Course Syllabus

COSC 2320
C Programming II

Course Description:

Further applications of programming techniques in the C programming language. Topics may include file access methods, data structures and modular programming, program testing and documentation, and other topics not normally covered in an introductory computer programming course.

Semester Hours Credit: 3

Lecture Lab Hours: 2 / 4

Prerequisite: COSC 1320

Text: C Programming A Modern Approach second edition  K. N. King Norton

Student Learning Outcomes:

Upon successful completion of this course, students will:

1. Apply the techniques of structured (functional) decomposition to break a program into smaller pieces.
2. Describe the mechanics of parameter passing and demonstrate the difference between call-by-value and call-by-reference parameter passing.
3. Discuss the importance of algorithms in the problem-solving process,
4. Identify the necessary properties of good algorithms, and create algorithms for solving simple problems.
5. Use pseudo code or a programming language to implement, test, and debug algorithms for solving simple problems.
6. Discuss the representation and use of primitive data types and built-in data structures.
7. Explain the reasons for using different formats to represent numerical data.
8. Explain basic concepts of secure programming functions.
9. Discuss the properties of good software design.
10. 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.
11. Identify and describe the properties of a variable such as its associated address, value, scope, persistence, and size.
12. Explain how abstraction mechanisms support the creation of reusable software
13. Understand advanced pointers
14. Understand pointers as applied to arrays
15. Understanding of advanced pointers and enumerated types and structures.

**Evaluation Methods:**

1. Tests
2. Projects
3. Assigned labs
4. Attendance

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