AEROSPACE ENGINEERING
TECHNICAL ELECTIVES

- Aerospace Engineering majors following the Fall 2023 catalog must complete five TE’s.
- Aerospace Engineering majors following the Fall 2019 catalog must complete two TE’s.
- Aerospace Engineering majors following a pre-Fall 2019 catalog must complete one TE.

- Not all courses are offered each year/quarter.
- All prerequisites are enforced.

The following classes that are not already required for your major are approved as TEs:

MAE 101C Heat Transfer
MAE 101D Intermediate Heat Transfer
MAE 108 Probability and Statistical Methods for Mechanical Engineering
MAE 110 Thermodynamic Systems (formerly 110B)
MAE 114 Space Propulsion
MAE 118 Intro to Energy & Environment
MAE 119 Intro to Renewable Energy: Solar & Wind
MAE 120 Intro to Nuclear Energy
MAE 122 Flow & Transport in the Environment
MAE 130 Advanced Vibrations
MAE 131B Solid Mechanics II
MAE 133 Finite Element Methods
MAE 144 Embedded Control and Robotics
MAE 145 Robotic Planning and Estimation
MAE 146 Intro to ML Algorithms
MAE 148 Intro to Autonomous Vehicles
MAE 149 Sensor Networks
MAE 150 Computational Methods for Design
MAE 154 Product Design & Entrepreneurship
MAE 180 Orbital Mechanics
MAE 180A Spacecraft Guidance I
MAE 181 Space Mission Analysis and Design
MAE 182 Spacecraft Guidance and Navigation
MAE 184 Flight Simulation Techniques
MAE 185 Computational Fluid Mechanics
MAE 190 Design of Machine Elements (Note: Must be this specific course topic)
MAE 199 Independent Study (2 quarters of MAE 199 can be used for 1 TE under certain circumstances. See our website, mae.ucsd.edu, for details.)

SE 120 Engineering Graphics and Computer-Aided Structural Design
SE 131 Finite Element Analysis
SE 142 Design of Composite Structures
SE 143A Aerospace Structural Design I
SE 143B Aerospace Structural Design II

Note: SE 143A/B are the SE senior design capstone courses so students will be expected to complete both A&B in consecutive quarters (credit will be given for 2 TEs)
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Updated: September 2023

SE 160B    Aerospace Structural Mechanics II  
SE 163    Nondestructive Evaluation  
SE 171    Aerospace Structures Repair

ECE 120    Solar System Physics  
ECE 172A    Introduction to Intelligent Systems  
MATH 102    Applied Linear Algebra  
MATH 120A    Elements of Complex Analysis  
MATH 175    Numerical Methods for Partial Differential Equations  
MATH 187A    Intro to Cryptography

**MAE 160 is not an approved TE due to overlapping material in SE 160A/B.**

**GRADUATE COURSES***

MAE 200    Controls  
MAE 201    Mechanics of Fluids  
MAE 202    Thermal Processes  
MAE 203    Solid Mechanics and Materials  
MAE 204    Robotics  
MAE 206    Energy Systems  
MAE 208    Mathematics for Engineers  
MAE 211    Intro to Combustion  
MAE 212    Introductory Compressible Flow  
MAE 222    Human Space Exploration  
MAE 240    Space Flight Mechanics  
SE 201A    Advanced Structural Analysis  
SE 202    Structural Stability  
SE 203    Structural Dynamics

**Global TIES:** One quarter of ENG 100D and two consecutive quarters of ENG 100L can be used for one TE. *(only for students following the FA19 catalog)*

* Enrollment in graduate courses requires approval by the instructor and course dept via an EASy request.

* All TE must be taken for a letter grade. No P/NP grades allowed except in MAE 199.

For information about receiving TE credit for courses not on this list, please contact a MAE undergraduate advisor through the VAC.