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: Fall 1998**

Catalog Course Description:

A study of the Java programming language and its application in communications, business, educational, 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 standalone 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 musthave a student VAX-ID and demonstrated knowledge of its use. An elementary knowledge of Unix would be very helpful.

Prerequisite:

CST 1540 or departmental approval

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

Textbook:
Deitel, H. M. and P. J. Deitel; Java: How To Program. Prentice- Hall, 1997.
Recommended References:
Van der Linden, Peter. Just Java. Sunsoft Press, 1997.
Geary & McClellan. Graphic Java: Mastering the AWT. Sunsoft Press, 1997.
Hopson & Ingram. Developing Professional Java Applets. Sams.net Publishing, 1996.
Feather, Stephen. Javascript By Example. Que Publishing, 1996.

I. Week/Unit/Topic Basis:

Week	Topic
1	Introduction and Overview
2	Survey of HyperText Mark-up Language (HTML)
3-6	Java Language Components
7-8	Object Oriented Design with Java
9-14	Applet Development Using Graphics and the AWT

15 Trends in Java and Rapid Application Development

16 Exam Period/Final Exam

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 developed in earlier courses. 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 time frames established. I

F. Develop an environment which serve customer and market needs. V, VII, IX, X, XII

G. Write Java programs to solve a wide variety of problems. 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 CST program.

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 personal Web page as part of a collaborative effort for sharing with other class members. *Communication Outcome, Personal Development 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, Active Learning Strategy*

4. Participate in a software development team. *Problem Solving and Decision Making Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy*

5. Use professional tools to produce software components and documentation. *Technological Literacy Outcome, Personal Development Outcome, Transitional Strategy, Active Learning Strategy*

6. Practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. *Personal Development Outcome*

7. Participate in a peer review of term projects. *Problem Solving and Decision Making Outcome, Communication Outcome, Active Learning Strategy*

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

Learning Strategy

*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. Participate in a team which provides Java/Web consulting services to a non-profit organization in the community. A, B, C, D, E, F, G
11. Design and implement reusable Java classes. A, B, G, H

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

V. Evaluation:

A. Testing Procedures: 60% of grade

Two tests will be given during the course of the semester. Dates will be announced in class and each test will count 30% (300 points) of the final grade.

B. Laboratory Expectations: 20% of grade

Lab assignments will be made during the course of the semester. A late penalty will be imposed on any overdue assignment. Failure to satisfactorily complete all labs may result in a grade of F in the course. Labs will count 20% (200 points) of the final grade.

C. Field Work: 20% of grade

Term projects will be assigned as part of the laboratory component. Projects will emphasize use of InterNet software and hardware, customer service, and team building. Failure to satisfactorily complete any assigned term projects will result in a grade of F for the course. Projects will count 20% (200 points) of the final grade. A part of the project grade will be determined by peer evaluation and may include customer evaluation.

D. Grading Scale:

900 - 1000	A
800 - 899	B
700 - 799	C
600 - 699	D
0 - 599	F

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.