RARITAN VALLEY COMMUNITY COLLEGE

ACADEMIC COURSE OUTLINE

CSIT 200 PYTHON PROGRAMMING

I. Basic Course Information

    A. Course Number and Title: **CSIT 200 Python Programming**

    B. New or Modified Course: **Modified**

    C. Date of Proposal: Semester: **Fall**   Year: **2024**

    D. Effective Term: Fall 2025

    E. Sponsoring Department: Mathematics and Computer Science

    F. Semester Credit Hours**: 3**

    G. Weekly Contact Hours**: 4**

                       Lecture**: 2**
                       Laboratory**:   2**
                       Out of class student work per week: **5**

    H. ☒ Prerequisite (s): **A grade of C or better in CSIT 103 Computer Concepts & Programming OR a grade of C or better in CSIT 105 Foundations of Computer Science.**
        ☐ Corequisite (s):

    I. Additional Fees**:** None

II. Catalog Description

Prerequisite: A grade of C or better in CSIT 103 Computer Concepts & Programming OR a grade of C or better in CSIT 105 Foundations of Computer Science. Python is an interpreted, object-oriented, programming language with a simple, easy to learn syntax. This

widely used programming language focuses on readability and code optimization. This course is designed for students with previous programming experience in an object-oriented language.

III. Statement of Course Need

    A. The college currently offers four Java courses (CSIT 103, 105, 125, 249) but no courses focusing on Python, a programming language similar in popularity. Python can be utilized in Web Development as well as in the development of desktop and enterprise applications. The language has been used to create thousands of real-world business applications around the world, including many large and mission critical systems.

    B. This course does have a lab component. Students are required to use the software in the Computer labs in order to complete their assignments.

    C. This course has not yet been evaluated for transfer, but it is designed to transfer as a Computer Science Elective dependent on the transfer institution.

IV. Place of Course in College Curriculum

    A. Free Elective

    B. Programming Elective on the Computer and Programming Electives List

    C. Program requirement on Computer Programming AAS

    D. An option in Information Systems and Technology AS

    E. An elective on the Interface Design & Web Development Specialization Electives List

    F. Course Transferability: for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org. For all other colleges and universities, go to their individual websites

V. Outline of Course Content

    A. Input, Processing, and Output

    B. Decision Structures and Boolean Logic

    C. Repetition Structures

    D. Functions

    E. Files and Exceptions

    F. Lists and Tuples

    G. Strings

    H. Dictionaries and Sets

    I. Classes and Object-Oriented Programming

    J. Inheritance

    K. Recursion

    L. GUI Programming

VI. A. <u>Course Learning Outcomes</u>:

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

1. Solve information processing problems by using the Python Programming Language to produce well designed computer programs to (GE-4)
2. Recognize Python programming language syntax while reading and analyzing Python language code (GE-4)
3. Design, develop and test Python applications using appropriate Python syntax (GE-4)

B. <u>Assessment Instruments</u>

1. Labs
2. Projects
3. Exams

VII. Grade Determinants

A. Labs
B. Projects
C. Exams
D. Group Projects

The primary formats, modes, and methods for teaching and learning that may be used in the course:
A. lecture/discussion
B. small-group work
C. laboratory

VIII. Texts and Materials

A. Suggested Textbook – Hortsmann, Cay, *Python for Everyone, 3rd Edition*, Wiley Publishing © 2020

(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 instructions and exercises.
      B. Python for Windows
      C. IDE such as Jupyter Notebook

X. Check One: ☐Honors Course ☐Honors Options ☒ N/A