

**RARITAN VALLEY COMMUNITY COLLEGE
COURSE OUTLINE**

CISY 217 – Operating Systems

I. Basic Course Information

- A. Course number and Title: CISY 217 – Operating Systems
- 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: Lecture: 2
Lab 2
Out of class student work per week: 6
- H. Prerequisites: CISY 103 Computer Concepts & Programming or
CISY 105 Foundations of Computer Science or
CISY 119 Networking Essentials or
CISY 270 Introduction to Cisco Networking or
permission of the Instructor
- I. Laboratory Fees: Yes
- J. Name and Telephone Number or E-mail Address of Department Chair: Tom
Edmunds, x8304, tedmunds@raritanval.edu

II. Catalog Description

(Prerequisite/s: CISY-103 Computer Concepts & Programming or CISY-105, Foundations of Computer Science, or CISY 119 Networking Essentials or CISY 270 Introduction to Cisco Networking or permission of the Instructor) Operating Systems introduces the student to the fundamental concepts and facilities of the system software which manages all computers. Topics include: memory management, process management, processor management, process synchronization and coordination, device management, the user interface, security and administration. Students will learn operating systems concepts and theories and apply them to commercial operating systems.

III. Statement of Course Need

- A.** Operating systems are the fundamental programs on all computers. An understanding of their operations allows students to have deeper insight into how a computer operates and be able to select the appropriate operating system for a particular function. Knowledge of how the operating system works also gives students the understanding to tailor a given operating system to their need. In addition, many of the concepts used in operating systems are applicable to a broader range of problems.
- B.** This course does have lab component. Students are expected to use computers in the lab to work with various operating systems. A regular Computer Lab is sufficient.
- C.** This course generally transfers as a Computer Science Elective.

IV. Place of Course in College Curriculum

- A.** Free Elective
- B.** This course meets a program requirement for:
 - a. Computer Programming A.A.S
 - b. Computer Networking A.A.S
 - c. Computer Networking and Security Certificate
 - d. Computer Programming Certificate
- C.** CIS Elective from the Computer Science (CISY) Electives List
- D.** 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

This course addresses the following topics:

- A.** Overview of the history of computers and operating systems
- B.** Computer Memory management
- C.** Computer Process and Task management
- D.** Computer Processor(s) management
- E.** Concurrent processes
- F.** Computer Device Management
- G.** Computer File Management
- H.** Basic Operating System Administration
- I.** Operating System Security

VI. General Educational and Course Learning Outcomes

A. General Education Learning Outcomes:

After completion of this course, the student will be able to:

1. Analyze complex system requirements and specify operating system features to meet them. (GE-NJ 2)

B. Course Learning Outcomes:

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

1. Describe the role of an operating system in a computing environment.
2. Identify the differences between different types of operating systems, such as interactive and real-time.
3. Specify an appropriate operating system given particular system requirements.
4. Describe how operating systems manage resources.
5. Define the algorithms used in the management of system resources.
6. Describe the basic functions involved in system administration and security.

C. Assessment Instruments:

1. Quizzes
2. Lab exercises
3. Homework Assignments
4. Research Projects
5. Exams

VII. Grade Determinants

- A. Individual homework and projects
- B. Class participation
- C. Quizzes
- D. Exams
- E. Final Exam

Modes of Teaching and Learning

- A. Lecture/Discussion
- B. Laboratory

VIII. Text and Materials

Suggested Textbook – *Understanding Operating Systems*, Ida Flynn and Ann McHoes, Course Technology, Seventh Edition.

(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
 - a. access to RVCCs Linux server (currently rvccmccs01)
 - b. A Secure Shell (SSH) Telnet program such as PuTTY