RARITAN VALLEY COMMUNITY COLLEGE ACADEMIC COURSE OUTLINE

CISY 265 - Introduction to C#.NET

I. Basic Course Information

A. Course Number and Title: CISY 265 - Introduction to C#.NET

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2016

D. Effective Term: Fall 2017

E. Sponsoring Department: Computer Science

F. Semester Credit Hours: 3

G. Weekly Contact Hours: 4 Lecture: 2

Laboratory: 2

Out of class student work per week: 3

H. Prerequisites/Corequisites:

CISY 103 - Computer Concepts and

Programming or CISY 105 – Foundations of Computer

Science or Instructor's permission

I. Laboratory Fees: Yes

J. Name and Telephone Number or E-Mail Address of Department Chair at time of approval: Steven Schwarz, Steven.Schwarz@raritanval.edu

II. Catalog Description

CISY 103 - Computer Concepts and Programming, or, CISY 105 – Foundations of Computer Science, or, Instructor's permission. In this introductory course students will learn the syntax of the C# programming by developing graphical user interfaces(GUI) for the Windows platform.

III. Statement of Course Need

- **A.** C#.NET was introduced in 2001 for Microsoft's .NET platform. It is the main language for programming for the .Net platform. The .NET framework consists of a runtime environment for managing code execution as well as thousands of class libraries that can perform virtually any programming task.
 - The additional value that this course brings to the student is its syntactical similarity to JAVA, C/C++ and JavaScript as well as its popularity for programming on the Windows platform.
- **B.** Lab is necessary for the students to practice using the Visual Studio Development Environment and for writing, compiling and debugging C# code via Windows forms applications.
- **C.** The course is not designed for transfer.

IV. Place of Course in College Curriculum

- A. Free Elective
- B. CIS Elective on the Computer Science CISY Electives List
- C. Programming Elective on the Computer Science CISY Electives 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 explores the following topics:

- A. Introduction to C#
- B. How to use the Visual Studio IDE
- C. How to design a Windows form application
 - a. Using Controls
 - b. Handling Events
- D. How to debug an application
- E. Working with numeric and string data
- F. Coding control structures
- G. Methods and Event handlers
- H. Exception Handling
- I. Data validation
- J. Arrays and Collections
- K. Dates and strings
- L. Multiform projects

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

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

- 1. Demonstrate proficiency in the use of an integrated development environment
- 2. Use C#.NET to write well designed programs to solve information processing problems (GE-NJ4)
- 3. Demonstrate proficiency in the use of an integrated development environment

B. Course Learning Outcomes:

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

- 1. Know how to use the Visual Studio IDE to code, compile debug and test a C# program
- 2. Design a Windows GUI application written in C#.NET that is completely event driven.
- 3. Arrange C# program code in a logical, readable format.
- 4. Exhibit the skills needed to debug an application using breakpoints and Try/Catch/Finally blocks.
- 5. Incorporate .NET Framework classes into a C#.NET application.
- 6. Plan and compose a Windows GUI application from programming specifications.
- 7. Demonstrate C# language programming constructs such as:
 - a. Language syntax
 - b. IF...ELSE
 - c. Looping(FOR and While)
 - d. Functions
 - i. With or without arguments
 - ii. With or without return values
 - e. Collections and Arrays

C. Assessment Instruments

- 1. Computer laboratory
- 2. Computer homework assignments
- 3. Computer code reviews

VII. Grade Determinants

- A. Lab assignments
- B. Homework projects
- C. Final Exam
- D. Project presentations

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

- A. Lecture/Discussion
- B. Laboratory--Students will spend half of each class working on hands-on lab assignments
- C. Student presentations of homework assignments

VIII. Texts and Materials

Suggested Textbook – Boehm, Anne and Murach, Joel, Murach's C# 2015, Mike Murach and Associates, 2016

The following statement should be included in the outline:

(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. Technology Support (An Integrated Development Environment for C#, Visual Studio 2015 or later)