

MECHANICAL ENGINEERING (M E)

M E 159 Graphical Communication and Design 2 Credits (2)

Sketching and orthographic projection. Covers detail and assembly working drawings, dimensioning, tolerance specification, and design projects. (1+3P)

Prerequisite(s)/Corequisite(s): MATH 1250G

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M E 210 Electronics and System Engineering 3 Credits (3)

Introduction to microcontrollers, measurement systems, motion actuators, sensors, electric circuits, and electronic devices and interfacing. Students required to work individually and in teams to design and test simple electromechanical systems. (2+3P)

Prerequisite(s): C- or better grade in MATH 1521G or ENGR 190

Repeatable: up to 3 credits

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M E 222 Introduction to Product Development 3 Credits (3)

Introduction to modern methods used in the realization of products. Traditional manufacturing processes, such as metal stamping, turning, milling, and casting are reviewed. Modern methods of rapid prototyping and model making are discussed in context of computer-aided design. Techniques for joining metals, plastics, and composites are discussed. Role of quality control is introduced. (2+3P)

Prerequisite(s): C- or better grades in M E 159 or E T 110

Repeatable: up to 3 credits

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M E 228 Engineering Analysis 3 Credits (3)

Introduction to engineering analysis with emphasis on engineering applications. Topics include ordinary differential equations, linear algebra, and vector calculus with focus on analytical methods.

Prerequisite(s): C- or better grades in MATH 2530G

Repeatable: up to 3 credits

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M E 234 Mechanics Dynamics 3 Credits (3)

Kinematics and dynamic behavior of solid bodies utilizing vector methods.

Prerequisite(s): C E 233

Prerequisite(s)/Corequisite(s): MATH 2530G

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M E 236 Engineering Mechanics I 3 Credits (3)

Force systems, resultants, equilibrium, distributed forces, area moments, friction, and kinematics of particles.

Prerequisite(s): MATH 1521G or MATH 1521H

Prerequisite(s)/Corequisite(s): PHYS 1310G

Repeatable: up to 3 credits

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M E 237 Engineering Mechanics II 3 Credits (3)

Kinetics of particles, kinematics and kinetics rigid bodies, systems of particles, energy and momentum principles, and kinetics of rigid bodies in three dimensions.

Prerequisite(s): M E 236

Prerequisite(s)/Corequisite(s): MATH 2530G

Repeatable: up to 3 credits

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M E 240 Thermodynamics 3 Credits (3)

First and second laws of thermodynamics, irreversibility and availability, applications to pure substances and ideal gases.

Prerequisite(s): C- or better grades in PHYS 1310G

Repeatable: up to 3 credits

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M E 261 Mechanical Engineering Problem Solving 3 Credits (3)

Introduction to programming syntax, logic, and structure. Numerical techniques for root finding, solution of linear and nonlinear systems of equations, integration, differentiation, and solution of ordinary differential equations will be covered. Multi function computer algorithms will be developed to solve engineering problems. (2+3P)

Prerequisite(s): C- or better grades in MATH 1521G or MATH 1521H or ENGR 190

Repeatable: up to 3 credits

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