

ENGINEERING (ENGR)

ENGR 101AF Surveying I

4 Units

Prerequisite(s): MATH 142 F with a grade of C or better

54 hours lecture and 54 hours lab per term. This course covers the principles and practices of measuring distances, elevations and angles. Topics include leveling, traversing, horizontal and vertical curves, topography, and use and care of instruments and equipment. (Degree Credit) (CSU) (C-ID: ENGR 180)

ENGR 105 F Engineering CAD

4 Units

Prerequisite(s): MATH 142 F with a grade of C or better

54 hours lecture and 54 hours lab per term. This is an introductory course which utilizes the CAD system for engineering applications. The course incorporates elementary principles associated with the various menu and command structures in computer-assisted drafting in order to develop solutions to 2D and 3D design problems. Topics included are file management, layering, orthographic projection, dimensioning, line types and axonometric projection. (Degree Credit) (CSU) (UC) (C-ID: ENGR 150)

ENGR 110 F Introduction to Engineering

3 Units

Prerequisite(s): MATH 040 F with a grade of C or better

Advisory: ENGL 100 F or 100HF

54 hours lecture per term. This course is an introduction to engineering as a profession and its associated career responsibilities and opportunities. The course includes a selection of computational and mathematical methods and tools to be found useful in problem solving in engineering. Dimensional analysis, graphical techniques, and design theory in engineering analysis is also studied. The course includes the application of engineering and scientific problem methods to introductory electric circuit problems. This course also meets requirements for credit in Engineering. (Degree Credit) (CSU) (C-ID: ENGR 110)

ENGR 201 F Statics

3 Units

Prerequisite(s): MATH 152 F or MATH 152HF and PHYS 221 F with a grade of C or better

54 hours lecture per term. This course applies equilibrium conditions of force and moments to engineering problems. Algebraic and graphical methods are used. Topics include equilibrium of particles and rigid bodies, trusses, beams, frames, machines, centroids and friction. (Degree Credit) (CSU) (UC)

ENGR 203 F Electric Circuits

4 Units

Prerequisite(s): MATH 152 F or MATH 152HF and PHYS 222 F, with a grade of C or better.

Corequisite: ENGR 203LF with a grade of C or better. 72 hours lecture per term. This course is an introduction to the analysis of electric circuits. Analysis techniques include nodal analysis, loop analysis, superposition method, Thevenin's Theorem, Norton's Theorem and source transformation. RLC and op-amp networks are analyzed under DC, AC-steady state, transient and variable frequency conditions. (Degree Credit) (CSU) (UC)

ENGR 203LF Electric Circuits Lab

1 Unit

Prerequisite(s): MATH 152 F or MATH 152HF and PHY 222 F, with a grade of C or better

Corequisite: ENGR 203 F with a grade of C or better. 54 hours lab per term. This course covers basic electrical measurement techniques and experimental investigation of simple circuits, as well as computer simulations of transient circuits. (Degree Credit)(CSU) (UC) (C-ID: ENGR 260L)

ENGR 220 F Programming and Problem-Solving in MATLAB 3 Units

Prerequisite(s): MATH 151 F or MATH 151HF, with a grade of C or better

36 hours lecture and 54 hours lab per term. This course utilizes the MATLAB environment to provide students with a working knowledge of computer-based problem-solving methods relevant to science and engineering. This course introduces the fundamentals of procedural and object-oriented programming, numerical analysis, and data structures. Examples and assignments in the course are drawn from practical applications in engineering, physics, and mathematics. (Degree Credit) (CSU) (UC) (C-ID: ENGR 220)