 | Thermal Fluids Laboratory | (2) | MAE 3620 | Machine Elem & Fatigue | (3) |
| MAE 3310 | Aerospace Structures | (3) | MAE 3840 | Mechanical Engineering Lab | (2) |
| MAE 3710 | Mechanical Systems | (3) | MAE 4710 | Mechatronics | (4) |
| _____ | Unrestricted Elective 2 ⁵ | (3) | | | |
| | | | | | |
| | Total | (17) | | | (15) |

| SEVENTH SEMESTER | | | EIGHTH SEMESTER | | |
|------------------|--|---------|-----------------|---|---------|
| | | credits | | | credits |
| MAE 4xxx | Mechanical Engineering Design I ⁶ | (3) | MAE 4xxx | Mechanical Engineering Design II ⁶ | (3) |
| STS 4500 | STS and Engineering Practice | (3) | STS 4600 | Engineer, Ethics, Prof. Resp. | (3) |
| _____ | Math-Science/Tech Elective 1 ⁷ | (3) | _____ | Math-Science/Tech Elective 3 ⁷ | (3) |
| _____ | Math-Science/Tech Elective 2 ⁷ | (3) | _____ | HSS Elective 3 | (3) |
| _____ | HSS Elective 2 | (3) | _____ | Unrestricted Elective 3 ⁵ | (3) |
| | | | | | |
| | | | | | |
| | Total | (15) | | | (15) |

- NOTE: STS 1500 and HSS Elective 1 may be taken in any order in Semesters 1 and 2.
- Chosen from: BIOL 2100, 2200; CHEM 1620; MSE 2090; PHYS 2620; and any APMA course 2000 or higher not already required by a student's major and does not duplicate material from another APMA course.

3. Chosen from the approved Humanities and Social Science list available in A122 Thornton Hall and in the SEAS Undergraduate Handbook.
4. Any course which meets the Second Writing Requirement as specified in the College of Arts & Science (CLAS) may be substituted for STS 2XXX/3XXX.
5. Unrestricted electives may be chosen from any graded course in the University except mathematics courses below MATH 1310 and courses that substantially duplicate any other offered for the degree, including PHYS 1010, 1020, 2010, 2020; CS 1010; or any introductory programming courses. Students in doubt as to what is acceptable to satisfy degree requirements should get the approval of their advisor and the Dean's Office located in A122 Thornton Hall.
6. Capstone sequence chosen from: 4610/4620, 4620, 4650/4660, and 4690/4700.
7. Chosen from Mechanical and Aerospace Engineering Approved Math-Science/Technical Electives list (see website).