

I. EFFECTIVE DATE OF OUTLINE

Spring Semester, 2006. To be reviewed by the department annually.

II. CATALOG DESCRIPTION

- A. CSCI 1203
- B. Introduction to Computer Programming in Java
- C. 4 Credits
- D. Offered Fall and Spring Semesters
- E. Prerequisite: CSCI 1111 or proficiency with the C programming language
- F. Introduction to object-oriented programming using the Java programming language. Use of Java for developing conventional applications and Internet-based applications will be examined.

III. RECOMMENDED ENTRY SKILLS/KNOWLEDGE

- A. Use a top-down approach to problem-solving, designing procedures and functions to modularize problem solutions.
- B. Express problem solutions as algorithms, using some sort of algorithmic representation, e.g., flowchart or pseudocode.
- C. Complete traces of algorithms showing their dynamics.
- D. Use structured programming and program documentation.
- E. Use a variety of control structures and data structures, e.g., iteration and arrays.
- F. Program in some programming language.

IV. OUTLINE OF MAJOR CONTENT AREAS

- A. Java overview/objects and classes
- B. Variables and data types
- C. Object-oriented programming and design
- D. Operators and control structures
- E. Scope
- F. References and memory allocation/garbage collection
- G. Arrays
- H. Class derivation and inheritance
- I. Interfaces
- J. Packages
- K. Classes and objects, attributes and methods
- L. Inner classes
- M. Applications and Applets
- N. Threads
- O. Exceptions
- P. Streams

V. LEARNING OUTCOMES

Upon successful completion of CSCI 1203, students will be able to:

- A. Design Java computer programs that are thoroughly documented and tested, generally of high quality, and incorporating all principles of good Object-Oriented design.
- B. State and apply the rules of the Java programming language.
- C. Successfully operate the computers in the Normandale Community College Computer Center or another system of their choice.

VI. METHODS USED FOR EVALUATION OF STUDENT LEARNING

The instructor will choose from among various evaluation techniques including – but not limited to – in-class testing, take-home testing, assignments, quizzes, attendance, group or individual projects, and research. The instructor will also choose a method for end-of-the-semester evaluation.

VII. SPECIAL INFORMATION

Students will need access to the Java Development Kit and a Java-capable Web browser. (Adequate tools will be provided by Normandale Community College Computer Center.)