AEROSPACE ENGINEERING
Four Year Plan, FA23 Catalog

Aerospace engineering is a four-year curriculum that begins with fundamental engineering courses in mechanics, thermodynamics, materials, solid mechanics, fluid mechanics, and heat transfer.. Graduates of this program normally enter the aerospace industry to develop aircraft and spacecraft, but also find employment in other areas that use similar technologies, such as mechanical and energy-related fields. Examples include automobile, naval, and sporting equipment manufacturing. This program received ABET accreditation in 2002.

Recommended Sequence of Required Courses: **Updated June 2024**

FALL QUARTER	WINTER QUARTER	SPRING QUARTER
Year 1		
MATH 20A. Calculus for Science and Engineering	MATH 20B. Calculus for Science and Engineering	MATH 20C. Calculus and Analytic Geometry for Science and Engineering
MAE 02. Intro to Aerospace Eng.	PHYS 2A. Physics—Mechanics	PHYS 2B. Phys-Electricity & Mgnetism
CHEM 6A. General Chemistry I	GE	GE
GE (*General Elective*)	GE	GE
Year 2		
MATH 18: Linear Algebra	MATH 20D. Intro to Diffrntl Equat.	MATH 20E. Vector Calculus
PHYS 2C. Physics—Fluids, Waves, Thermodynamics, and Optics & PHYS 2CL. Physics Lab—Electricity/Magnet	MAE 08. MATLAB Programming for Engineering Analysis	MAE 30B. Dynamics and Vibrations
MAE 21* Aerospace Materials Sci	MAE 30A. Statics & Intro/ Dynamic	MAE 131A. Solid Mechanics I
GE	GE	TE *(Technical Elective)*
Year 3		
MAE 11. Thermodynamics	MAE 101B* Adv. Fluid Mech.	MAE 104* Aerodynamics
MAE 101A* Intro Fluid Mech.	MAE 143A* Signals and Systems	MAE 143B* Linear Control
MAE 105* Intro Mathmatic. Phys	TE	MAE 170. Experimental Techn.
MAE 107. Computational Methods in Engineering	SE 160A* Aerospace Structural Mechanics I	GE
Year 4		
MAE 113* Fund. of Propulsion	MAE 155A* Aerospace Eng. Dsign I	MAE 155B* Aerospace Eng Dsign II
MAE 142* Dynamics and Control of Aerospace Vehicles	MAE 175A* Aerospace Eng. Lab I	GE
GE	GE	GE
TE	TE	TE

Courses offered in the recommended quarters will not overlap in day/times, midterms, finals, etc. with the other courses. However, if you move courses outside their recommended quarter, we cannot guarantee that they will not overlap with other courses. Deviation from this recommended academic plan could delay graduation. Please avoid moving courses

- Chem 6AH may be taken in place of Chem 6A.
- All courses required for the major must be taken for a letter grade. The Pass/No Pass grading option is not allowed.
- Students may graduate with one D in a course required for the major.
- In fulfilling the General Education (GE) requirements, students must take at least 24 units in the arts, humanities, and social sciences, not including subjects such as accounting, industrial management, finance, or personnel administration. Twelve GE courses are listed here; individual college requirements may be higher or lower. Please contact your college advisor for more information.
- The Technical Elective (TE) course must be an upper-division or graduate course in the engineering sciences, natural sciences or mathematics and must be selected with prior approval of the Department. Refer to the list of pre-approved TEs available at www.mae.ucsd.edu.

*** ASTERISK DENOTES A COURSE THAT MUST BE TAKEN AT LEAST BY THAT QUARTER TO GRADUATE IN FOUR YEARS.**

Subject	Course #	Title	Prerequisites	Course is prerequisite for MAE ___:	Quarter/s *Usually* Offered
MAE	**2**	Intro to Aerospace Eng.		155A	F
MAE	**8**	Matlab Programming for Eng. Analysis	Math 20A, Math 20B	107	F, W, S
MAE	**11** (prev. 110A)	Thermodynamics	Phys 2C, CHEM 6A	101B, 113	F, W
MAE	**21**	Aerospace Materials Science	Phys 2A (or 4A), Chem 6A, Math 20B	SE 160A, MAE 155A	F
MAE	**30A** (prev. 130A)	Statics & Intro to Dynamics	Math 20C, Phys 2A	30B (130B), 131A	F, W
MAE	**30B** (prev. 130B)	Dynamics & Vibrations	MAE 30A (130A)	SE 160A	S
MAE	**101A**	Intro Fluid Mechanics	Phys 2A, Math 20D, Math 20E	101B, 101C, 104, 113	F, W
MAE	**101B**	Advanced Fluid Mechanics	MAE 11 (or 110A), MAE 101A	101C, 104, 113	W, S
MAE	**104**	Aerodynamics	MAE 101A, MAE 101B	142, 155A	S
MAE	**105**	Intro to Mathematical Physics	Phys 2A, Phys 2B, Math 20D	101C	F, S
MAE	**107**	Computational Methods in Engineering	MAE 8, Math 18 (or 20F)		F, S
MAE	**113**	Fundamentals of Propulsion	MAE 11 (or 110A), MAE 101A, MAE 101B	155B	F
MAE	**131A**	Solid Mechanics I	Math 20D, MAE 30A (130A)	SE 160A	F, S
MAE	**142**	Dynamics and Control of Aerospace Vehicles	MAE 104, MAE 143B	155B	F
MAE	**143A**	Signals and Systems	Math 20D, Math 20E, Math 18 (or 20F)	143B	W
MAE	**143B**	Linear Control	MAE 143A	142, 175A	S
MAE	**155A**	Aerospace Eng. Design I	MAE 2, MAE 21 (or SE 2 or SE 104), MAE 104, MAE 30B (or 130C), SE 160A	155B	W
MAE	**155B**	Aerospace Eng. Design II	MAE 113, MAE 142, MAE 155A, MAE 170		S
MAE	**170**	Experimental Techniques	PHYS 2C & PHYS 2CL (or MAE 40/140)	155B, 175A	F, S
MAE	**175A**	Aerospace Eng. Lab I	MAE 143B, MAE 170		W
SE	**160A**	Aerospace Structural Mechanics I	MAE 21 (or SE 2/L), MAE 30B (130B), MAE 131A	155A	W

All courses must be taken for a letter grade (no P/NP) For more information, please contact an MAE undergraduate advisor: mae-ugradadm@ucsd.edu