B.S. in Mechanical Engineering with an Aerospace Engineering Option

Curriculum of Aerospace Engineering Option, 2021-2022

**Freshman:**
- **1st semester (16 credits)**
  - MAE 1001 (1, F) Intro to Mechanical and Aerospace Engineering
  - MATH 1231 (3, F&S) Single Variable Calculus I
  - CHEM 1111 or CHEM 1113 (4, F&S) General Chemistry
  - UW 1020 (4, F&S) Engineering Orientation

**1st semester (16 credits)**
- MAE 1004 (3,F&S) Linear Algebra
- CHEM 1113 (4, F&S) Single Variable Calculus I
- PHYS 1021 (4, F&S) University Physics I

**2nd semester (16 credits)**
- MAE 1117 (3, S) Intro to Engineering Computations
- APSC 2113 (3, F&S) Analytical Mechanics I
- PHYS 1022 (4, F&S) University Physics II

**Sophomore:**
- **1st semester (16 credits)**
  - APSC 2057 (3, F&S) Engineering Drawing and Computer Graphics
  - MAE 2117 (3, F) Engineering Orientation
  - CE 2220 (3, F&S) Circuit Theory

**2nd semester (16 credits)**
- APSC 2058 (3, F&S) Analytical Mechanics II
- MAE 2131 (3, S) Thermodynamics
- PHA 2113 (3, F&S) Engineering Computation

**Junior:**
- **1st semester (19 credits)**
  - MAE 3126 (3, F) Fluid Mechanics
  - MAE 3127 (1, F) Fluid Mechanics Lab Co: MAE 3126
  - MAE 3191 (3, F) Mechanical Design Pre: CE 2220
  - MAE 3193 (3, S) Mechanical Systems Design Pre: MAE 3104

**2nd semester (16 credits)**
- MAE 3187 (3, S) Heat Transfer Pre: MAE 3126, 2131
- MAE 3155 (3, F&S) Aerodynamics Pre: MAE 3126
- MAE 3134 (3, S) Linear System Dynamics Pre: APSC 2057, 2113
- MAE 4182 (3, F) Electromechanical Control System Design Pre: MAE 2117, 3134

**Senior:**
- **1st semester (16 credits)**
  - MAE 4152W (3, S) Capstone Design Project II Pre: MAE 4151
  - MAE 4151 (3, F) Capstone Design Project I Pre: MAE 3193
  - MAE 4152W (3, S) Capstone Design Project II Pre: MAE 4151
  - MAE 6229 (3, S) Propulsion Pre: MAE 2131, MAE 3126

**2nd semester (15 credits)**
- MAE 4152W (3, S) Capstone Design Project II Pre: MAE 4151
- MAE 4151 (3, F) Capstone Design Project I Pre: MAE 3193
- MAE 6229 (3, S) Propulsion Pre: MAE 2131, MAE 3126

**Technical Elective:** Shall be selected from among the MAE 3000, 4000, or 6000 level courses, except that the following are excluded: MAE 3171,4172, 6298, 6299, 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.

**Aerospace Elective:**
- Either - Space: In the 5th semester take MAE 3145 and in the 8th semester take MAE 6249
- Aero: In the 7th semester take MAE 4163 and in the 8th semester take MAE 6247. (Switch AERO ELECT 5th semester with H/SS 7th semester.)