

Suggested Curriculum

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

Autumn	Spring
ENGR 1100.01 (Engineering Survey) 1 hr MATH 1151 (Calculus I) 5 hr <i>Pre-req: Math Placement Level L, or C- or above in 1148 and 1149, or in 1144, 1150</i> PHYSICS 1250 (Mechanics, Thermal, Waves) 5 hr <i>Prereq or concur: Math 1141, 1151, 1156, 1161, 1181H, or 4181H</i> ENGR 1181 (Fundamentals of Engr 1) 2 hr <i>Prereq or concur: Math 1140 or 1141; or Math 1150 or above</i> General Education 3 hr	MATH 1172 (Engineering Math A) 5 hr <i>Prereq: A grade of C- or above in 1114, 1151, 1156, 1161.xx, 152.xx, 161.xx, or 161.01H</i> PHYSICS 1251 (E&M, Optics, Modern Phys) 5 hr <i>Prereq: 1250, 1250H, or 1260; and Math 1141 or 1151 or above; or permission of instructor. Concur: Math 1152, 1161, 1172, 1181H, or 4181H</i> ENGR 1182 (Fundamentals of Engr 2) 2 hr <i>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</i> ENGR 1221 (Intro to MATLAB)† 2 hr <i>Prereq: Engr 1181.01 or 1181.02 or 1187 or 1281.01H or 1281.02H or 1281.03H</i> Launch Seminar (GenEd 1201) 1 hr
MATH 2173 (Engineering Math B) 3 hr <i>Prereq: 1172 or 1544</i> CHEM 1250 (Gen Chem for Engineers) ^ 4 hr <i>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</i> AEROENG 2200 (Intro to AAE I) 4 hr <i>Prereq: Physics 1250 or 1260; and Math 1152, 1161, 1172, or 1181H, or a grade of C- or above in Math 1544. Prereq or concur: Math 2173, 2153, or 2162</i> MECHENG 2040 (Statics & Mechanics) 4 hr <i>Prereq: Engr 1181 or 1187 or 1281H, and Physics 1250 or 1260, and Math 1152 or 1161 or 1172 or 1181H</i> General Education 3 hr	MATH 2174 (Lin Alg & Diff Eq) 3 hr <i>Prereq: 2173</i> AEROENG 3520* (Flight Vehicle Dynamics) 3 hr <i>Prereq: 2200. Pre-req or concur: MECHENG 2030</i> AEROENG 2405* (Thermodynamics) 3 hr <i>Prereq: 2200</i> MECHENG 2030 (Dynamics) 3 hr <i>Prereq: 2010 or 2010H or 2040</i> ECE 2300 (Circuits) 3 hr <i>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</i>
AEROENG 3521* (Flight Vehicle Control) 3 hr <i>Prereq: 3520</i> AEROENG 3560* (Fluids I) 3 hr <i>Prereq: 3520 and 2405; and Math 2174, or 2568 and 2415</i> AEROENG 3542* (Flight Vehicle Structure 1) 3 hr <i>Prereq: 3520 and MechEng 2030 and 2040, or 3520 and MechEng 2010 and 2020 and 2030</i> AEROENG 3581* (Numerical Methods) 3 hr <i>Prereq: Math 2174, or 2568 and 2415</i> General Education 3 hr	AEROENG 3522* (Fundamental Astronautics) 3 hr <i>Prereq: 3520 and 2405</i> AEROENG 3543* (Flight Vehicle Structure 2) 3 hr <i>Prereq: 3542</i> AEROENG 3570* (Gasdynamics) 3 hr <i>Prereq: 3560</i> AEROENG 3580* (Heat Transfer) 3 hr <i>Prereq: 3560</i> General Education (Theme: Citizenship etc.) 4 hr
AEROENG 4510* (Experimental Projects 1) 2 hr <i>Prereq: 3543 and 3570, and Sr standing</i> AEROENG 4515* (Pre-Dsgn of Atmos Flt Veh) 3 hr <i>Prereq: 3543 and 3570 and 3521 and 3580 and Sr standing. Prereq or concur: 4550</i> or AEROENG 4517* (Space Veh and Systems 1) 3 hr <i>Prereq: 3521 and 3543 and 3570 and 3580, and Sr standing. Prereq or concur: 4550.</i> AEROENG 4550* (Flight Veh Propulsion) 3 hr <i>Prereq: 3570</i> Technical Elective 3 hr General Education 3 hr General Education 3 hr	AEROENG 4511* (Experimental Projects 2) 3 hr <i>Prereq: 4510</i> AEROENG 4516* (Dsgn of Atmos Flt Veh) 3 hr <i>Prereq: 4515</i> or AEROENG 4518* (Dsgn Space Veh and Sys 2) 3 hr <i>Prereq: 4517</i> Technical Elective 3 hr Technical Elective 3 hr General Education (Theme: Student Choice) 4 hr

Total Hours to complete the degree program = 128

**These required courses can only be taken after admission to the Aerospace Engineering major program.*

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

†CSE 1222 (3 credit hours) can substitute for ENGR/CSE 1221.

Courses in **bold face** are only offered during the listed term.

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.

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. Aerospace Engineering requires that students earn a C- or better in MECHENG 2040 and AEROENG 2200 to be in good standing in the major, but all other major courses would be complete with an earned D grade. Please note that must have a 2.0 or better Major GPA (MPHR) to graduate with a B.S. Aerospace Engineering.

Acceptance Criteria

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

Technical and Other Electives

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

General Education Requirement

General Education Launch Seminar

1 hr

Foundations: Writing and Information Literacy

3 hr

Foundations: Mathematical & Quantitative

Reasoning/Data Analysis

Fulfilled by MATH 1151 Degree Requirement

0-5 hr

Foundations: Literary, Visual and Performing Arts

3 hr

Foundations: Historical & Cultural Studies

3 hr

Foundations: Natural Science

Fulfilled by PHYSICS 1250 Degree Requirement

0-5 hr

Foundations: Social & Behavioral Sciences

3 hr

Foundations: Race, Ethnic and Gender Diversity

3 hr

Theme: Citizenship for a Diverse & Just World ^^

4-6 hr

Theme: Student Choice ^^ *

4-6 hr

General Education Reflection

Embedded into Major Capstone Degree Requirement

0 hr

^^ Theme Credit Hours

Themes may completed by (one) 4 credit hour course or (two) 3 credit hour courses. We recommend one 4 credit hour course for degree planning purposes.

* Theme: Student Choice

Student Choice options will be updated on an ongoing basis. For the most up-to-date listing of Theme options, please see the Undergraduate Education website on the New General Education requirements: <https://ugeducation.osu.edu/general-education-information-students>.

Approved general education courses for each category can be found in the following places:

- classes.osu.edu
- [Schedule Planner](#)
- [Search for Classes](#)

(filter by *Term*, *Campus*, *Class Attribute* “General Education – New”, and *Class Attribute Value* “GEN Foundation” or “GEN Theme”)