

COURSES

ENGINEERING COURSES

EGR 010 Introduction to Engineering (3.0 Lecture/1.0 Lab) 4.0 UNITS

Advisory: MAT 903 or MAT 903M or High School Algebra I, or equivalent. This course exposes students to the field of engineering and the various engineering disciplines. The course presents the basic skills necessary to succeed as an engineering student. The nature of engineering work and the roles of engineers are explored. The Engineering Design Process is addressed through multiple team-based projects and engineering problem-solving topics. Communication skills for technical presentations and reports are developed through practical engineering scenarios. Guest speakers from local engineering firms and tours to local companies are included. C-ID # ENGR 110.

EGR 010H Introduction to Engineering - Honors (3.0 Lecture/1.0 Lab) 4.0 UNITS

Advisory: MAT 903 or MAT 903M or High School Algebra I, or equivalent. This course is the honors version of Introduction to Engineering. This course exposes students to the field of engineering and the various engineering disciplines. The course presents the basic skills necessary to succeed as an engineering student. The nature of engineering work and the roles of engineers are explored. The Engineering Design Process is addressed through multiple team-based projects and engineering problem-solving topics. Communication skills for technical presentations and reports are developed through practical engineering scenarios. Guest speakers from local engineering firms and tours to local companies are included. Students may not receive credit for both EGR 010 and EGR 010H. Enrollment in the Honors Transfer Project is required. C-ID # ENGR 110.

EGR 023 Mechanics - Statics (3.0 Lecture) 3.0 UNITS

Prerequisite: MAT 003B or any higher level math, and Prerequisite: PHY 004A This course applies the principles of mechanics to evaluate the static equilibrium of two- and three- dimensional engineering structures. C-ID # ENGR 130.

EGR 024 Introduction to Circuit Analysis (3.0 Lecture) 3.0 UNITS

Prerequisite: MAT 003B Prerequisite: PHY 004B Advisory: MAT 004A This is an introductory course in the analysis of DC and AC electric circuits using techniques based on Kirchoff's laws, Ohm's law, and Thevenin's and Norton's Theorems.

EGR 024L Introduction to Circuit Analysis Laboratory (1.0 Lab) 1.0 UNIT

Prerequisite: MAT 003B Prerequisite: PHY 004B Corequisite: EGR 024 This course is an introduction to the construction and measurement of electrical circuits. Students use electrical test and measurement instruments including multimeters, oscilloscopes, power supplies, and function generators. Some labs require the use of circuit simulation software. This course is primarily for engineering transfer students.

EGR 025 Engineering Graphics and Design (3.0 Lecture/1.0 Lab) 4.0 UNITS

Prerequisite: MAT 000D ; or Prerequisite: MAT 002 ; or Prerequisite: MAT 003A ; or Prerequisite: MAT 003AH Engineering graphics based on conceptual sketching and computer aided design (CAD) are used to develop visualization tools for design. Graphics principles are taught and integrated into the design projects. C-ID # ENGR 150.

EGR 026 Engineering Materials (3.0 Lecture/1.0 Lab) 4.0 UNITS

Prerequisite: CHM 001A Prerequisite: PHY 004A This course presents the internal structures and resulting behaviors of materials used in engineering applications, including metals, ceramics, polymers, composites, and semiconductors. The emphasis is upon developing the ability both to select appropriate materials to meet engineering design criteria and to understand the effects of heat, stress, imperfections, and chemical environments upon material properties and performance. Laboratory work is included. C-ID # ENGR 140B.

EGR 030

Introduction to Computing for Engineers (3.0 Lecture/1.0 Lab) 4.0 UNITS

Advisory: CIS 002, MAT 003A. This course introduces students to engineering problem solving using computer programming. A high level language, such as C/C++, is used. C-ID # COMP 122.