

**AUSTIN COMMUNITY COLLEGE  
CONTINUING EDUCATION**

**Part I: Java Programming**

(24 hours)

**ITSE 1070**

**COURSE SYLLABUS**

**Course Description:** Java I Programming is a beginning Java Programming course. The class introduces the idea of Object Oriented Programming, and covers the Java Development Kit, classes, objects, attributes and behavior, statements and expressions, methods and casting, arrays, logic and loops, creating classes, creating Java applications, command-line arguments, constructor methods, overriding methods, overriding constructors and finalizer methods. **Prerequisites:** Knowledge of basic programming concepts including control structures such as for, while, and if-else. No prior knowledge of OOP or HTML is required.

**Objectives:** Every student will be able to:

- Install Java on a PC or MAC
- Explain the need for Java
- Describe objects and classes
- Describe attributes and behavior in Java
- Apply basic programming constructs in the Java language
- Create objects, class and instance variables
- Explain looping and control structures
- Explain array manipulation
- Explain the use of methods and constructors

**Rationale:** The World Wide Web, using HTML only, is a static medium. In order to introduce interactivity to a Web site it is necessary to use computer programs for this interactivity. The Java programming language can be used on Web sites in the form of Java applets to provide this interactivity to static Web pages. Webmasters increasingly will need to know how to implement real programs on Web pages and the Java programming language is a fundamental method of achieving this goal.

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**Evaluation:** Students will be evaluated using online exams.

**Course Outline:**

- I. Introduction to Java Programming (6 hours)
  - A. Overview of Java
  - B. Installing the JDK
  - C. Objects, classes, attributes and behavior
  - D. Inheritance, interfaces, packages and subclasses
  
- II. Java Programming II (6 hours)
  - A. Statements and expressions
  - B. Assignment operators
  - C. Literals, numbers and booleans
  - D. Comparisons and logical operators
  - E. Operator precedence
  - F. String arithmetic
  - G. Creating objects
  - H. Class and instance variables
  - I. Using methods and references
  
- III. Java Programming III (6 hours)
  - A. Arrays
  - B. Block statements
  - C. Arrays and array manipulation
  - D. Conditional statements and switch
  - E. Looping
  - F. Defining classes
  - G. Creating methods
  - H. Scope

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- IV. Java Programming IV (6 hours)
- I. Using methods
  - J. Constructor methods
  - K. Overloading constructor methods
  - L. Overriding methods
  - M. Overriding constructors
  - N. Finalizer methods
  - O. Creating classes

**Student Assessment Checklist:**

At the completion of the course each student will be able to:

- Install Java on a PC or MAC
- Demonstrate the use of objects and classes
- Demonstrate the use of basic programming constructs in Java
- Demonstrate an understanding of attributes and behavior in Java
- Create objects, class and instance variables
- Demonstrate an understanding of looping and control structures
- Demonstrate an understanding of array manipulation
- Demonstrate an understanding of the use of methods and constructors