

**RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE**

CSIT 238 - C Programming

I. Basic Course Information

- A. Course Number and Title: CSIT 238 - C Programming
- B. New or Modified Course: Modified
- C. Date of Proposal: Semester: Fall Year: 2018
- D. Effective Term: Fall 2019**
- E. Sponsoring Department: Mathematics & Computer Science
- F. Semester Credit Hours: 3
- G. Weekly Contact Hours: Lecture: 2
Laboratory: 2
Out of class student work per week: 5
- H. Prerequisites/Corequisites: CSIT 103 Computer Concepts & Programming, or CSIT 105 - Foundations of Computer Science, or equivalent experience or training.
- I. Laboratory Fees: Yes
- J. Name and Telephone Number or E-Mail Address of Department Chair and Divisional Dean at time of approval:
Department Chair: Lori Austin, lori.austin@raritanval.edu
Divisional Dean: Sarah Imbriglio, sarah.imbriglio@raritanval.edu

II. Catalog Description

(Prerequisite/s: CSIT -103 Computer Concepts & Programming, or CSIT 105 - Foundations of Computer Science or equivalent experience or training) Introduces the student to the concepts and features of the C programming language. The course emphasizes the creation of programs. Students will become familiar with the fundamental data types in C, program logic and flow statements, functions, and pointers. This course provides a good foundation for students wishing to learn C++.

III. Statement of Course Need

- A. The C and C++ programming languages are the primary languages used in industry to develop real-time, embedded, and gaming applications. This course provides students the skills to program in C and also provides the basis for students to continue their programming development in object-oriented technologies, such as C++.
- B. This course has a weekly lab component. The lab is essential for providing students hands on programming to write C programs that solve a set of problem requirements
- C. This course transfers to most four-year schools as a Computer Science Elective or substitutes for an equivalent course in a Computer Science or related major or as a free elective.

IV. Place of Course in College Curriculum

- A. Free Elective
- B. This course serves as a Computer Elective on the Computer and Programming Electives List
- C. This course serves as a Programming Elective on the Computer and Programming Electives List
- D. This course is an option in the requirement for Information Systems and Technology A.S. Degree and Information Systems and Technology A.A.S. Degree.
- E. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

- A. Fundamental data types in C
- B. Flow control
- C. Logic control
- D. Arrays
- E. Functions
- F. Strings
- G. Structures
- H. Pointers

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

At the completion of the course, students will be able to:

1. Use algorithm design methods to write, test and debug C programs, based on system specifications. (GE-NJ 4).

B. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Apply variables, selection, looping statements and arrays effectively.
2. For a given algorithm, write the C code using a modular approach.
3. Use and incorporate structures to create a collection of variables of different types under a single name for better handling of programs.
4. Manipulate Character strings to modify lists of character data.
5. Use pointers to access memory locations of variables.

C. Assessment Instruments:

The following assessment methods may be used:

1. In-Class Programming Laboratories
2. Programming Projects
3. Exams
4. Homework

VII. Grade Determinants

- A. Homework
- B. Programming Projects
- C. In-Class Programming Laboratories
- D. Mid Term Exam
- E. Final Exam

Modes for teaching and learning that may be used in the course:

- A. In-class Programming Laboratories
- B. Programming Projects

VIII. Texts and Materials

- A. Suggested Textbook: Programming in C, 4th Edition, Stephen G. Kochan, Addison-Wesley Professional, 2015.

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

- A. Computer Lab for classroom instruction and exercises
- B. An Interactive Development Environment or a text editor
- C. C Compiler

X. Honors Options

N/A