

**Mechanical Engineering (BSME) Degree**  
**Approved ME Technical Elective & Restricted Elective Lists**  
**As of Fall 2020**

**Approved ME TECH Electives (ME TECH Electives)**

- ME 32600 Engineering Project Management (3 cr.)
- ME 42301 Introduction to Nanotechnology (3 cr.)
- ME 43000 Power Engineering (3 cr.)
- ME 43300 Principles of Turbomachinery (3 cr.)
- ME 47200 Advanced Mechanics of Materials (3 cr.)
- ME 49100 Engineering Design Project (1- 2 cr.)
- ME 44100 Design for IP Protection (3 cr.)
- ME 44200 Design for Patentability (3 cr.)
- ME 44300 IP Rights for Engineers (3 cr.)
- ME 49700 Systems Engineering Product Development (3 cr.)
- ME 49700 Reliability of Components and Systems (3 cr.)
- ME 50000 Advanced Thermodynamics (3 cr.)
- ME 50101 Energy Assessment of Industrial Processes (3 cr.)
- ME 50102 Energy Management Principles (3 cr.)
- ME 50103 Industrial Energy Assessment: Tools & Applications (3 cr.)
- ME 50104 Powertrain Integration (3 cr.)
- ME 50105 Hybrid and Electric Transportation (3 cr.)
- ME 50400 Automotive Control (3 cr.)
- ME 50500 Intermediate Heat Transfer (3 cr.)
- ME 50601 Design Optimization Methods (3 cr.)
- ME 50900 Intermediate Fluid Mechanics (3 cr.)
- ME 51000 Gas Dynamics (3 cr.)
- ME 51201 Energy Storage Devices and Systems (3 cr.)
- ME 52301 Nanosystems Principles (3 cr.)
- ME 52500 Combustion (3 cr.)
- ME 52601 Integrated Nanotechnology Process and Devices (3 cr.)
- ME 53501 Introduction to Systems Engineering (3 cr.)
- ME 53502 Systems and Speciality Engineering (3 cr.)
- ME 54200 Intro to Renewable Energy (3 cr.)
- ME 54600 CAD/CAM – Theory and Advanced Applications (3 cr.)
- ME 55000 Advanced Stress Analysis (3 cr.)
- ME 55100 Finite Element Analysis (3 cr.)
- ME 55800 Composite Materials (3 cr.)
- ME 56200 Advanced Dynamics (3 cr.)
- ME 56300 Mechanical Vibrations (3 cr.)
- ME 56900 Mechanical Behavior of Materials (3 cr.)
- ME 57301 Emission/Environmental Control (3 cr.)

- ME 58100 Numerical Methods in Mechanical Engineering (3 cr.)
- ME 59700 Integrated Nanosystems Processed and Devices (3 cr.)
- ME 59700 Systems Driven Product Development (3 cr.)
- ME 59700 Optimal Design Complex Mech. (3 cr.)
- ME 59700 Design of Complex and Origami Structures (3 cr.)
- ME 59700 Models of Musculoskeletal Load (3 cr.)
- ME 59700 Image Computation Cardio Asmt (3 cr.)
- ME 59700 Multiscale Modeling (3 cr.)
- ME 59700 Design & Charact of Comp Matls (3 cr.)
- ME 59700 Introduction to Friction & Wear (3 cr.)
- ME 59700 Analysis & Design of Robotic Manipulators (3 cr.)
- ME 59700 Topology Optimization (3 cr.)
- ME C18400, C28400, C38400, C48300, C48400 Cooperative Education Practice I-V (1 cr.)
- ME I18400, I28400, I38400, I48300, I48400 Career Enrichment Internship I-V (1 cr.)

**Energy Engineering (can be used for ME Tech Elective)**

- EEN 41000 Clean Power Generation (3 cr.)
- Mechatronics Concentration
- ME 42400 Electromechanical Systems and Applied Mechatronics (3 cr.)
- ECE 36200 Microcomputer System Design and Applications (4 cr.)
- ECE 47100 Embedded Microcontroller, Microprocessor & DSP Based Systems (3 cr.)
- EEN 49700 Energy Policy (3 cr.)
- EEN 49700 HVAC (3 cr.)

**Motor Sports (can be used for ME Tech Elective)**

- MSTE 42600 Internal Combustion Engines (3 cr.)
- MSTE 47200 Vehicle Dynamics (3 cr.)
- MSTE 48200 Motorsports Aerodynamics (3 cr.)

**Other (can be used for ME tech elective)**

- TECH 582 Advanced Vehicle Dynamics

**Approved Restricted Electives**

The Restricted Elective may be chosen from any of the approved electives (i.e. Science, Statistics, Technical or General Education). In addition, the following courses may be used as Restricted Elective ONLY. The following courses may not be used anywhere else in the ME Curriculum, and again ONLY as Restricted Elective.

- ME 29500 Intro to Advanced Manufacturing (offered Spring and Summer I only) (3 cr.)
- EEN 26000 Sustainable Energy (3 cr.)
- EEN 34500 Renewable Energy Systems and Design (3 cr.)
- OLS 42300 Go Green (3 cr.)
- Approved Statistics Courses
- STAT 35000 Introduction to Statistics (3 cr.)
- STAT 51100 Statistical Methods I (3 cr.)
- ECE 30200 Probability Methods (3 cr.)

**Approved DEPTH Electives**

- ENGR 295 (sometimes listed as OLS 399) Cross-Cultural Career Competencies (German Study Abroad Spring Break by E&T New Student Advising Office)- contact ET Student Services Office

**Approved STATISTICS Electives**

- STAT 350 Introduction to Statistics (3 cr.)
- STAT 511 Statistical Methods I (3 cr.)
- ECE 302 Probabilistic Methods (3 cr.)