

# Mechanical Engineering Curriculum – 2021

## Prerequisites

### Semester 1 16 Hrs

- ENG 101 Writing I (3)
- MTH 181 Calculus I (4)
- CHM 261 Gen Chem I (3)
- CHM 266 Chem I Lab (1)
- ESC 100 Orientation (1)
- ESC 120 Intro to Engr (2)
- MCE 180 CAE Lab I (2)

### Semester 2 17 Hrs

- ESC 102 Tech Writing (3)  
Prerequisite: ENG 100 or ENG 101.
- MTH 182 Calculus II (4)  
Prerequisite: MTH 181.
- ESC 152 Prog w/Matlab (3)  
Prerequisite: MTH 168 or equivalent.
- PHY 241 Univ Physics I (5)  
Prerequisite: MTH 181.
- MCE 181 CAE Lab II (2)  
Prerequisite: MCE 180.

### Semester 3 14 Hrs

- ESC 250 Diff Equations (3)  
Prerequisite: MTH 182.
- MTH 281 Multivar Calc (4)  
Prerequisite: MTH 182.
- ESC 201 Statics (3)  
Prerequisites: MTH 181, PHY 241 or 243.
- MCE 276 Matls/Manuf (3)  
Pre-requisite: MCE 181. Co-requisite: MCE 286. Pre- or Co-requisite ESC 120.
- MCE 286 Mfg Proc Lab (1)  
Prerequisite: MCE 181. Co-requisite: MCE 276.

### Semester 4 17 Hrs

- ESC 202 Dynamics (3)  
Prerequisite: ESC 201.
- ESC 301 Fluids (3)  
Prerequisite: ESC 250.
- PHY 242 Univ Physics II (5)  
Prerequisite: MTH 181, MTH 182, PHY 241 or 243.  
Pre- or Co-requisite: MTH 281 or 283.
- ESC 211 Str of Matls (3)  
Prerequisite: ESC 201.
- GenEd (Div-US) (3)

### Semester 5 15 Hrs

- ESC 321 Thermo (3)  
Prerequisite: MTH 182
- ESC 350 N.M./Lin Alg (3)  
Prerequisite: ESC 151 or 152, or CIS 260, MTH 182.
- MCE 260 Kinematics (3)  
Prerequisites: ESC 152, MTH 281.
- MCE 371 Vibrations (3)  
Prerequisite: EESC 202, ESC 250.
- MCE 362 Mach Analysis (3)  
Prerequisite: ESC 211, MCE 181, MCE 276.

### Semester 6 16 Hrs

- MCE 315 Electrical Sys. ME (3)  
Prerequisites: MTH 182, ESC 250
- MCE 365 Mach Des I (3)  
Prerequisite: MCE 362
- MCE 324 Heat Transfer (3)  
Prerequisites: ESC 321, ESC 301.
- MCE 421 App Thermo (3)  
Prerequisite: ESC 321. Co-requisite: MCE 481.
- MCE 481 Thermo Lab (1)  
Co-requisite: MCE 421
- GenEd (SS non-US) (3)

### Semester 7 15 Hrs

- MCE 441 Controls (3)  
Prerequisites: ESC 350, MCE 371
- MCE 450 Design Proj I (2)  
Prerequisites: Senior standing, adviser approval
- ESC 282 Eng Economy (3)  
Prerequisite: MTH 182.
- MCE 470 Eng Meas (3)  
Prerequisites: ESC 211, ESC 301, ESC 315, MCE 324, MCE 371,. Co-requisite: MCE 480
- MCE 480 Meas Lab (1)  
Co-requisite: MCE 470.
- MCE 4XX ME Elective (3)

### Semester 8 18 Hrs

- MCE 451 Design Proj II (3)  
Prerequisites: MCE 450
- MCE 4XX ME Elective (3)
- MCE 48X Lab Elective (3)
- PHL 215 Eng Ethics (3)
- GenEd (A&H non-US) (3)
- GenEd (Div-AA) (3)

Total 128 Hours