

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: CSC 130

Credits: 4

Course Title: Scientific Programming

Course Description: Introduces a science- and engineering-oriented, high level programming language. Studies the C language and its application in problem-solving in a structured programming environment. Includes the concepts and practice of structured programming, problem-solving, top-down design of algorithms, basic C syntax, control structures, arrays, and data structures. Prerequisite or Co-requisite: MTH 263 or equivalent. Lecture 4 hours per week.

General Course Purpose: CSC 130 serves as an elective for the Computer Science Specialization of the Science AS and for the Engineering AS degree that is a beginning programming course in the C language. This course has been approved for transfer by VCU Engineering as EGRE 245 - Engineering Programming Using C.

Course Prerequisites and Co-requisites:

Prerequisite or Co-requisite: MTH 263 or equivalent

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. Describe the concepts and practice of structured programming;
- b. Demonstrate problem-solving and top-down design of algorithms;
- c. Program using basic C syntax;
- d. Utilize control structures, functions, and arrays; and
- e. Develop and debug basic computer programs.

Major Topics to Be Included:

- a. Concepts and practice of structured programming
- b. Problem-solving and top-down design of algorithms
- c. Basic C syntax
- d. Control structures
- e. Arrays and data structures

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