

Northwest Arkansas Community College
Division of Science and Mathematics

Discipline Code

GNEG

Course Number

1103

Course Title

Introduction to Engineering

Catalog Description

Intended for potential engineering students in the first year of study. It is designed to introduce these students to the process and diversity of the various engineering fields. It also acquaints students with modeling and problem solving techniques used by engineers as well as some of the computer tools necessary for pursuing a degree in engineering.

Prerequisites

MATH 1204 or MATH 1205 with a grade of C or better or appropriate placement scores.

Credit hours

3

Contact hours

4

Load hours

3.34

Target Audience/Transferability

This course is designed for students who are transferring into an engineering program at a 4-year institution. It should transfer in as 3 a credit hour Intro course for those engineering areas requiring such a course. Transferability, as always, depends on the policy of the senior institution.

Student Learning Outcomes

Students successfully completing this course will possess an understanding of fundamental engineering concepts demonstrated by having:

1. Understand the role of engineers as a problem solvers and their professional behavior.
2. An ability to describe specifics of the various engineering disciplines and functions,
3. An ability to communicate their design in oral and written form,
4. An ability to apply problem solving techniques to basic engineering problems,
5. An ability to work in teams to solve and present engineering design problem,
6. An ability to judge ethical issues related to engineering field.

7. Ability to apply understanding of numbers, units, unit conversion, tables and graphs to solve basic engineering problems.
8. Ability to work in teams settings to present a physical device or instrument that will be of benefit to the community following EMPACT criteria.

Topics

1. Description of various engineering disciplines
2. Problem solving techniques for basic engineering problems
3. Engineering design
4. Engineering ethics