Revised Fall 2015

EGR 127
Introduction to Computer Programming

COURSE OUTLINE

Prerequisites: None

Course Description:

Introduces programming in a higher level language such as FORTRAN, BASIC or PASCAL, or C++ on the microcomputer. Uses the operating system, packaged software and peripheral devices. Emphasizes engineering program problem solving. Lecture 1-2 hours. Laboratory 1-2 hours. Total 2-4 hours per week.

Semester Credits: 2 **Lecture Hours: 2 Lab/Recitation Hours:** Select Hours

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Course Outcomes

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

- Create a User-Defined function in MATLAB
- Manipulate matrices in MATLAB
- Create Plots in MATLAB
- Write simple decisional and/or repetition programs in MATLAB

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Required Materials:

Textbook:

MATLAB for Engineers, 4/E, Holly Moore, ISBN-10: 0133485978 • ISBN-13: 9780133485974

Other Required Materials:

Calculator
Access to Excel (or other spreadsheet software)

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Topical Description:

Week	Topic
1	About MATLAB
2	MATLAB Environment
3	Built-In MATLAB Functions
4	Manipulating MATLAB Matrices
5	Plotting
6	User-Defined Functions
7	User-Controlled Input & Output
8	Logical Functions and Selection Structures
9	Repetition Structures
10	Matrix Algebra
11	Other Arrays
12	Symbolic Mathematics
13	Numerical Techniques
14	Advanced Graphics & GUI's
15	SimuLink – An Introduction
16	Final Exam

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Notes to Instructors

1. All instructors teaching this course will use the same textbook.

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 a minimum of a midterm exam, final exam, and homework.

4. At the end of the semester, all instructors will give the outcome assessment as it relates to the final exam to the program head at the same time they prepare their student final grades.

5. The final exam will include only the material covered after the midterm exam.

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