



C-ID Descriptor

Introduction to Engineering

Descriptor Details

- **Descriptor Title:** Introduction to Engineering
- **C-ID Number:** 110
- **Units:** 2
- **Date of Last Revision:** 10/12/2017 11:44:08 PM GMT+0000

General Description

The course explores the branches of engineering, the functions of an engineer, and the industries in which engineers work. Explains the engineering education pathways and explores effective strategies for students to reach their full academic potential. Presents an introduction to the methods and tools of engineering problem solving and design including the interface of the engineer with society and engineering ethics. Develops communication skills pertinent to the engineering profession.

Prerequisites

No information provided

Corequisites

No information provided

Advisories

No information provided

Content

- Role of engineers in society and comparison of engineering, science, and technology
- Engineering profession – branches, functions, industries, careers, job outlook
- Professionalism and ethics
- Engineering education: academic success, curriculum, pathways, preparation for upper division coursework
- Engineering design, creativity, and problem-solving processes (includes working as a team member on an engineering design project)
- Written and oral communication skills related to engineering
- Exposure to modern engineering tools and practices

Activities may include: engineering design projects, tours of engineering facilities, industry speakers

Lab Activities

No information provided

Objectives

Upon successful completion of the course, students will be able to:

1. Describe the role of engineers in society and classify the different engineering branches, the functions of an engineer, and industries in which they work.
2. Identify and describe academic pathways to bachelor's degrees.
3. Develop and apply effective strategies to succeed academically.
4. Explain engineering ethical principles and standards.
5. Demonstrate knowledge of effective practices for writing technical engineering documents and making oral presentations.
6. Analyze engineering problems using the engineering design process.
7. Demonstrate teamwork skills in working on an engineering design team.

Evaluation Methods

Tests, examinations, homework and reports where students demonstrate their knowledge of the learning objectives and their ability to devise, organize and present complete solutions to problems. Oral presentations of group design projects.

Textbooks

Oakes, William C., Engineering Your Future

Landis, Raymond, Studying Engineering

Donaldson, Krysta, Engineering Student Survival Guide

Holzapple, Mark T., Concepts in Engineering

Eide, Arvid R., Engineering Fundamentals and Problem Solving

Horenstein, Mark N., Design Concepts for Engineers

Stephan, Elizabeth A., Thinking Like an Engineer