## MECHANICAL ENGINEERING TECHNICAL ELECTIVES 2026-2028

General Curriculum in Mechanical Engineering, SLO Campus Offerings

11-12 units total needed

Up to 4 units can be an upper division course outside of the ME in CENG with the exception of GE Upper-Division 2 or 5, ENGR 3301, senior project, thesis, special problems and co-op.

| Course | Course Title | Units | Term Typically Offered |
|---|---|---|---|
| ME 3305 | Mechatronics 1 | 4 | F, Sp |
| ME 3313 | Intermediate Dynamics | 2 | F, Sp |
| ME 3315 | Energy Conversion | 3 | F, Sp |
| ME 3355 | Introduction to Sustainable Energy Usage in Buildings | 3 | Sp |
| ME 4400** | Special Problems for Advanced Undergraduates | 1-4 | F,Sp |
| ME 4305 | Mechatronics II | 3 | F |
| ME 4361 | Fundamentals of Fire Protection Engineering | 4 | F |
| ME 4380 | Composites Manufacturing, Machining, and Testing | 3 | Sp |
| ME 4401 | Advanced Strength of Materials | 3 | F |
| ME 4402 | Orthopedic Biomechanics | 3 | F |
| ME 4403 | Access by Design: Intro to Rehab Eng | 3 | Sp |
| ME 4404 | Applied Finite Element Analysis | 3 | F, Sp |
| ME 4409 | Interdisciplinary Projects in Biomechanics | 3 | Sp |
| ME 4416 | Ground Vehicle Dynamics and Design | 3 | F |
| ME 4423 | Robotics: Fundamentals and Applications | 4 | Sp |
| ME 4434 | Micro/Nano Fabrication | 2 | Sp |
| ME 4435 | Micro/Nano Fabrication Laboratory | 1 | Sp |
| ME 4437 | Nuclear Energy Power Generation | 3 | TBD |
| ME 4438 | Nuclear Power Plant Design and Operation | 3 | TBD |
| ME 4439 | Nuclear Energy Resources | 4 | Sp |
| ME 4441 | Single Track Vehicle Design | 3 | Sp |
| ME 4442 | Design of Machinery | 3 | Sp |
| ME 4443 | Turbomachinery (1/2 semester course) | 2 | Sp |
| ME 4444 | Design and Analysis of Internal Combustion Engines | 4 | Sp |
| ME 4450 | Solar Thermal Power Systems | 3 | F |
| ME 4451 | Engineering, Design, and Social Justice | 3 | Sp |

| Course | Course Title | Units | Term Typically Offered |
|---|---|---|---|
| ME 4452 | Machine Learning in Mechanical Engineering | 4 | F |
| ME 4455 | Building Energy Performance and Modeling | 3 | Sp |
| ME 4456 | HVAC&R Air and Water Distribution Sustainable Building Environments | 3 | F |
| ME 4457 | Environmentally Efficient and Sustainable Refrigeration Systems | 3 | F |
| ME 4470* | Special Advanced Topics | 1-4 | F,Sp |
| ME 4471* | Special Advanced Topics Laboratory | 1-2 | F,Sp |
| ME 4480 | Composite Materials Analysis and Design | 3 | F |
| ME 4488 | Wind Power Engineering | 3 | F |
| ME 5305 | Mechatronics III | 3 | F |
| ME 5500** | Individual Study | 1-4 | F, Sp |
| ME 5501 | Continuum Mechanics and Elasticity | 3 | F |
| ME 5503 | Inelastic Stress Analysis | 3 | Sp |
| ME 5504 | Finite Element Analysis of Continua | 4 | Sp |
| ME 5506 | System Dynamics | 3 | Sp |
| ME 5517 | Advanced Vibrations | 3 | F |
| ME 5518 | Machinery Vibration and Rotor Dynamics | 3 | Sp |
| ME 5540 | Viscous Flow | 3 | F |
| ME 5541 | Advanced Thermodynamics | 3 | F |
| ME 5542 | Dynamics and Thermodynamics of Compressible Flow | 3 | Sp |
| ME 5552 | Conduction and Radiation Heat Transfer | 3 | F |
| ME 5553 | Convective Heat Transfer | 3 | Sp |
| ME 5554 | Computational Heat Transfer | 3 | Sp |
| ME 5570* | Special Advanced Topics | 1-4 | TBD |
| ME 5571* | Special Advanced Topics Laboratory | 1-2 | TBD |
| ME 5579 | Fluid Power Control | 3 | TBD |
| ME 5580 | Failure Analysis of Advanced Composite Materials | 3 | F |

Consultation with advisor is recommended prior to selecting technical electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.

*ME 4470, ME 4471, ME 5570 and ME 5571 are variable topics courses and may or may not count as ME electives. Please contact instructor for additional information. A course substitution form is required.

**ME 400 and ME 500 are independent study classes and may be acceptable for technical elective credit. Instructor approval and a course substitution form is required