Engineering Courses

ENGR 1304 - Computer-Aided Design (CAD)
Hours: 3
This is an introductory course in computer-aided drafting/design. Students will be taught basic CAD commands, tools, multi-view drawing and dimensioning techniques.

ENGR 2301 - Statics
Hours: 3
General principles of mechanics; concurrent force systems; statics of particles; equivalent force/moment systems; centroids and center of gravity; equilibrium of rigid bodies; trusses, frames, internal forces in structural members; friction; second moments of areas. Prerequisites: PHYS 2425.

ENGR 2302 - Dynamics
Hours: 3
Kinematics and kinetics of individual particles and systems of particles utilizing Newton's Laws of Motion, the Principle of Work and Energy, and the Principle of Impulse and Momentum; steady and variable mass flow. Prerequisites: Math 192 or MATH 2414.

ENGR 2303 - Engineering Mechanics- Statics and Dynamics
Hours: 3
This course will focus on equilibrium of particles and rigid bodies; centroids and center of gravity; internal forces of trusses, frames, and machines; internal forces in structural members; friction; second moment of areas; kinematics and kinetics of individual and systems of particles; principles of work and energy, and impulse and momentum; steady and variable mass flow. Prerequisites: PHYS 2425 with a minimum grade of C.

ENGR 2304 - Computing for Engineers
Hours: 3
The purpose of this class is to introduce students to the basic fundamentals of how to identify, formulate and analyze problems based on the knowledge of mathematics, science and engineering by using modern computing techniques. Concepts gained will pave the way to more advanced problem framing and selection of appropriate programming computing approaches. Students will solve problems using a database management system and an electronic spreadsheet. Prerequisites: MATH 2413.

ENGR 2308 - Engineering Economic Analysis
Hours: 3
Emphasizes the systematic evaluation of the costs and benefits associated with proposed technical projects. The student will be exposed to the concepts of the "time value of money" and the methods of discounted cash flow. Students are prepared to make decisions regarding money as capital within a technological or engineering environment. Prerequisites: ENGR 201 or ENGR 2304 with a minimum grade of C.

ENGR 102 - Introduction to Engineering
Hours: 3
An introduction to engineering with emphasis on development and design processes. Interpretation of product/customer specifications, concept development, engineering drawings, design for prototyping, and manufacturing will be introduced through a hands-on team-based engineering project design.

ENGR 110 - Introduction to Engineering and Technology
Hours: 3
This course provides a solid foundation in fundamental skills needed for freshmen and transfer students to academically succeed and professionally prepare them for challenges within the disciplines of Engineering and Technology Management. The project-based assignments will provide students with opportunities to apply mathematics to solve engineering problems, acquire team working skills, practice written and verbal communication skills, and enhance problem solving and design skills. Early understanding of these skills will assist students throughout their undergraduate experience. Prerequisites: MATH 142 or MATH 2312, or concurrent enrollment.

ENGR 113 - Product Design and Development
Hours: 3
This course includes the study of product development and design processes and methods, including product specifications, concept development, engineering drawings, design for prototyping, and manufacturing.

ENGR 213 - Engineering Probability and Statistics
Hours: 3
This course covers the role of statistics in engineering, probability, discrete and continuous probability distributions, joint probability distributions, random sampling and data description, point estimation, statistical intervals. Prerequisites: MATH 192 or MATH 2414 or concurrent enrollment.

ENGR 411 - Engineering Management
Hours: 3
Techniques relating to managing engineering activities; project management with Pert/CPM; engineer's transition into management; engineering managerial functions; productivity assessment/improvement; managing the quality function and communications. Prerequisites: IE 471 or CONE 470, or concurrent enrollment.

ENGR 490 - H Honors Thesis
Hours: 3
Honors Thesis. Three semester hours.

ENGR 491 - H Ind Honors Readings
Hours: 3
Individual Honors Readings. Three semester hours.