North Hennepin Community College

ENGR 1000: Introduction to Engineering and Design

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course is designed for people interested in learning about the engineering profession. It provides an overview of the engineering disciplines. A project-based approach will be used to give experience in skills, tools, and problem-solving methods associated with completing engineering design solutions.

B. COURSE EFFECTIVE DATES: 08/27/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. The engineering disciplines; traits of the successful engineer; engineering duties and functions; methods of problem-solving; common graphical and analytical tools/techniques; the Engineering Design process.

D. LEARNING OUTCOMES (General)

1. Identify a need and develop a corresponding problem definition statement (Course Goals 1 & 3; NHCC ELOs 1, 2)
2. Develop criteria and constraints regarding possible design solutions. (Course Goals 1 & 3; NHCC ELOs 1, 2)
3. Do research into previously-generated solutions. (Course Goals 1 & 3; NHCC ELOs 1, 2)
4. Develop a series of design alternatives. (Course Goals 1 & 3; NHCC ELOs 1, 2)
5. Analyze design alternatives relative to identified criteria and constraints. (Course Goals 1 & 3; NHCC ELOs 1, 2)
6. Make a choice as to which design alternative to further pursue. (Course Goals 1 & 3; NHCC ELOs 1, 2)
7. Be able to clearly communicate in writing and orally the results reached in an engineering design project. (Course Goal 2; NHCC ELO 2)

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

1. Knowledge of Human Cultures and the Physical and Natural World --Through study in the sciences, mathematics, social sciences, humanities, histories, languages, the arts, technology and professions.

2. Intellectual and Practical Skills - Including: Inquiry and analysis; Critical and creative thinking; Written and oral communication; Quantitative literacy; Information literacy; Teamwork and problem solving.