RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

CISY 238 - C Programing

I. Basic Course Information

A. Course Number and Title: CISY 238 - C Programing

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2013

D. Sponsoring Department: Computer Science

E. Semester Credit Hours: 3

F. Weekly Contact Hours: 4 Lecture: 2
Laboratory: 2

G. Prerequisite: CISY 103 Computer Concepts & Programming, or CISY 105 - Foundations of Computer Science, or equivalent experience or training.

H. Laboratory Fees: Yes, at current rate

I. Department Chair: Tom Edmunds, tedmunds@raritanval.edu

II. Catalog Description

(Prerequisite/s: CISY-103 Computer Concepts & Programming, or CISY 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 meets a degree requirement for:
    1. Computer Networking A.A.S. Degree
C. This course serves as a Programming Elective on the Computer Science (CISY) Elective List
D. 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

This course addresses the following topics:

* Fundamental data types in C
* Flow control
* Logic control
* Arrays
* Functions
* Strings
* Structures
* 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.

VII. Modes of Teaching and Learning

A. Lecture/discussion
B. Laboratory programming exercises

VIII. Papers, Examinations, and other Assessment Instruments

A. In-class Programming Laboratories
B. Programming Projects
C. Exams
D. Homework

IX. Grade Determinants

A. Homework
B. Programming projects
C. In-class Programming Laboratories
D. Mid Term Exam
E. Final Exam

X. Texts and Materials

Suggested Textbook: Programming in C, 4th Edition, Stephen G. Kochan, Addison-Wesley Professional, 2012

(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.)

XI. Resources

A. Computer Lab for classroom instruction and exercises

B. C Compiler