B.S. in Mechanical Engineering with an Medical Prep Option  
Curriculum of Medical Preparation Option, 2023-2024

**Freshman:**  
1st Semester (17 credits)  
- MAE 1001 (1, F) Intro to Mechanical and Aerospace Engineering  
- MATH 1231 (3, F&S) Single Variable Calculus I  
- SEAS 1001 (1, F) Engineering Operations  
- CHEM 1111 or CHEM 1113 (4, F&S) General Chemistry  
- UW 1020 (4, F&S) University Writing  
- BISC 1115 (3, F&S) Introduction to Cells and Molecules Laboratory  
- MAE 1001, Pre/Co = Pre-requisite or Co-requisite  
- MATH 1231, Co = Co-requisite  

2nd Semester (17 credits)  
- PHYS 1021 (4, F&S) University Physics I  
- MAE 1001, Pre/Co = Pre-requisite or Co-requisite  
- MAE 1001, Pre = Pre-requisite  
- MATH 1231, Co = Co-requisite  

**Sophomore:**  
1st Semester (16 credits)  
- APSC 2057 (3, F&S) Analytical Mechanics I  
- APSC 2058 (3, F&S) Analytical Mechanics II  
- MAE 2131 (3, S) Thermodynamics  
- PHYS 1022 (3, F&S) University Physics II  
- APSC 2057, Pre = Pre-requisite  
- APSC 2058, Pre = Pre-requisite  

2nd Semester (19 credits)  
- MAE 3126 (3, F) Fluid Mechanics Pre: APSC 2058  
- MAE 3187 (3, S) Heat Transfer Pre: MAE 3126  
- MAE 3191 (3, S) Mechanical Design  
- CHEM 2151 (3, F) Organic Chemistry I Pre: CHEM 1112  
- APSC 2058, Pre = Pre-requisite  

**Junior:**  
1st Semester (17 credits)  
- MAE 3134 (3, S) Linear System Dynamics Pre: APSC 2111  
- MAE 3195 (3, S) Mechanical Systems and Design  
- CHEM 2152 (3, F) Organic Chemistry II Pre: CHEM 2151  
- APSC 2111, Pre = Pre-requisite  

2nd Semester (16 credits)  
- MAE 4149 (3, F) Thermal Systems Design Pre: MAE 3187  
- MAE 4182 (3, F) Electromechanical Control System Design Pre: MAE 2117  
- MAE 4151 (3, F) Capstone Design Project I Pre: MAE 3193  
- MAE 3166W (3, F) Materials Engineering Pre: CHEM 1111, PHYS 1022  
- MAE 3149, Pre = Pre-requisite  

**Senior:**  
1st Semester (18 credits)  
- MAE 4152W (3, S) Capstone Design Project II Pre: MAE 4151  
- H/SS 3 (3)  
- H/SS 4 (3)  
- MAE 4152, Pre/Co = Pre-requisite or Co-requisite  
- H/SS = Humanities / Social Sciences -  
- all MAE students must take one humanities course and two social science courses from the University education requirement;  
- PHIL 2135, and two additional humanities or social science or non-technical courses from SEAS/MAE Department’s pre-approved list of electives.  

2nd Semester (16 credits)  
- H/SS 5 (3)  
- H/SS 6 (3)  
- MAE 4152W, Pre = Pre-requisite  

F = fall semester, S = spring semester  
Pre = Pre-requisite  
Co = Co-requisite  
Pre/Co = Pre-requisite or Co-requisite  

Medical Prep students are recommended but not required to take an introductory psychology or sociology course, such as PSYC 1001, and a biochemistry course, such as CHEM 3165, prior to taking the MCAT.

Technical Elective: Shall be selected from among the MA 3000, 4000, or 6000 level courses, except that the following are excluded: MAE 3171, 4172, 6298, 6999. All technical electives must be approved by the undergraduate advisor. Technical courses from other departments (3000, 4000, or 6000 level) may be permitted, on a case-by-case basis, if approved by both the undergraduate advisor and department chair.

ASME membership recommended  
FE Exam recommended in the senior year

Color code:
- Design Courses  
- Mechanical, Materials, Processes  
- Electrical, Measurements, Controls  
- Thermal/Fluid Sciences  
- Engineering Orientation, Computations  
- Humanities/Social Sciences, Writing  
- Mathematics  
- Basic Science