El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA   **Computer Science**

COURSE RUBRIC AND NUMBER   **COSC 1320**

COURSE TITLE   **C Programming**

COURSE CREDIT HOURS   **3**   **3** : **1**
                         Credits **Lec**   **Lab**

I. Catalog Description

Introduces the fundamental concepts of structured programming in the C language. Includes topics such as data types; control structures; functions, structures, arrays, pointers, pointer arithmetic, unions, and files; the mechanics of running, testing, and debugging programs; introduction to programming; and introduction the historical and social context of computing. (3:1) **Lab fee**.

II. Course Objectives

Upon satisfactory completion of this course, the student will be able to:

A. Discuss the ethical aspects of writing C language code that produces correct results.
B. Plan, define, and document solutions to programming problems using pseudocode, flowcharts, and hierarchy charts.
C. Solve basic mathematical problems using the C language.
D. Write programs using the basic decision and looping structures of the C language.
E. Identify data types and how they relate to the binary number system
F. Develop C language programs using elementary input (from the keyboard) and output (to the screen)
G. Develop C language programs that are modular in nature using C language functions.
H. Incorporate arrays (both single and two-dimensional) and strings of characters into C language programs.
I. Explain the basics of pointers.
J. Use structures as a basic data type in C language programs.
K. Write programs that utilize file access (both writing to and reading from files).

III. THECB Learning Outcomes (ACGM)

Upon successful completion of this course, students will:

1. Analyze and explain the behavior of simple programs involving the fundamental programming constructs.
2. Modify and expand short programs that use standard conditional and iterative control structures and functions; choose appropriate conditional and iteration constructs for a given programming task.
3. Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and the definition of functions.
4. Apply the techniques of structured (functional) decomposition to break a program into smaller pieces.

5. Describe the mechanics of parameter passing and demonstrate the difference between call-by-value and call-by-reference parameter passing.
6. Discuss the importance of algorithms in the problem-solving process, identify the necessary properties of good algorithms, and create algorithms for solving simple problems.
7. Use pseudocode or a programming language to implement, test, and debug algorithms for solving simple problems.
8. Discuss the representation and use of primitive data types and built-in data structures.
9. Explain the reasons for using different formats to represent numerical data.
10. Explain basic concepts of secure programming functions.
11. Discuss the properties of good software design.
12. Describe the phases of program translation from source code to executable code and the files produced by these phases; explain the software life cycle and its phases, including the deliverables that are produced.
13. Identify and describe the properties of a variable such as its associated address, value, scope, persistence, and size.
14. Explain how abstraction mechanisms support the creation of reusable software components.

IV. Evaluation

A. Preassessment
None

B. Postassessment

1. There will be three (3) written examinations, which includes the final exam.
The final exam will be comprehensive.
2. Lab assignments will be assigned at the instructor's discretion and will be averaged on a 100-point scale.

C. Remediation

The instructor may provide the students with means of improving a grade. The instructor will determine the timing, form, and method of remediation.

D. Final Grade

The final grade report will be based on the percentage of the total points earned.

Percentage	Letter Grade
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 - 59	F

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI.   **6 Drop Rule**

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.

VII.   **Title IX and Sex Discrimination**

Title 9 (20 U.S.C. 1681 & 34 C.F.R. Part 106) states the following "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any educational program or activity receiving Federal financial assistance." The Violence Against Women Act (VAWA) prohibits stalking, date violence, sexual violence, and domestic violence for all students, employees and visitors (male and female). If you have any concerns related to discrimination, harassment, or assault (of any type) you can contact the Assistant to the Vice President for Student and Enrollment Services at 915-831-2655. Employees can call the Manager of Employee Relations at 915-831-6458. Reports of sexual assault/violence may also be reported to EPCC Police at 915-831-2200.