

MECHANICAL ENGINEERING CURRICULUM (Option A: last Name begins with A-K)

Semester 1
17 credits

CHEM 110 3 cr.
Chem Principles

MATH 140# 4 cr.
Calc 1

EDSGN 100 3 cr.
Intro to Engr Design

ENGL 15 3 cr.
Rhetoric and Composition

Engr FYS 1 cr.
Students who did not take a CoE FYS should verify completion of this requirement with ME adviser

AHS gen ed[^] 3 cr.

Semester 2
17 credits

Science elective 3 cr.
CHEM 112, BIOL 141 or PHYS 214 and CHEM 111
P: Vary by selection

MATH 141# 4 cr.
Calc 2
P: MATH 140

PHYS 211 4 cr.
Mechanics
P/C: MATH 140

ECON 102 or 104 3 cr.
Micro or Macro economics
(GS - Single domain)

AHS gen ed[^] 3 cr.

Semester 3
17 credits

CMPSC 200 or 201 3 cr.
MATLAB or C++
P: MATH 140
P/C: MATH 141

MATH 251# 4 cr.
Diff Equations
P: MATH 141

PHYS 212 4 cr.
Elect & Magnetism
P: PHYS 211, MATH 140
P/C: MATH 141

EMCH 211# 3 cr.
Statics
P: MATH 140

CAS 100 3 cr.
Effective Speech

Semester 4
16 credits

ME 300 3 cr.
ENGR Thermodynamics
P: CHEM 110
P/C: MATH 141

MATH 231# 2 cr.
Calc of Several Variables
P: MATH 141

MATH 220# 2 cr.
Matricies
P: MATH 140

EMCH 213# 3 cr.
Strength of materials
P: EMCH 211

EMCH 212# 3 cr.
Dynamics
P: EMCH 211, MATH 141

AHS gen ed[^] 3 cr.

Semester 5
15.5 credits

ME 370 3 cr.
Vibration of Mech Sys
P: EMCH 212, CMPSC 200/201, MATH 220, MATH 251

ME 330 3 cr.
Computational Tools
P: EMCH 212 & 213, MATH 251, PHYS 212

ME 348 3 cr.
Circuit Analysis...
P: MATH 251, PHYS 212

IE 312 3 cr.
Product Design...
P: EMCH 213
P/C: MATSE 259

MATSE 259 3 cr.
Prop&Prac ENGR Materials
P: EMCH 213

ME 390 0.5 cr.
Acad & Career Development

Semester 6
17 credits

ME 320 3 cr.
Fluid Flow
P: EMCH 212, MATH 251
ME 300, MATH 231

ME 340 3 cr.
ME Design Methodolgy
P: EDSGN 100
P/C: ME 320, ME 360

ME 360 3 cr.
Mechanical Design
P: EMCH 213
P/C: CMPSC 200/201

ME 454 3 cr.
Mechatronics
P: ME 348

ENGL 202C 3 cr.
Technical Writing
P: ENGL 15

ME 490 0.5 cr.
Professional Development
P: ME 390

GHW 1.5 cr.

Semester 7
16.5 credits

ME 450 3 cr.
Modeling Dynamic System
P: ME 370
P/C: ME 348

ME 410 3 cr.
Heat Transfer
P: ME 320, MATH 220
CMPSC 200/201

ME 435 3 cr.
ME Systems Lab
P: ME 348, ME 330
P/C: ME 320, ME 370

METE 3 cr.
ME Tech Selection
P/C: Vary by selection

ETE 3 cr.
ENGR Tech Selection
P/C: Vary by selection

GHW 1.5 cr.

Semester 8
15 credits

ME 440W 3 cr.
Design Capstone
P: ME 340
P/C: IE 312, ENGL 202C

ETE 3 cr.
ENGR Tech Selection
P/C: Vary by selection

GTE 3 cr.
GTE Tech Selection
P/C: Vary by selection



AHS gen ed[^] 3 cr.

AHS gen ed[^] 3 cr.

P = prerequisite C = concurrent

Courses applied toward major GPA calculation

ME Course Sequencing

-  **Thermal Sciences**
-  **Imbedded Labs**
-  **Dynamic Systems**
-  **Design Concentration**

Completion of EMCH and MATH courses before the 5th semester is important for future course sequencing
EMCH 210 or EMCH 210H is not a direct substitute for EMCH 211 & 213 requirements and should not be taken for ME_BS
[^] US Cultures & IL Cultures and Integrative studies requirements are satisfied in conjunction with gen ed courses
[Baccalaureate Degree General Education Requirements | Penn State \(psu.edu\)](https://www.pennstate.edu/baccalaureate-degree-general-education-requirements)

This flow chart is meant to be a guide for planning. For official degree requirements see www.bulletins.psu.edu.