

M E-MECHANICAL ENGINEERING (M E)

M E 159. Graphical Communication and Design **2 Credits (1+3P)**

Sketching and orthographic projection. Covers detail and assembly working drawings, dimensioning, tolerance specification, and design projects.

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

M E 201. Supplemental Instruction to Dynamics **1 Credit (1)**

Optional workshop for students in M E 237. The workshop focuses on problem solving skills associated with M E 237. Course does not count toward departmental degree requirements. May be repeated up to 1 credits. Restricted to Las Cruces campus only.

Corequisite(s): M E 237.

M E 202. Supplemental Instruction to Thermodynamics **1 Credit (1)**

Optional workshop for students in ME 240. The workshop focuses on problem solving skills associated with ME240. Course does not count toward departmental degree requirements. Restricted to Las Cruces campus only.

Corequisite(s): M E 240.

M E 210. Electronics and System Engineering **3 Credits (2+3P)**

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. May be repeated up to 3 credits. Restricted to Las Cruces campus only.

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

M E 222. Introduction to Product Development **3 Credits (2+3P)**

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. May be repeated up to 3 credits. Restricted to: exclude majors.

Prerequisite(s): M E 159 or E T 110.

M E 228. Engineering Analysis I **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. Restricted to Las Cruces campus only.

Prerequisite(s): MATH 2530G.

M E 234. Mechanics-Dynamics **3 Credits (3)**

Kinematics and dynamic behavior of solid bodies utilizing vector methods.

Prerequisite(s)/Corequisite(s): MATH 2530G. Prerequisite(s): C E 233.

M E 236. Engineering Mechanics I **3 Credits (3)**

Force systems, resultants, equilibrium, distributed forces, area moments, friction, and kinematics of particles. May be repeated up to 3 credits.

Prerequisite(s)/Corequisite(s): PHYS 1310G. Prerequisite(s): MATH 1521G or MATH 1521H.

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. May be repeated up to 3 credits.

Prerequisite(s)/Corequisite(s): MATH 2530G. Prerequisite(s): M E 236.

M E 240. Thermodynamics **3 Credits (3)**

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

Prerequisite: PHYS 1310G.

M E 261. Mechanical Engineering Problem Solving **3 Credits (2+3P)**

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. May be repeated up to 3 credits.

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