

ENGINEERING (ENGR)

ENGR 1000 Engineering Essentials

3.0 credit hours

45.0 Classroom Hours = 45.0 Lecture Hours

This course is a one-semester introductory engineering course for students who are considering engineering as a career. The course will include an overview of the major engineering fields and subdivisions, including histories, achievements, failures and present outlooks in engineering today. The course will also include several individual and group projects designed to give the students experience in technological design, project planning, teamwork and communication.

ENGR 1010 Introduction to Engineering Design

3.0 credit hours

45.0 Classroom Hours = 45.0 Lecture Hours

This course is a one-semester multidisciplinary freshman design course that will introduce students to the engineering problem solving process in the context of several disciplines and develop teamwork and communication skills.

ENGR 1020 Programming & Problem Solving

3.0 credit hours

45.0 Classroom Hours = 45.0 Lecture Hours

This course is a one semester, three credit hour, computer programming course that teaches structured programming and problem solving using computers. The course will consist of a sequence of programming assignments that require students to write computer programs to solve engineering problems. Each problem will come from a different engineering discipline. The course has no prerequisites.

ENGR 1100 Interpersonal Skills for Engineerin

3.0 credit hours

45.0 Classroom Hours = 45.0 Lecture Hours

Establishes a foundation in communication and leadership skills that is needed for engineering students to be successful in their academic endeavors and future career opportunities. Introduction to the principles and practices of positive interpersonal relationships for leadership development. Self-awareness, awareness of others, effective interpersonal communication, and the building of trust relationships as a basis for understanding and developing leadership.

ENGR 1300 Introduction to CAD

3.0 credit hours

45.0 Classroom Hours = 45.0 Lecture Hours

Principles and accepted practices of geometric design. Computer generation of 2D and 3D models for mechanical systems. Introduction to engineering design practices such as specifications, dimensioning, and tolerance.

ENGR 2010 Intro to Circuits & Electronics

3.0 credit hours

45.0 Classroom Hours = 45.0 Lecture Hours

This is a one semester, three credit hour course in the basic analysis of passive and electronic circuits. This course will be based on existing UNL courses ELEC 211 (Electrical Engineering for Non-Majors) and ELEC 215 (Circuits I). This course will be accepted by almost all of the UNL College of Engineering degree programs. Prerequisites: MATH 1600 and MATH 1900. PHYS 1410 and PHYS 1420 are strongly suggested.

ENGR 2011 Intro to Circuits & Electronics Lab

1.0 credit hours

15.0 Classroom Hours = 15.0 Lab Hours

Lab course to accompany ENGR 2010. Includes DC and AC circuitry, circuit analysis, discrete semiconductors, analog integrated circuits and digital circuitry. This course will be based on existing UNL course ELEC 231 (Electrical Engineering Lab for Non-Majors.)

ENGR 2020 Engineering Statics

3.0 credit hours

45.0 Classroom Hours = 45.0 Lecture Hours

The action of forces on engineering structures and machines. Force systems, static equilibrium of frames and machines, centroids, friction, moment of inertia. Prerequisite: PHYS 2110. Corequisite: MATH 1900

ENGR 2500 Engineering Internship Seminar

1.0 credit hours

16.0 Classroom Hours = 16.0 Lab Hours

Engineering Internship Seminar is a course designed to guide students through a successful internship experience. Each week students will meet with the instructor to report on their work, turn in timesheets, review logbooks and receive instructions. The course may also include training on specific internship-related issues as needed. Students will be required to give detailed presentations of their work at the end of each semester they are in the class. Students working more than 60 hours in their internship can get additional credits by enrolling concurrently in ENGR 2510 (1 cr., minimum 60 hrs), ENGR 2520 (2 cr., minimum 120 hrs) or ENGR 2530 (3 cr., minimum 180 hours).

ENGR 2510 Engineering Internship

1.0 credit hours

60.0 Classroom Hours = 60.0 Lab Hours

Engineering Internship is a companion course to ENGR 2500 for students who log at least 60 hours of internship work during the semester they are enrolled in the course. This course must be taken concurrently with ENGR 2500.

ENGR 2520 Engineering Internship

2.0 credit hours

120.0 Classroom Hours = 120.0 Lab Hours

Engineering Internship is a companion course to ENGR 2500 for students who log at least 120 hours of internship work during the semester they are enrolled in the course. This course must be taken concurrently with ENGR 2500.

ENGR 2530 Engineering Internship

3.0 credit hours

180.0 Classroom Hours = 180.0 Lab Hours

Engineering Internship is a companion course to ENGR 2500 for students who log at least 180 hours of internship work during the semester they are enrolled in the course. This course must be taken concurrently with ENGR 2500.

ENGR 2990 Special Topics

1.0 credit hours

35.0 Classroom Hours = 35.0 Lab Hours

Special topic course description upon request.