Virginia Western Community College
EGR 120
Introduction to Engineering

Prerequisites

Course Description

Introduces the engineering profession, professional concepts, ethics, and responsibility. Reviews hand calculators, number systems, and unit conversions. Introduces the personal computer and operating systems. Includes engineering problem solving techniques using computer software such as Inventor, MATLAB, Excel, and LabVIEW.

Semester Credits: 2   Lecture Hours: 2 Lab/Recitation Hours: 0

Required Materials

Textbook:

Hands-On Introduction to LabVIEW for Scientists and Engineers, 3rd. ed., John Essick, Oxford University Press, ISBN# 9780190211899

Thinking Like an Engineer, 3rd Edition Stephan, et al., Pearson Prentice Hall, ISBN# 9780133808483

Course Outcomes

At the completion of this course, the student should be able to:

1. Develop a computer program using MATLAB
2. Develop a computer program using LabVIEW
3. Complete a technical laboratory for an engineering design project.

Topical Description

1	TLE 15	MATLAB Intro
2	TLE 16	MATLAB
3	TLE16	MATLAB
4	TLE 17	MATLAB
5	TLE 18	MATLAB
6	TLE 19	MATLAB
7	Sound Project	MATLAB Projects
8	Photo Project	MATLAB Projects
9	Photo Projects	MATLAB Projects
10	LABVIEW 1	Graphical Programming
11	LABVIEW 2,3	Graphical Programming
12	LABVIEW 4,5	Graphical Programming
13	LABVIEW 6,7	Graphical Programming
14	DigitalThermo.	LABVIEW Project
15	Digital Thermo.	LABVIEW Project
	MATLAB/LABV	Final Exam, Wed. 12/17

Notes to Instructors

1. All instructors teaching this course will use the same textbooks.
2. Course content within this course may be covered at the instructor's discretion but with all topics being understood.
3. This course and its grades will be structured around several projects:
   a. MATLAB Projects (minimum of 2)
   b. LabVIEW Projects (minimum of 1)
4. At the end of the semester, all instructors will give the outcome assessment as it relates to projects to the program head at the same time they prepare their student final grades.
5. A broad overview comprehensive final exam will be given for the two software programs.
6. A broad overview comprehensive final exam will be given for the two software programs, which must be at least 10% of the final grade.