

# MECHANICAL ENGINEERING Suggested Academic Plan\* (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 Compisition*

**Engr FYS** 1 cr.  
*Students who did not take a 1 or C&E  
FYS should verify completion of  
this requirement with ME adviser*

**Gen ed ^** 3 cr.

Semester 2  
17 credits

**Science elective** 3 cr.  
*CHEM 112, BIOL 141/161 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)

**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  
16-17 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 #** 2-3 cr.  
*Matrices*  
P: MATH 140

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

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

**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&Proc 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.  
*Mechtatronics*  
P: ME 348

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

**ME 490** 0.5 cr.  
*Professional Development*  
P: ME 390

**Gen ed ^** 1.5 cr.  
GHW

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, ME 320  
P/C: ME 370

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

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

**Gen ed ^** 1.5 cr.  
GHW

Semester 8  
15 credits

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

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

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

**Gen ed ^** 3 cr.

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\*This flow chart is meant to be a guide for planning; use in conjunction with official degree audit.  
Please note that some courses require a C or better.  
For additional information on official degree requirements see [www.bulletins.psu.edu](http://www.bulletins.psu.edu).

P = prerequisite  
C = concurrent

Courses applied toward  
major GPA calculation

**ME Course Sequencing**

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

**Note:**  
# 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

^ Gen ed requirements:

3 credits each Single domain	6 total credits Interdomain ("N")	9 total credits Exploratory
<input checked="" type="checkbox"/> *3 cr. GS - ECON 102 or 104	<input type="checkbox"/> 3 cr. -	<input checked="" type="checkbox"/> * GN - PHYS 211
<input checked="" type="checkbox"/> *3 cr. GN - CHEM 110	<input type="checkbox"/> 3 cr. -	<input checked="" type="checkbox"/> * GN - PHYS 212
<input type="checkbox"/> 3 cr. GA -		<input type="checkbox"/> 3 cr. - any GA/GHW/GS/ GN/IL or 12 <sup>th</sup> cr. level language
<input type="checkbox"/> 3 cr. GH -		
<input type="checkbox"/> 3 total cr. GHW -		

\*Gen eds satisfied through ME\_BS required curriculum

Capture cultures requirements in above selections: 3 cr US & 3 cr IL  
[Other University Requirements | Penn State \(psu.edu\)](http://Other University Requirements | Penn State (psu.edu))