

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

INTRODUCTION TO PROGRAMMING USING C
CST 1540

Class Hours: 3.0

Credit Hours: 4.0

Laboratory Hours:
3.0

Date Revised: Fall 1998

Catalog Course Description:

A study of the C programming language. Topics include language structure, syntax, functions, macro design, program development and applications.

Entry Level Standards:

The entering student should have a familiarity with MS-DOS and/or the Windows environment and basic file handling capabilities. The student is expected to have a moderate understanding of programming logic, programming structures, number systems and internal storage of data. The student should be able to keyboard at least 23 words per minute.

Corequisite: CST 1110

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

A First Book of ANSI C, 2nd Edition, by Bronson & MenConi. West Publishing Company; 1996.

I. Week/Unit/Topic Basis:

Week	Topic
1-2	Introduction to Programming; The printf() Function; Top-Down Program Development; Data Types, Declarations, and Displays
3	Assignments, Addresses, and Interactive Input; The scanf() Function
4	Selection; Relational Expressions; The if-else Statement; Nested if Statements
5-6	Review, Test 1; Repetition; The while Statement; The for Statement; The do Statement
7-8	Function Definitions and Declarations; Standard Library Functions; Variable Scope; Variable Storage Class
8-9	Arrays; Single-Dimensional Arrays; Two-Dimensional Arrays
9-10	Review, Test 2; Arrays, Addresses, and Pointers
11-12	Character Strings
12-13	Structures; Single Structures; Arrays of Structures
14-15	Data Files; Declaring, Opening, and Closing Files; Reading and Writing Files

II. Course Objectives*:

- A. Become familiar with the syntax of the C language. II, III, IV, VI, VII, VIII, IX, XI, XII
- B. Write C programs to solve a wide variety of problems. II, III, IV, VI, VII, VIII, IX, XI, XII
- C. Reinforce structured programming concepts developed in earlier courses. I, III, V, VI, VII, IX, X, XI

*Roman numerals after course objectives reference goals of the CST program.

III. Expectations for Student Performance*:

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

- 1. Recognize basic data types. A, B
- 2. Use arithmetic, logical and conditional operators. A, B
- 3. Use data conversions and casts. A, B
- 4. Use arrays, strings and pointers. A, B
- 5. Use structures. A, B, C
- 6. Use program control structures. A, B, C
- 7. Use library and programmer developed functions. A, B, C
- 8. Use parameter passing. A, B, C
- 9. Understand storage classes and their usage. A, B, C
- 10. Use the preprocessor and macro substitution. A, B, C
- 11. Relate external files. A, B, C
- 12. Maintain portability of C programs. B, C

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

IV. Evaluation:**A. Testing Procedures:**

There will be three tests. They will cover material presented in the class. The test will consist of True/False, multiple choice, short answer questions, correcting a syntax and programming questions or combination of some of the above. The points for each problem will be graded according to the degree of difficulty. The tests will be cumulative in as much as the material builds upon itself. Tests are not to be missed without a valid excuse. In the unlikely event that an emergency does occur, it is the student's responsibility to contact the instructor before test time. There will be no make-up tests unless prior arrangements are made with the instructor.

B. Laboratory Expectations:

There will be seven lab assignments, one from each major C concept. The purpose is to teach the student how to integrate the features of the language into a complete and useful program. The student is expected to turn in source code, output and documentation for each lab. Labs are to be turned in on or before the due date. Two points per day will be deducted on late labs.

C. Field Work: None

D. Grade Breakdown:

3 Tests (100 Points each)	300 pts.
7 Labs (20 Points each)	140 pts.
Homework, Short Lab Assignments	50 pts.
<u>Quizzes</u>	<u>80 pts.</u>
TOTAL	570 PTS.

E. Grading Scale:

92 - 100	A
82 - 91	B
70 - 81	C
60 - 69	D
Below 60	F

V. Policies:

A. Attendance Policy:

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. Academic Dishonesty:

Plagiarism, cheating and other forms of academic dishonesty are prohibited. A student caught cheating may be given a grade of "F" for the course.

C. Submission of Assignments:

Students who have excused absences must complete make-up work within two weeks.