PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

JAVA PROGRAMMING
CST 2650

Class Hours: 3.0          Credit Hours: 4.0
Laboratory Hours: 3.0     Date Revised: Spring

Catalog Course Description:

A study of the Java programming language and its applications in business, communications, education and other special computer environments. Emerging trends in application development for multiple hardware environments will be explored. The emphasis will be on applet development for the World Wide Web (WWW), but stand-alone applications will also be discussed. Concepts of object-oriented programming will be an integral part of the course.

Entry Level Standards:

The entering student should have a familiarity with the DOS and Windows operating systems and should be competent in at least one high-level programming language. The student must have a student VAX-ID and demonstrated knowledge of its use. An elementary knowledge of Unix would be very helpful.

Prerequisites:

CST 1540 or department approval

Textbook(s) and Other Reference Materials Basic to the Course:

Deitel, H. M. and P. J. Deitel; Java How To Program; Prentice-Hall; 1999.
Daniel Darnell, JAVA and the AS/400; 29th Street Press, 1999

Recommended References:
Horton, Ivor, Beginning Java, Wrox Press
www.javasoft.com
www.jars.com

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction to JAVA, History, Concepts, HTML, UNIX and the Web</td>
</tr>
<tr>
<td>2-3</td>
<td>Applets and Control Structures, Products and Tools</td>
</tr>
<tr>
<td>4-5</td>
<td>Methods, Arrays and Object-based programming</td>
</tr>
<tr>
<td>6-7</td>
<td>Strings, Characters and Graphics, GUI</td>
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<tr>
<td>8</td>
<td>Review, Midterm</td>
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II. Course Objectives*

A. Use the syntax of the Java language. II III IV VI VII VIII IX XI XII

B. Use structured programming concepts, tools and VisualAge. I III V VI VII IX X XI

C. Use search tools, inquiries, Email, FTP, TELNET and other available resources found on the Internet to locate, use, download, upload and communicate effectively. II III IV

D. Evaluate usage capabilities based on specifications of various hardware and software products. II III IV VII

E. Demonstrate individual and teamwork standards compliance to accomplish given tasks within timeframes established. I

F. Develop client-based end products to meet market needs. V VII IX X XII

G. Write Java programs to solve a wide variety of problems, including AS/400-based applications. II III IV VI VII VIII IX XI XII

H. Implement object-oriented software design techniques. II III VI VII IX XI XII

*Roman numerals after course objectives reference goals of the Business and Computer Technologies department.

III. Instructional Processes*

Students will:

1. Produce Java programs as applets, standalone applications or applet/application combinations. Problem Solving and Decision Making Outcome, Technological Literacy Outcome, Information Literacy Outcome, Active Learning Strategy

2. Produce a fully working end-product as part of a collaborative effort for sharing with other class members. Communication Outcome, Transitional Strategy, Active Learning Strategy

3. Use the Internet as a medium for obtaining documentation and instruction and for submitting assignments. Communication Outcome, Technological Literacy Outcome, Information Literacy Outcome, Transitional Strategy

4. Develop an individual client-based software product meeting specifications given. Communication Outcome, Technological Literacy Outcome, Information Literacy Outcome, Problem Solving and Decision Making Outcome, Transitional Strategy, Active Learning Strategy

5. Use professional tools to produce software components and documentation. Technological Literacy Outcome, Transitional Strategy, Personal Development Outcome
6. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. *Personal Development Outcome*


8. Use professionally accepted methods and materials in completion of program development. *Technological Literacy Outcome, Transitional Strategy, Active Learning Strategy, Personal Development Outcome*

*Strategies and outcomes listed after instructional processes reference Pellissippi State’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.*

**IV. Expectations for Student Performance*:**

Upon successful completion of this course, the student should be able to:

1. Recognize Java data types and operators.  A, G

2. Use Java program control structures.  A, B, C

3. Use Java development tools prevalent in the industry.  A, B, C

4. Use graphic user interfaces to perform specific tasks.  C, E, F

5. Find resources and information to perform specific tasks.  C, D, E

6. Use Web pages and search tools effectively.  D, E, F

7. Use communication tools effectively.  D, E, F

8. Show effective operational use of available utilities, products, software and hardware.  C, D, E

9. Produce documentation, evaluations, performance data, sources of information, results of tasks and tests in a timely, well-organized manner.  C, D, E

10. Produce an original AS/400-based final product.  A, B, C, D, E, F, G

*Letters after performance expectations reference the course objectives listed above.*

**V. Evaluation:**

**A. Testing Procedures:**

Quizzes will be given during lab time for every chapter covered including handouts. Quizzes count 40% of the final grade. One quiz grade will be dropped. Quizzes may not be made up. Failure to make a passing quiz average will result in a grade of F for the course.

**B. Laboratory Expectations:**

Three projects will be assigned during the course of the semester. Failure to satisfactorily complete any assigned project will result in a grade of F for the course. Each project will count 20% of the final grade.

**C. Grading Scale:**
VI. Policies:

A. Attendance Policy:

Attendance is required in both the lecture and lab session. Pellissippi State Technical 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.

B. Other Policies:

You are expected to do your own work in this class. If you are unable to complete an assignment on your own, it is your responsibility to get help from the instructor (before the assignment is due).

In the event that you have an emergency beyond your control, you must notify the instructor in advance, if at all possible.