

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:

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| MAE 101C | Heat Transfer (approved TE for FA23 plan only) |
| MAE 101D | Intermediate Heat Transfer |
| MAE 108 | Probability and Statistical Methods for Mechanical Engineering |
| MAE 110 | Thermodynamic Systems (<i>formerly 110B</i>) |
| 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 (approved TE for FA23 plan only) |
| 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 (<i>Note: Must be this specific course topic</i>) |
| MAE 199 | Independent Study (<i>2 quarters of MAE 199 can be used for 1 TE under certain circumstances. See our website, mae.ucsd.edu, for details.</i>) |
| 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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| SE 160B | Aerospace Structural Mechanics II (approved TE for FA23 plan only) |
| SE 163 | Nondestructive Evaluation |
| SE 171 | Aerospace Structures Repair |

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| 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*

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| 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 TEs 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.