

EGN-ENGINEERING: GENERAL

EGN 1007C Engineering Concepts and Methods (1 Credit)

Introduction to computer software applications involving spreadsheets and procedural programming in order to solve a variety of engineering-related problems.

Prerequisite: C or higher in EGS 1006C and MAC 1105, MAC 1105C, or MAC 1106

EGN 2210C Engineering Analysis and Computation (3 Credits)

This course provides a fundamental knowledge of computer operations and programming languages. Numerical computations in solving engineering problems will be emphasized. Students will use microcontroller for the class project.

Prerequisite: C or higher in MAC 2312

EGN 2312 Engineering Analysis-Statics (3 Credits)

Fundamental concepts of mechanics, including resultants of force systems, free-body diagrams, equilibrium of rigid bodies, and analysis of structures.

Prerequisite: C or higher in MAC 2311, PHY 2048C, and MAC 2312 (MAC 2312 may also be taken as a corequisite)

EGN 2322 Engineering Analysis-Dynamics (3 Credits)

Kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy, impulse and momentum; coordinate transformation and differential equation formulation of 3d motion; flywheel and balancing of rotating machines (previously; kinematics and kinetics of particles and rigid bodies; mass and acceleration, work and energy, impulse and momentum).

Prerequisite: C or higher in EGN 2312, MAC 2313, and MAP 2302 (MAP 2302 may also be taken as a corequisite)

EGN 2332C Mechanics of Materials (3 Credits)

Concepts of stress, strain, strength, deflection of axial force members, shafts in torsion, beams in flexure, combined stress, stability of columns, and design of simple elements.

Prerequisite: C or higher in EGN 2312, MAC 2313, and MAP 2302 (MAP 2302 may also be taken as a corequisite)

EGN 2421 Engineering Analysis (3 Credits)

Engineering applications of numerical methods using computer-aided analysis, including complex variables, curve fitting, matrix operations, Fourier series, and numerical integration.

Prerequisite: C or higher in MAC 2312

EGN 2440 Probability and Statistics for Engineers (3 Credits)

Axioms of probability, combinatorial, and geometrical probability, probability distributions, measures of location and dispersion, sampling and sampling distributions, estimations and tests of hypotheses, engineering applications.

Prerequisite: C or higher in MAC 2312