

**AUSTIN COMMUNITY COLLEGE  
CONTINUING EDUCATION**

**Java Programming: Part II: – Java Track**

(24 hours)

**ITSE 1071**

**COURSE SYLLABUS**

**Course Description:** Covers inheritance, collections, enums, exception handling, auto boxing and basic IO via the keyboard and console. Prerequisites: ITSE 1070 Java Programming: Part I. Students must be familiar with Object Oriented Programming and terminology before taking this course. **Prerequisites:** ITSE 1070 Java Programming: Part I.

**Required book:** The Java Tutorial: A Short Course on the Basics, Sharon Zakhour, Sowmya Kannan, Raymond Gallardo, 5th edition, ISBN 978-0132761697.

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

- Design Java objects using composition, inheritance and interfaces
- Correctly chose and use collections
- Explain the Java exception hierarchy
- Write code to catch and handle exceptions
- Declare and use enums

**Evaluation:** Students will be evaluated on their competency in performing a variety of hands-on exercises created to insure the student has achieved all course objectives throughout the course, and class participation. In order to grant CEU credit for a course the students must be able to complete assessment exercises for each part of the course given by the instructor. The instructor will validate each participant's achievement of the course objectives by signing and awarding individual certificates of completion.

**Course Outline:**

- I. Composition and Inheritance
  - A. Interfaces
  - B. Designing with Composition, Inheritance and Interfaces
- II. Collections

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- A. Collection Interfaces - List, Map and Set
- B. ArrayList, HashMap, HashSet
- C. TreeSet, TreeMap
- III. Input and Output
  - A. Reading user input using the Scanner class
  - B. Parse primitive data types
  - C. Presenting data with StringBuilder and StringFormat
- III. Enums
  - A. Why use enums?
  - B. Defining and using simple enumerations
  - C. Using enum classes
- IV. Exceptions
  - A. What are exceptions?
  - B. Exception hierarchy
  - C. Checked vs. unchecked exceptions
  - D. Try/catch blocks
  - E. Throwing exception
  - F. Exception hierarchy - Exception, Error, RuntimeException
- V. Project