

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
Computer Information Technology Program
Revision Date: November 10, 2025

I. CATALOG DESCRIPTION Course

Number: INFO1414
Course Title: Java
Prerequisite(s): INFO1171, INFO1215; min. grade "C"
Or CSCI1550; min. grade "C"
Corequisite(s): INFO1411, MATH1020 or higher
Catalog Description: A course covering the fundamentals of the Java programming language using object-oriented principles as well as advanced concepts such as inheritance, exception handling, graphical user interface design, file processing, and database connectivity.
Credit Hours: 4
Class Hours: 60
Lab Hours: 0
Total Contact Hours: 60

II. COURSE OBJECTIVES: *Course will:*

- A. Introduce students to a common IDE used for Java development.
- B. Describe essential programming skills.
- C. Explain how to handle exceptions and validate data.
- D. Introduce object-oriented programming concepts.
- E. Define and use classes.
- F. Identify the different data structures in Java.
- G. Provide an overview of GUI programming.
- H. Introduce database programming.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Develop Java programs using an IDE.
 - 2. Test and debug an application.
 - 3. Compare and use numeric and String variables.
 - 4. Construct control statements.
 - 5. Practice how to code and call methods.
 - 6. Demonstrate data validation and exception handling.
 - 7. Use object-oriented programming skills to create and use objects.
 - 8. Design classes to structure an application.
 - 9. Construct applications using inheritance.
 - 10. Define and use interfaces.
 - 11. Practice working with arrays and collections.
 - 12. Design an application using file I/O.
 - 13. Compare the different GUI programming options.
 - 14. Create an application using GUI programming.
 - 15. Use SQL to work with a database.
 - 16. Construct a database application using JDBC.
- B. General Education Learning Outcomes (GELOs)

1. GELO #3: Critical Thinking & Problem Solving:
Outcome 2: Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE

- V. A. Java Program Development.
 1. Overview of basic elements of the Java language using an IDE.
- B. Java Data and Operator.
 1. Strings and primitive data types.
- C. Control Structures.
 1. If/else, switch statements and loops.
- D. Methods and data validation
 1. Exception handling and data validation with methods.
- E. Objects oriented concepts
 1. Classes, objects and inheritance.
 2. Interfaces.
- F. Data Structures
 1. Arrays, collections and file I/O.
- G. GUI Programming
- H. Database
 1. SQL and JDBC to work with a database.

VI. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Murach, Joel, *Java Programming*, (Refer to CID and/or instructor for current edition)
- B. Other Resources: Required software available as a free download
- C. Computer and Internet access

VII. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 1. Technology enhanced lectures
 2. Engaged learning activities

VIII. METHODS OF EVALUATION

- A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 1. Attendance and/or participation activities
 2. Homework assignments
 3. Quizzes and Tests

IX. SPECIFIC COURSE REQUIREMENTS

- A. This course will not qualify as a prerequisite if the student receives a final grade below a C (70%).