B.S. in Mechanical Engineering with an Patent Law option
Curriculum of Patent Law Option, 2025-2026

Freshman: 1st Semester (16 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	**Non-Technical Elective 1 (3)**
Freshman: 2nd Semester (16 credits)	**MATH 2184 (3, F&S)** Linear Algebra Pre: MATH 1220 or 1221 or 1231	**MAE 1004 (3, F&S)** Engineering Drawing and Computer Graphics	**PHYS 1021 (4, F&S)** University Physics I Pre: MATH 1220 or 1221 or 1231	**MATH 1232 (3, F&S)** Single Variable Calculus II Pre: MATH 1221 or 1231	**MAE 1117 (3, 5)** Intro to Engineering Computations	
Sophomore: 1st Semester (15 credits)	**APSC 2057 (3, F&S)** Analytical Mechanics I Pre: PHYS 1021	**APSC 2113 (3, F&S)** Engineering Analysis I Pre/Co: MATH 2233	**MAE 3192 (3, F)** Manufacturing Process and Systems Pre: MAE 1004	**MATH 2233 (3, F&S)** Multivariable Calculus Pre: MATH 1232	**MAE 2117 (3, F)** Engineering Computation Pre: MAE 1117, MATH 1232	
Sophomore: 2nd Semester (19 credits)	**APSC 2058 (3, F&S)** Analytical Mechanics II Pre: APSC 2057	**MAE 2131 (3, S)** Thermodynamcis Pre: PHYS 1021	**CE 2220 (3, F&S)** Mechanics of Solids Pre: APSC 2057, 2113	**PHYS 1022 (4, F&S)** University Physics II Pre: PHYS 1021, MATH 1232	**APSC 3115 (3, F&S)** Engineering Analysis III Pre: MATH 1232	**Non-Technical Elective 2: MAE 2170 (3)** History and Impact of the U.S. Patent System
Junior: 1st Semester (16 credits)	**MAE 3126 (3, F)** Fluid Mechancis Pre: APSC 2058	**MAE 3217 (1, F)** Fluid Mechanics Lab Pre: APSC 2058, Co: MAE 3126	**MAE 3191 (3, F)** Mechanical Design Pre: CE 2220	**MAE 3119 (3, F)** Electronics and Devices for Mechanical Engineers Pre: MAE 2117, PHYS 1022	**MAE 3166W (3, F)** Materials Engineering Pre: CHEM 1111, PHYS 1022	**Non-Technical Elective 3 (3)**
Junior: 2nd Semester (16 credits)	**MAE 3187 (3, S)** Heat Transfer Pre: MAE 3126, 2131	**MAE 3134 (3, S)** Linear System Dynamics Pre: APSC 2113, Co: APSC 2058	**MAE 3193 (3, S)** Mechanical Systems and Design Pre: MAE 3191	**MAE 3120 (3, S)** Methods of Engineering Experimentation Pre: MAE 3119	**MAE 3167W (1, S)** Mechanicals of Materials Lab Pre: MAE 3166W	**MAE 3171 (3, S)** Patent Law of Engineers
Senior: 1st Semester (15 credits)	**MAE 4149 (3, F)** Thermal Systems Design Pre: MAE 3187	**MAE 4182 (3, F)** Electromechanical Control System Design Pre: MAE 2117, 3134	**MAE 4151W (3, F)** Capstone Design Project I Pre: MAE 3193	**Techncial Elective (3)**	**Non-Technical Elective 4 (3)**	
Senior: 2nd Semester (15 credits)	**MAE 4152W (3, S)** Capstone Design Project II Pre: MAE 4151	**Technical Elective (3)**	**MAE 4172 (3, S)** Engineering Design and the Patent System Pre:MAE3171	**Non-Technical Elective 5 (3)**	**Non-Technical Elective 6 (3)**	

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

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

Non-Technical Elective:
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. Please see the "Non-Technical Elective Requirement" in the bulletin.

All Patent Law option students must select Phil 2135, MAE 2170 and one course from either the University General Education Requirement list, or the SEAS Humanities and Social Science list, or the Department preapproved non-technical courses list, or as approved by their faculty advisor and the Mechanical Engineering department chair.

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