Virginia Western Community College
CSC 201
Computer Science I

Prerequisites
Co-requisite MTH 263 (old number: MTH 173) or equivalent or divisional approval.

Course Description
Introduces algorithm and problem solving methods. Emphasizes structured programming concepts, elementary data structures and the study and use of a high level programming language

Semester Credits: 4 Lecture Hours: 4 Lab/Clinical/Internship Hours: 0

Required Materials

Textbook:
Required: Starting Out with Java From Control Structures through Data Structures by Tony Gaddis and Godfrey Muganda, 4th ed, Pearson, ISBN 9780134787961

Other Required Materials:
Eclipse software provided in class

Course Outcomes

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

- Have an introduction to computers, programs, and Java
- Understanding the fundamentals of input, processing, output
- Understand how to use both console and dialog box input and output
- Be able to master the concepts of Java constructs including looping and selections
- Understand the concept of static entities
- Be able to modularize code with methods
- Understand how to utilize one dimensional arrays
- Understand how to apply Java objects and classes to solve programs
- Be able to write code with classes and associations
- Understand and utilize the concepts of inheritance and polymorphism
- Understand how to use flat files
- Be able to write code that catches, handles, and throws exceptions
- Understand the concepts of abstract classes

- Be able to implement interfaces to help with generic solutions
- Be able to utilize ArrayLists for collections

Topical Description

Module	Topics	Reading
1	Intro to Eclipse, Primitive types, Java expressions and arithmetic, jar files	Ch 1-2
2	Decisions and While Loops	Ch 3 and 4 to 4.4
3	For Loops, File IO, Methods, methods and more methods	Rest of Chapter 4, Ch 5
4	Classes and more methods, APIs	Ch 6
5	Arrays and ArrayLists	Ch 7
6	More classes, aggregation, text processing, wrapper classes	Ch 8,Ch 9
7	Advanced Inheritance topics and Interfaces, abstract classes	Ch 10
8	Advanced I/O, Exceptions	Ch 11

Notes to Instructors

- Module are two weeks long and require a laboratory assignment submitted through Blackboard
- A midterm exam is required after the third module.
- A final exam may be required.