

## Suggested Curriculum

This should be used as a **guide** only. Semester offerings are subject to change.

Autumn	Spring
<p>MATH 1151 (Calculus I) ..... 5 hr Prereq: A grade of C- or above in 1148 and 1149, or in 1144, 1150, or 150, or Math Placement Level L</p> <p>PHYSICS 1250 (Mechanics, Thermal, Waves) ..... 5 hr Prereq or concur: Math 1141, 1151, 1156, 1161, 1181H, or 4181H</p> <p>ENGR 1181 (Fundamentals of Engr 1) ..... 2 hr Prereq or concur: Math 1140 or 1141; or Math 1150 or above</p> <p>ENGR 1100.01 (Engineering Survey) ..... 1 hr</p> <p>General Education ..... 3 hr</p>	<p>MATH 1172 (Engineering Math A) ..... 5 hr Prereq: A grade of C- or above in 1114, 1151, 1156, 1161.xx, 152.xx, 161.xx, or 161.01H</p> <p>CHEM 1250 (Gen Chem for Engineers) ^ ..... 4 hr Prereq: One unit of high school chemistry, and Math Placement Level L or M; or a grade of C- or above in Math 1130, 1131, 1148, or 1150, or above</p> <p>ENGR 1182 (Fundamentals of Engr 2) ..... 2 hr Prereq: 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H. Prereq or Concur: Math 1141; or Math 1151 or above</p> <p>General Education (Writing Level 1) ..... 3 hr</p>
<p>MATH 2173 (Engineering Math B) ..... 3 hr Prereq: 1172 or 1544</p> <p>PHYSICS 1251 (E&amp;M, Optics, Modern Phys) ..... 5 hr Prereq: 1250, 1250H, or 1260; and Math 1141 or 1151 or above. Concur: Math 1152, 1161, 1172, 1181H, or 4181H</p> <p>MECHENG 2010 (Statics) ..... 2 hr Prereq: Engr 1181 or 1187 or 1281H, and Physics 1250 or 1260, and Math 1151 or 1161</p> <p>STAT 3450 (Stat Methods for Engineers) ..... 2 hr Prereq: Math 1152, 1161.xx, 1172, or 1181, or equiv</p> <p>ISE 2040 (Engineering Economics) ..... 2 hr Prereq: Soph standing in Engineering</p> <p>MATSCEN 2010 (Intro Engr Materials)† ‡ ..... 3 hr Prereq: Physics 1250 or 1260, Math 1151 or 1161, and Chemistry 1210 or 1250 or 1910H</p>	<p>MATH 2174 (Lin Alg &amp; Diff Eq) ..... 3 hr Prereq: 2173</p> <p>MECHENG 2020 (Mechanics of Materials) ..... 3 hr Prereq: 2010 or 2010H</p> <p>MECHENG 2030 (Dynamics) ..... 3 hr Prereq: 2010 or 2010H or 2040</p> <p>MECHENG 2900 (Intro to Design in ME) ..... 3 hr Enrollment as MechEng-BS student. Prereq: Physics 1251. Prereq or concur: MatScEn 2010.</p> <p>MECHENG 2850.01 (Numerical Methods) ..... 3 hr Enrollment as MechEng-BS student. Prereq: 2010. Prereq or concur: Math 2174 or 2415, or equiv.</p> <p>General Education ..... 3 hr</p>
<p>ECE 2300 (Circuits) ..... 3 hr Prereq: Physics 1251 or 1261, and Math 1172 or 1544 or 2153 or 2162.01 or 2162.02 or 2182H or 4182H, and CPHR 2.0 or above, and enrollment in College of Engineering</p> <p>MECHENG 3260 (System Dynamics) ..... 3 hr Pre-req: 2850.01 and 2900. Pre-req or concur: ECE 2300</p> <p>MECHENG 3501 (Thermodynamics) ..... 3 hr Pre-req: 2850.01 and 2900, and CHEM 1210 or 1250</p> <p>MECHENG 3670 (Dsgn Analysis Mach Elm 1) ..... 2 hr Pre-req: 2850.01 and 2900 and 2020 and 2030</p> <p>MECHENG 3751 (Kinematics &amp; Mech Design) ..... 2 hr Pre-req: 2030 and 2900</p> <p>General Education (Writing Level 2 - 2367) ..... 3 hr</p>	<p>MECHENG 3360 (Sys Integration &amp; Control) ..... 3 hr Pre-req: 3260. Pre-req or concur: 3503</p> <p>MECHENG 3503 (Intro to Fluid Mechanics) ..... 3 hr Pre-req: 2850.01 and 3501</p> <p>MECHENG 3671 (Dsgn Analysis Mach Elm 2) ..... 3 hr Pre-req: 3670 and 3751</p> <p>MECHENG 3870 (Msmts &amp; Data Analysis) ..... 3 hr Pre-req: 3260, and STAT 3450 or equiv., and second writing course. Pre-req or concur: 3503</p> <p>General Education ..... 3 hr</p>
<p>MECHENG 4510 (Heat Transfer) ..... 3 hr Pre-req: 3503</p> <p>ISE 4500 (Mfg Process Engineering) ..... 3 hr Pre-req: MECHENG 3670. Pre-req or concur: MECHENG 3503</p> <p>MECHENG 490X.01 (Capstone Design 1) ..... 2.5 hr Pre-req: 3360 and 3671 and 3870. Pre-req or concur: 4510.</p> <p>Technical Elective ..... 3 hr</p> <p>Technical Elective ..... 3 hr</p> <p>General Education ..... 3 hr</p>	<p>MECHENG 490X.02 (Capstone Design 2) ..... 2.5 hr Pre-req: 490x.01</p> <p>MECHENG 4870 (Multidisciplinary Lab) ..... 2 hr Pre-req: 3360 and 3671 and 3870. Pre-req or concur: 4510</p> <p>Technical Elective ..... 3 hr</p> <p>Technical Elective ..... 3 hr</p> <p>General Education ..... 3 hr</p> <p>General Education ..... 3 hr</p>

**Total hours to complete the degree program = 130**

\*These required courses can be taken without being admitted to the Mechanical Engineering major program.

^ CHEM 1210 (5 hours) can substitute for CHEM 1250.

† BIOLOGY 1113 + 1114 (4 hours each, 8 hours total), CHEM 2000-level (3 hours or more) or above (as long as not counting as Technical Elective credit), and BIOMEDE 2800 can substitute for MATSCEN 2010.

Courses in **bold face** are only open to admitted MECHENG-BS majors.

All students must satisfy a 32 credit hour minimum for math and basic sciences. Students with high math or science placements and transfer students without credit for lower courses should consult with the MAE Undergraduate Academic Advisors to ensure this minimum is met. Such students may be required to take extra coursework to meet graduation requirements.

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## Passing Criteria

A passing grade in a course is defined as a D or better. By earning a D or better, you are earning credit for the course. Some courses may require a C- or better in a pre-requisite course. Some majors/minors require that you earn a C- or better in courses to remain in good standing in the program. Mechanical Engineering requires that students earn a C- or better in MECHENG 2010 to be in good standing in the major, but all other major courses would be complete with an earned D grade. Please note that students in Mechanical Engineering must have a 2.0 or better Major GPA (MPHR) to graduate with a B.S. in Mechanical Engineering.

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## Acceptance Criteria

Please review admission/acceptance criteria on the College of Engineering website: <https://advising.engineering.osu.edu/current-students/applying-your-major>

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## Technical Electives and Capstone

Please contact an MAE Undergraduate Academic Advisor for information about Technical Elective and Capstone options.

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## General Education Requirement

### Writing and Communication

English 1110.xx 3 hr

Second Writing Course 3 hr

### Social Science

*Must choose each course from a distinct subgroup of this category.*

3 hr

3 hr

### Literature

3 hr

### Visual and Performing Arts

3 hr

### Historical Study

3 hr

### Second Historical Study or Cultures and Ideas

3 hr

### Social Diversity in the U.S. or Global Diversity

*Some courses may overlap with another GE category, See course list.*

0 / 3 hr

### Ethics

*Some courses may overlap with another GE category, See course list.*

0 / 3 hr

### Optional: Foreign Language

**Foreign Language 1103 Course:** credit (including EM) for a foreign language sequence through 1103, or credit for a foreign language course with a prerequisite of 1103, can be used to satisfy the Cultures & Ideas Gen Ed category.

**Foreign Language Minor Courses:** completion of a foreign language minor permits a student to overlap up to 6 credit hours between the Gen Ed and minor. A curricular petition must be submitted to the student's program, which will forward it to the college for review. The courses must meet the spirit of the Gen Ed category for which overlap is requested.

### Optional: University Capstone

Completion of a Social Science 3597 or 4597 can be substituted for a Social Science general education course in any subgroup. Completion of an Arts & Humanities 3597 or 4597 can be substituted for a Visual/Performing Arts general education course.

See the list of approved general education courses for additional details: [www.advising.engineering.osu.edu](http://www.advising.engineering.osu.edu)