CSC 151 JAVA Programming

COURSE DESCRIPTION:

Prerequisites: None
Corequisites: None

This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion students should be able to design, code, test, debug JAVA language programs.
Course Hours per Week: Class, 2. Lab, 3. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

1. Develop Java programs using fundamental programming concepts, including variables, data types, and input/output.
2. Develop Java programs using decision and repetition control structures.
3. Develop modular Java programs using methods.
4. Develop Java programs that organize and process data using appropriate data structures.
5. Develop Java programs using object-oriented programming techniques.

OUTLINE OF INSTRUCTION:

I. Introduction to Computers and Java Programming
II. Java Fundamentals: Variables, Data Types, and Expressions
III. Decision and Repetition Control Structures
IV. File Input and Output Operations
V. Methods and Modular Programming
VI. Arrays, ArrayLists, and Data Processing
VII. Classes, Objects, and Object-Oriented Programming
VIII. Strings and Wrapper Classes
IX. Inheritance and Polymorphism
X. Exception Handling and Advanced Input/Output

REQUIRED TEXTBOOK AND MATERIAL:

The textbook and other instructional material will be determined by the instructor.