Engineering (ENGR)

ENGR 010   **Introduction to Engineering**   (1)

> ***Class Hours:*** *18 Lecture*
> ***Advisory(s):*** *MATH 063*
> ***Transfers to:*** *Transfers to both UC/CSU*

Introduction to Engineering

ENGR 010 is an introduction to the fields of engineering, courses of study, major disciplines and career opportunities, resources for engineering students, engineering design and analysis, ethics in engineering,engineering case studies and technical communication skills. Individual and group work; oral and written presentations. (AA/AS, CSU, UC)

ENGR 015   **Engineering Computations**   (3)

> ***Class Hours:*** *36.00 Lecture | 54.00 Laboratory*
> ***Corequisite(s):*** *MATH 001A (Required, Previous or concurrent).*
> ***Transfers to:*** *Transfers to both UC/CSU*

Engineering Computations

ENGR 015 is an introductory computer programming course for engineers focusing on the C programming language and the UNIX programming environment;operators, standard I/O functions, strings,pointers and arrays, data types and storage classes. (AAAS, CSU, UC)

ENGR 020   **Engineering Graphics**   (3)

> ***Class Hours:*** *36.00 Lecture | 54.00 Laboratory*
> ***Prerequisite(s):*** *MATH 015*
> ***Transfers to:*** *Transfers to both UC/CSU*

Engineering Graphics

ENGR 020 covers the principles of engineering drawings in visually communicating engineering designs and an introduction to computer-aided design (CAD). Topics include the development of visualization skills; orthographic projections; mechanical dimensioning and tolerancing practices; and the engineering design process. Assignments develop sketching and 2-D and 3-D CAD skills. The use of CAD software is an integral part of the course. (C-ID ENGR 150)(AA/AS, CSU,UC)

ENGR 025   **Electrical Circuits**   (3)

> ***Class Hours:*** *54 Lecture*
> ***Prerequisite(s):*** *PHYSICS 004B, MATH 001B*
> ***Transfers to:*** *Transfers to both UC/CSU*

Electrical Circuits

ENGR 025 is the study of fundamental principles of electrical circuits including direct current circuit analysis, AC transient and steady-state circuit analysis, Ohm's law, Kirchoff's laws, nodal methods of circuit analysis, capacitors and inductors, phasors and polyphase circuits. (AA/AS, CSU, UC)

ENGR 031   **Engineering Materials**   (3)

> ***Class Hours:*** *54 Lecture*
> ***Prerequisite(s):*** *CHEM 001A , PHYSICS 004A*
> ***Transfers to:*** *Transfers to both UC/CSU*

Engineering Materials

ENGR 031 is the study of the structure of matter and its effect on the mechanical, electrical, magnetic, and thermal properties of materials including metals, polymers, ceramics, composites, and electronic materials. The structure of matter includes atomic bonding, crystal structure, defects, thermodynamics and kinetics. The course provides an integrated study of the structure, processing, properties and performance of materials and their implications in the context of engineering materials. (AA/AS, CSU, UC)

ENGR 035   **Vector Statics**   **(3)**

Class Hours: 54 Lecture
Prerequisite(s): PHYSICS 4A
Corerequisite(s): MATH 002A (Required, Previous or concurrent).
Transfers to: Transfers to both UC/CSU

Vector Statics

Engineering 035 is the study of vector algebra and the statics of particle equivalent systems of force for rigid bodies, distributed forces and centroids and centers of gravity, analysis of structures, including trusses, inertia, and the method ofo virtual work.(Please Note: This course is offered infrequently. Check the two-year schedule in the back of the catalog.(AA/AS,CSU,UC)