

Cover Page

EGR 216 Introduction to Computer Programming

Faculty Name:

Program Head:

Revised: Fall 2016

VIRGINIA WESTERN COMMUNITY COLLEGE
PO Box 14007
Roanoke, VA 24038
(540)-857-7273



EGR 216

Introduction to Computer Programming

COURSE OUTLINE

Co-requisites:

MTH 115

Course Description:

EGR 216 Computer Methods in Engineering and Technology (3 CR) Prerequisite: Basic computer knowledge including file management, mouse usage, and keyboarding skills. Co-requisite: MTH 115. Provides advanced level experience in using a computer as a tool for solving technical problems and performing office functions. Includes computer hardware and operating system usage, structured programming in a selected high level language, use of word processing software, computer graphics and spreadsheets. Focuses on the analysis and solution of problems in engineering and technology. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

Semester Credits: 3 Lecture Hours: 2 Lab/Recitation Hours: 2

VIRGINIA WESTERN COMMUNITY COLLEGE
PO Box 14007
Roanoke, VA 24038
(540)-857-7273



EGR 216

Introduction to Computer Programming

Course Outcomes

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

- A working knowledge of the hardware that comprises a personal computer.
- Use introductory Windows XX commands for file management.
- Use a cloud-based storage system for data saving and retrieval.
- Use the computer to research the Internet and electronic libraries.
- The ability to communicate electronically via the Internet. Knowledge of the problems associated with Internet research.
- The use of word processing software to complete simple technical communications and reports.
- The ability to create equations, insert graphs, tables and pictures into word processing documents.
- Describe the engineering team and the applications of ethics to technical and life decisions.
- Use of a spreadsheet to solve simple and complex repetitive calculations.
- The use of a spreadsheet to analyze experimental data.
- Elementary actions in database usage.
- Solution of problems using both branching and solver subroutines.
- Create macros to automate tasks.
- Create controls to guide program users of spreadsheet problem solvers created by the student.
- Utilize add-in programs to enhance the capabilities of Office. (ArcMAP for Office)
- Understand the importance of units and significant digits.

VIRGINIA WESTERN COMMUNITY COLLEGE
PO Box 14007
Roanoke, VA 24038
(540)-857-7273



- The ability to create and present a technical presentation using PowerPoint.

VIRGINIA WESTERN COMMUNITY COLLEGE
PO Box 14007
Roanoke, VA 24038
(540)-857-7273



EGR 216

Introduction to Computer Programming

Required Materials:

Storage devices:

1. Required: free cloud based storage account.
2. Required: USB portable drive

To complete assignments outside the classroom, the student will need access to a current computer and a high-speed internet service and media player. The college provides an open lab for those students without home access to needed software.

Software: Microsoft Office Suite of programs 2010 or newer. **Microsoft WORKS** will not provide the support required for this course. Students must have The Office Suite installed on their computer or use the computer labs at the college. The earlier versions of the Office Suite software will work for completing the homework, but will not be supported and will not be available for use in testing.

Textbook: Labview

Author: Essick, 3rd Edition, ISBN: 9780190211899

Publisher: Oxford

.

Tutoring: available free of charge in the open lab M302.

VIRGINIA WESTERN COMMUNITY COLLEGE
PO Box 14007
Roanoke, VA 24038
(540)-857-7273



EGR 216

Introduction to Computer Programming

Topical Description:

1. A working knowledge of the hardware that comprises a personal computer.
2. Use introductory Windows XX commands for file management. Use a cloud-based storage system for data saving and retrieval.
3. Use the computer to research the Internet and electronic libraries.
4. The ability to communicate electronically via the Internet. Knowledge of the problems associated with Internet research.
5. The use of word processing software to complete simple technical communications and reports.
6. The ability to create equations, insert graphs, tables and pictures into word processing documents.
7. Describe the engineering team and the applications of ethics to technical and life decisions.
8. Use of a spreadsheet to solve simple and complex repetitive calculations.
9. The use of a spreadsheet to analyze experimental data.
10. Elementary actions in database usage.
11. Solution of problems using both branching and solver subroutines.
12. Create macros to automate tasks.
13. Create controls to guide program users of spreadsheet problem solvers created by the student.
14. Utilize add-in programs to enhance the capabilities of Office. (ArcMAP for Office)
15. Understand the importance of units and significant digits.
16. The ability to create and present a technical presentation using PowerPoint.



EGR 216

Introduction to Computer Programming

Notes to Instructors

None.

VIRGINIA WESTERN COMMUNITY COLLEGE
PO Box 14007
Roanoke, VA 24038
(540)-857-7273

