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

Date Created/Updated (Month, Day, Year):  December 13, 2018