

**RARITAN VALLEY COMMUNITY COLLEGE  
ACADEMIC COURSE OUTLINE**

**CSIT 237 - UNIX and Linux**

**I. Basic Course Information**

- A. Course number and Title: CSIT 237- UNIX and Linux
- 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  
Lab: 2  
Out of class student work per week: 5
- H. Prerequisite: CSIT 103 - Computer Concepts & Programming, or CSIT 105 - Foundations of Computer Science, or CSIT 125 - Programming for Business Majors 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: Lori Austin – lori.austin@raritanval.edu (Chair), Sarah Imbriglio – Sarah.Imbriglio@raritanval.edu (Divisional Dean)

**II. Catalog Description**

***(Prerequisite: CSIT-103 Computer Concepts & Programming, or CSIT -105 Foundations of Computer Science, or CSIT 125 Programming for Business Majors, or equivalent experience or training)*** Introduces the student to concepts and features of the UNIX and Linux Operating Systems. Topics include directory and file structures, file management, I/O redirection, regular expressions, and the shell command language. Emphasis is placed on the development of shell scripts to manage data files and automate administrative tasks. Students will write programs and procedures using the shell.

### **III. Statement of Course Need**

- A. The UNIX and Linux operating systems are major server environments today. This course provides students with the foundation to be able to efficiently use and administer these systems. Students will be able to automate tasks that in a graphical environment could take many hours to perform. In addition, as the Open Source movement continues to grow, this course familiarizes students with the fundamental environment for Open Source applications.
- B. This course does have a laboratory component. Students use computers that are attached to the RVCC network to access a centralized, UNIX Server to write and test scripts
- C. This course transfers to most four-year schools as either 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 is a program option for:
  - 1. Computer Networking & Cybersecurity A.A.S. Degree
  - 2. Information Systems & Technology A. A. S
- C. This course serves as a Computer Elective on the Computer and Programming Electives List
- D. To see course transferability: a) for New Jersey Schools, go to the NJ Transfer Website, [www.njtransfer.org](http://www.njtransfer.org); b) for all other colleges and universities, go to their individual websites

### **V. Outline of Course Content**

This course explores the following topics:

- A. Directory and file structures
- B. Standard files and their uses
- C. Basic commands for UNIX and Linux
- D. I/O redirection
- E. Pipes and filters
- F. Regular expressions
- G. Shell programs
- H. Control logic in the Operating System
- I. Environment Variables and how to manipulate them

## **VI. General Education and Course Learning Outcomes**

### **A. General Education Learning Outcomes**

None

### **B. Course Learning Outcomes**

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

1. Describe the major components of the UNIX Operating System
2. Demonstrate the use of system commands to manipulate File Directories and individual files
3. Create and execute UNIX shell programs
4. Develop regular expressions for data manipulation

### **C. Assessment Instruments**

1. Shell Programs as Laboratory exercises and/or homework
2. Quizzes
3. Exams--Exams will assess both conceptual knowledge and practical knowledge
4. Forum Discussions (for online versions of this course)

## **VII. Grade Determinants**

- A. Individual homework
- B. Participation in forums (for online versions of this course)
- C. Quizzes
- D. Mid-Term Exam
- E. Final Exam
- F. Laboratory exercises
- G. Homework

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

- A. Lecture/Discussion.
- B. Laboratory exercises

## **VIII. Texts and Materials**

Wood, Patrick and Kochan, Stephen, Shell Programming in Unix, Linux, and OS X, Pearson, 4th edition.

(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 with access to RVCC network on campus
- B. A secure Telnet program like PuTTY
- C. On campus and off campus access to Linux on the rvccmccs01 server.

## **X. Honors Options**

N/A