Mechanical Engineering Technical Electives
(12 credits required starting in 2019-2020 catalog)
Students can focus in a concentration area or take electives from multiple areas

All Mechanical Engineering Technical Electives
ME 320 Dynamics of Machines (if not used for Dynamics requirement)
ME 345 Safety Engineering I
ME 400 Intermediate Fluid Mechanics
ME 409 Turbomachinery
ME 412 Sizing Solar Energy Systems
ME 415 Design of Thermal Systems
ME 416 Introduction to Biomechanical Engineering
ME 417 Fuel Cell Fundamentals
ME 418 Air Conditioning Engineering Systems
ME 419 Advanced HVAC and Energy Conservation Systems
ME 421 Automatic Controls (if not used for Dynamics requirement)
ME 425 Robotics
ME 426 Manufacturing Processes
ME 427 Manufacturing Systems
ME 429 Computer Control of Machines and Processes
ME 430 Corrosion Engineering
ME 434 Noise Control
ME 441 Advanced Mechanical Engineering Design
ME 442 Advanced Mechanism Design
ME 443 Design Techniques in Mechanical Engineering
ME 446 Composite Materials
ME 453 Mechanical Vibrations (if not used for Dynamics requirement)
ME 454 Physical Metallurgy
ME 455 Fundamentals of Nuclear Engineering
ME 460 High School Mentoring for Engineering Design
ME 462 Vehicle Design Projects
ME 470 Experimental Mechanics of Materials
ME 477 Solar and Renewable Energy Utilization
ME 480 Gas Dynamics
ME 482 Aerodynamics
ME 491 Independent Study (3 credits maximum)
ME 495 Special Topics in Engineering

All Mechanical Engineering Technical Electives (Approved Courses from other Departments)
Students can request approval from the ME Department Chair for Courses not on this list.
BIO 350 Comparative Vertebrate Anatomy
BIO 473 Advanced Topics in Cell and Molecular Biology
BIO 480 Introduction to Biological Modeling
CEE 452 Air Pollution Control Fundamentals CEM 480 Sustainable Construction
KIN 346 Biomechanics
KIN 446 Sport and Exercise Biomechanics
KIN 492 Clinical Exercise Physiology
All Mechanical Engineering Technical Electives (Approved Courses from other Departments) Continued.
EGG 300 Quality Control and Quality Improvement Engineering
EGG 370 UAS Design and Applications
EGG 412 Engineering Law
EGG 417 Mold Making and Casting
EGG 451 Ergonomics
EGG 460 Technology Commercialization
EGG 470 UAS Simulation and Testing
MGT 493 Seminar in Entrepreneurship
MGT 494 Seminar in Management
MGT 497 Business Plan Creation
HMD 445 Hospitality Innovation Lab
MATH 432 Mathematics for Engineers and Scientists II
MATH 488 Partial Differential Equations
STAT 463 Applied Statistics for Engineers

Aerospace Engineering Technical Electives
ME 320 Dynamics of Machines (if not used for Dynamics requirement)
ME 400 Intermediate Fluid Mechanics
ME 409 Turbomachinery
ME 421 Automatic Controls (if not used for Dynamics requirement)
ME 443 Design Techniques in Mechanical Engineering
ME 446 Composite Materials
ME 470 Experimental Mechanics of Materials
ME 480 Gas Dynamics
ME 482 Aerodynamics
ME 491 Independent Study (3 credits maximum)
ME 495 Special Topics in Engineering
EGG 300 Quality Control and Quality Improvement Engineering
EGG 370 UAS Design and Applications
EGG 470 UAS Simulation and Testing
MATH 432 Mathematics for Engineers and Scientists II
MATH 488 Partial Differential Equations
STAT 463 Applied Statistics for Engineers

Biomedical Engineering Technical Electives
ME 416 Introduction to Biomechanical Engineering
ME 491 Independent Study (3 credits maximum)
ME 495 Special Topics in Engineering
BIO 350 Comparative Vertebrate Anatomy
BIO 473 Advanced Topics in Cell and Molecular Biology
BIO 480 Introduction to Biological Modeling
KIN 346 Biomechanics
KIN 446 Sport and Exercise Biomechanics
KIN 492 Clinical Exercise Physiology
MATH 432 Mathematics for Engineers and Scientists II
MATH 488 Partial Differential Equations
STAT 463 Applied Statistics for Engineers
Management and Entrepreneurship Technical Electives
EGG 300 Quality Control and Quality Improvement Engineering
EGG 412 Engineering Law
EGG 460 Technology Commercialization
MGT 493 Seminar in Entrepreneurship
MGT 494 Seminar in Management
MGT 497 Business Plan Creation
HMD 445 Hospitality Innovation Lab

Materials and Manufacturing Technical Electives
ME 426 Manufacturing Processes
ME 427 Manufacturing Systems
ME 430 Corrosion Engineering
ME 446 Composite Materials
ME 454 Physical Metallurgy
ME 470 Experimental Mechanics of Materials
ME 491 Independent Study (3 credits maximum)
ME 495 Special Topics in Engineering
EGG 300 Quality Control and Quality Improvement Engineering
EGG 370 UAS Design and Applications
EGG 417 Mold Making and Casting

Mechanical Design Technical Electives
ME 320 Dynamics of Machines (if not used for Dynamics requirement)
ME 345 Safety Engineering I
ME 417 Fuel Cell Fundamentals
ME 421 Automatic Controls (if not used for Dynamics requirement)
ME 425 Robotics
ME 441 Advanced Mechanical Engineering Design
ME 442 Advanced Mechanism Design
ME 443 Design Techniques in Mechanical Engineering
ME 446 Composite Materials
ME 453 Mechanical Vibrations (if not used for Dynamics requirement)
ME 460 High School Mentoring for Engineering Design
ME 462 Vehicle Design Projects
ME 491 Independent Study (3 credits maximum)
ME 495 Special Topics in Engineering
EGG 300 Quality Control and Quality Improvement Engineering
EGG 370 UAS Design and Applications
EGG 417 Mold Making and Casting
EGG 451 Ergonomics
HMD 445 Hospitality Innovation Lab

Mechanical, Environmental and HVAC Systems Technical Electives
ME 345 Safety Engineering I
ME 418 Air Conditioning Engineering Systems
ME 419 Advanced HVAC and Energy Conservation Systems
ME 434 Noise Control
ME 453 Mechanical Vibrations (if not used for Dynamics requirement)