

## Michigan Technological University

### Minor in Aerospace Engineering

Program Code EMAE, Academic Year 2022-23

College of Engineering

Total Credits Required: 18

#### Required Courses: 10 Credits

- MEEM 2150 Mechanics of Materials (3) *Prereq: MEEM2110*
  - or ENG 2120 Statics-Strengths of Materials\* (4) *Prereqs: MA2160 and PH2100 and ENG1102*
- MEEM 3201 Intro Fluid Mechanics & Heat Transfer (4) *Prereqs: MEEM2201 and MEEM2911 and MA3160*
  - or ENG 3200 Thermodynamics/Fluid Mechanics\* (4) *Prereqs: CH1112 or (CH1150 and CH1151) and PH2100 and ENG1102 and MA2160*
- MEEM 4810 Intro to Aerospace Engineering (3) *Prereqs: (MEEM 2150 or ENG 2120) and (MEEM 3201 or ENG 3200)*

#### Elective Courses: 4 credits minimum

- ENT 4950 Enterprise Project Work V\*\* (2) *Prereqs: (BE3350 or BE3700 or BE4900) or (CEE3620 or CEE3810) or (CM4855(c)) or (CS3712 or CS4711 or CS4760) or (ENT3960 and EE3131 and EE3901)*
- ENT 4960 Enterprise Project Work VI\*\* (2) *Prereqs: ENT4950 and (BE4900 or CEE3620 or CEE3810 or CM4855 or CS3712 or CS4711 or CS4760 or EE3171 or EE3173 or GE3880 or GE3890 or MSE4141 or CMG4210 or EET4253 or MET4460 or SAT4541 or SU4100 or ENG3830 or (ENG3505 and ENG4505) or (MEEM3750 and MEEM3201)*
- ENT 4961 Enterprise Project Work VII\*\* (1) *Prereqs: ENT3950 and ENT3960 and (ENT4950 and ENT4960) or (ENT4900 and ENT4960)*
- MEEM 4202 Int. Fluid Mech & Heat Transfer (3) *Prereqs: MEEM3201 and (MA3520(c) or MA3521(c) or MA3530(c) or MA3560(c))*
- MEEM 4210 Computational Fluids Eng. (3) *Prereqs: MEEM3201(c)*
- MEEM 4230 Compressible Flow/Gas Dynamics (3) *Prereqs: MEEM3201*
- MEEM 4701 Analytical & Experimental Modal Analysis (4) *Prereqs: MEEM3750*
- MEEM 4720 Space Mechanics (3) *Prereqs: MEEM2700*
- MEEM 4820 Intro to Aerospace Propulsion (3) *Prereqs: MEEM4230*
- MEEM 5180 Mechanics of Composite Materials (3) *Prereqs: MEEM4901(c) or ENT4950(c)*
- MSE 4430 Composite Materials (3) *Prereqs: MY2100 or MSE2100 or BE2800*

#### Remaining Elective Courses: select remaining credits from the following course list

- MEEM 4150 Intermediate Mechanics of Materials (3) *Prereqs: MEEM2150*
- MEEM 4170 Failure of Materials in Mechanics (3) *Prereqs: MEEM3501 or MEEM3400*
- MEEM 4180 Engineering Biomechanics (3) *Prereqs: MEEM2150 and MEEM2700*
- MEEM 4201 Applied Thermodynamics (3) *Prereqs: MEEM3201*
- MEEM 4630 Human Factors (3) *Prereqs: none*
- MEEM 4650 Quality Engineering (3) *Prereqs: MEEM3600(c) and (MA3710 or MA3720 or MA2710 or MA2720)*
- MEEM 4702 Shock and Vibration (3) *Prereqs: (MEEM3911 and MEEM3750) or MEEM4775*
- MEEM 4704 Acoustics and Noise Control (3) *Prereqs: MA2160*
- MEEM 4705 Intro to Robotics and Mechatronics (4) *Prereqs: MEEM3750*
- MEEM 4707 Autonomous Systems (3) *Prereqs: MEEM3750 or MEEM4700 or MEEM4775*
- MSE 4120 Material and Process Selection in Design (3) *Prereqs: MY2100 or MSE2100 or BE2800*

\*Minor credit cannot be granted for ME majors for these two courses.

\*\*Requires minor advisor approval of project.