ENGINEERING (ENGR)

ENGR 1201 Foundations of Engineering I
Introduction to the engineering profession and disciplines; development of skills in problem solving including numbers, units, graphs and error calculation; drawing and design using CAD tools; students work in teams on an engineering design project, including construction, testing and reporting.
Corequisites: MATH 2413.
TCCN: ENGR 1201

ENGR 1202 Foundations of Engineering II
Introduction to engineering ethics and professional responsibilities; development of skills in problem solving, analysis, estimation, design, and teamwork; introduction to systems engineering; computational analysis, computer programming applications. Students work in teams on an engineering design project, including construction, testing, and reporting.
Corequisites: ENGR 1201 and MATH 2413.

ENGR 1204 Engineering Graphics
Orthographical and isometric drawings. Tolerance, working drawings, three dimensional pictorials, primary and successive auxiliary view and vector graphics. Computer aided design software is used for drawing and development of systems in mechanical, electrical and welding applications.
Corequisites: ENGR 1201.
TCCN: ENGR 1204

ENGR 1211 Foundations of Engineering I
Introduction to the engineering profession, ethics and disciplines, development of skills in teamwork, problem solving, logic processing, design and drawing; emphasis on computing applications and CAD tools.
Corequisites: MATH 2413.

ENGR 1230 Principles of Innov & Creativ
Introduction to creativity and creative problem solving techniques, innovation strategies, collective thinking in engineering. Students will be able to use a "whole-brain" approach to the study of engineering.
Corequisites: ENGR 1230.
TCCN: ENGR 1230

ENGR 2103 Eng Mech Statics & Dynamic Lab
Laboratory course to accompany ENGR 2303. Laboratory exercises reinforce ENGR2303 lecture material and place importance on scientific communication and collaboration.
Corequisites: ENGR 2303.

ENGR 2105 Principles of Elec Engr Lab
Laboratory course to accompany ENGR 2305. Laboratory exercises reinforce ENGR2305 lecture material and place importance on scientific collaboration.
Corequisites: ENGR 2305.
TCCN: ENGR 2105

ENGR 2303 Eng Mech Statics & Dynamics
Application of the fundamental principles of Newtonian mechanics to the statics and dynamics of particles and the equilibrium of trusses, frames, beams and other rigid bodies. Dynamics of moving particles, including friction, torque, impulse, and momentum.
Corequisites: PHYS 2325/2125 and MATH 2414.
TCCN: ENGR 2303

ENGR 2305 Principles of Elec Engineering
Fundamentals of electrical circuit analysis, AC power and electronics, intended as a terminal course in these areas for most engineering disciplines.
Prerequisites: PHYS 2326 and ENGR 1202.
Corequisites: ENGR 2105.
TCCN: ENGR 2305

ENGR 2312 Cons Prin in Thermal Sci
Theory and applications of energy methods in engineering; conservation principles to investigate "traditional" thermodynamics and internal flow fluids.
Prerequisites: ENGR 2321, MATH 2415 or registration therein.

ENGR 2315 Principles of Elec Engineering
Fundamentals of electrical circuit analysis, AC power and electronics, intended as a terminal course in these areas for most engineering disciplines.
Prerequisites: ENGR 2321, PHYS 2326/2126.

ENGR 2321 Statics and Particle Dynamics
Application of the fundamental principles of Newtonian mechanics to the statics and dynamics of particles and the equilibrium of trusses, frames, beams and other rigid bodies.
Prerequisites: PHYS 2326/2126.
Corequisites: MATH 2415.

ENGR 2372 Engineering Statistics
This course will cover a variety of important topics in probability and statistics such as pictorial and tabular methods in descriptive statistics, measures of location, measures of variability, samples spaces and events, axioms and properties of probability, counting techniques, conditional probability, independence, discrete random variables and probability distributions, continuous random variables and probability distributions, joint probability distributions and random samples. The course will also demonstrate how Microsoft Excel can be used to conduct statistical analysis such as basic simple and multiple regression.
Prerequisites: MATH 2414.

ENGR 2376 Cons Prin in Thermal Engr
Theory and applications of energy methods in engineering; conservation principles to investigate "traditional" thermodynamics and internal flow fluids; material properties.
Prerequisites: ENGR 2303, MATH 2415 or registration therein.

ENGR 3231 The Engineer as an Innovator
Mentally and physically develop creative thinking skills, use creativity to generate ideas and solve problems, learn how to organize teams, avoid roadblocks to team creativity, and use the creative problem-solving process.
Prerequisites: ENGR 1230.