

Pellissippi State Community College
Master Syllabus

**INTRODUCTION TO PROGRAMMING USING JAVA
CSIT 1510**

Class Hours: 3.0
Laboratory Hours: 3.0
Credit Hours: 4.0
Revised: January 3, 2012

Instructor:
Office:
Phone:
E-mail:

Catalog Course Description:

A study of the Java programming language, object-oriented programming, design and algorithm development. Topics include language structure and syntax, methods, program control statements, classes, strings, arrays and applets.

Entry Level Standards:

The entering student should have a familiarity with computers. The student should be able to keyboard at least 28 words per minute. The student must have math, writing, verbal and English language skills at the college level.

Co-requisites: CSIT 1110

Textbooks and Other Related Material Basic to the Course:

Textbook: Introduction to Java Programming, Comprehensive Version, 8th Ed., by Y. Daniel Liang, Pearson/Prentice-Hall. ISBN-13: 978-0-13-213080-6

I. WEEK/CHAPTER/TOPIC BASIS:

<u>Week</u>	<u>Topic(s)</u>
1	Introduction to Java Programming and Algorithms
2	Software Development Environment-Creating; Compiling; Executing a Java Program
3	Data Types, Variables, Operations; Interactive I/O, The String Type, Programming Style, Documentation
4	Selection Algorithms; Conditional Statements
5	Switch statements; Formatting Output
6	Repetition Statements and Algorithms; while/do-while/for Loops; Case Study: (GUI) Controlling a Loop with a Confirmation Dialog
7	Methods; Defining and Calling a Method; Passing Parameters by Values
8	Overloading Methods; The Scope of Variables; The Math Class; The Random Class; Case Study: Generating Random Characters
9	Objects and Classes; Constructors; Accessing Objects via Reference Variables
10	Static Variables; Visibility Modifiers; OOD; UML Class Diagram; Accessors/Mutators; The this Reference
11	Passing Objects to Methods; Single-Dimensional arrays

<u>Week</u>	<u>Topic(s)</u>
12	Array Basics, Passing Arrays to Methods; Variable-Length Argument Lists;
13	Search and Sort; The Arrays Class; Multidimensional Arrays ; Array of Objects
14	Class Abstraction and Encapsulation
15	Final Exam

II. COURSE Goals*:

The course will:

- A. Develop an awareness of syntax and semantics of the Java programming language. II, III, IV
- B. Require students to practice elements of the work ethics. I
- C. Provide students with a basic proficiency in an industry standard object-oriented programming language. I, II, III, IV, V
- D. Develop students' analytical and problem solving skills using object-oriented techniques. III, IV, V
- E. Enhance students' knowledge of professionally accepted methods and materials in completion of applications. I, II, III, IV, V

*Roman numerals after course objectives reference goals of the CSIT program (Career Program Goals and General Education Goals are listed http://www.pstcc.edu/departments/curriculum_and_instruction/syllabi/)

III. Expected Student Learning Outcomes*:

The student will be able to

1. Use a Java IDE. (A, B, C, D)
2. Use basic data types. (A, C, D)
3. Write algorithms to solve problems (C, D)
4. Use the following Java operators: arithmetic, logical, conditional, assignment. (A, C)
5. Create and use classes and objects. (A, B, C, D)
6. Create and use user-defined methods. (A, C, D)
7. Create and use arrays and strings. (A, C, D)
8. Use array sorting and searching algorithms. (A, C, D)
9. Use program control structures. (A, C)
10. Write constructors. (A, C, D)
11. Use the Java API (B, C, D)
12. Use class member access modifiers. (A, D)
13. Use encapsulation in creating objects. (A, C, D)
14. Design objects to solve problems. (C, D)
15. Create fundamental algorithms such as finding the minimum/maximum and computing a sum and average, (A, C, D)

* Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

IV. EVALUATION:

- A. Testing Procedure:** at least 50% of grade
Tests and/or labs requiring students to solve problems in a proctored environment are at least 50% of the student grade described below.

Students are evaluated primarily on the basis of tests and laboratory assignments. Each instructor must provide full details the first week of class via a syllabus supplement. A minimum of two tests is recommended. Tests will cover material presented in class. Tests are not to be missed without a valid excuse.

- B. Laboratory Expectations:** at least 50% of grade
Lab attendance is required. Assignments will be given and must be completed and handed in at the designated date. The student is expected to turn in all required documentation for each lab. At least 7 labs are recommended.

- C. Field Work:** N/A

- D. Other Evaluation Methods:**
Class participation, quizzes and homework will also comprise the final grade for the course.

- E. Grading Scale:**
- | | |
|----------|----|
| 93 – 100 | A |
| 88 – 92 | B+ |
| 83 – 87 | B |
| 78 – 82 | C+ |
| 73 – 77 | C |
| 65 – 72 | D |
| Below 65 | F |

V. POLICIES:

- A. Attendance Policy:**
Pellissippi State Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. [NOTE: No differentiation is noted for excused/unexcused absences. These will be treated as an absence.]

Maintaining continuous attendance in your classes is very important. If you are considering dropping or withdrawing from a course, please check with the Financial Aid Office before doing so. Dropping or withdrawing from a class can adversely affect your financial aid and/or lottery eligibility.

B. Academic Dishonesty:

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly through participation or assistance, are immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions which may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course.

C. Computer Usage Guidelines:

College-owned or –operated computing resources are provided for use by students of Pellissippi State. All students are responsible for the usage of Pellissippi State’s computing resources in an effective, efficient, ethical and lawful manner.

D. Accommodation for Disabilities:

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at www.pstcc.edu/departments/swd/.

E. Other:

Students are expected to promptly attend all lecture and lab classes as assigned. If a class is missed, student must make up all work and get notes and/or handouts.