# RARITAN VALLEY COMMUNITY COLLEGE
## Course Outline

## CISY 113 - Desktop Computer Hardware & Software

### I. Basic Course Information

A. Course Number and Title:   **CISY 113 – Desktop Computer Hardware & Software**

B. Date of Proposal:   **January 2007**

C. Sponsoring Department:   **Computer Science (CS)**

D. Semester Credit Hours:   **3**

E. Weekly Contact Hours:   **4**

                                                            **Lecture 2**
                                                            **Lab 2**

F. Prerequisite:   **None**

G. Laboratory Fees:   **Yes**

### II. Catalog Description

*(Prerequisites: None)* This course provides an introduction to the infrastructure components of desktop computers and their application to business problems. A study of current hardware and operating environments is presented. The course also covers basic troubleshooting methods and systems administration tasks

### III. Statement of Course Need

To compete in today's job market, students need to understand the theory of operation of basic desktop computer hardware and operating environments beyond basic application software literacy. This course provides students with the foundational understanding necessary for the basic support of administrative, maintenance and troubleshooting tasks associated with Desktop Computer Support. Since Desktop Computers are commonplace both at home and in business, there is an increasing need for people who can assist in the support of hardware and software for individual needs and for small business environments.

**IV.    Place of Course in College Curriculum**

A.
- Requirement – Required course in
  a. Information Systems & Technology A.S. Degree
  b. Information Systems & Technology A.A. S Degree
  c. Desktop Support Certificate
  d. Web Developer Certificate
- Program Elective – Satisfies any Computer Science Elective at the 100 level
- Free Elective

B.
Although this revised course has not been evaluated by NJTransfer yet, the previous version of this course only transferred to a handful of schools.

**V.    Outline of Course Content**

Course includes the study of IBM compatible desktop computers (i.e., IBM, Dell, Gateway) and how they are used to solve business problems. Instruction on all aspects of desktop computers, including basic networking, security and special considerations of portable systems.

**Topics Include:**
- Workflow, Basic Safety Considerations, Steps to Troubleshoot
- Cases & Power Supplies
- Mainboard, Memory, Processors and Chipsets
- Portable Systems (Notebooks and PDAs)
- Video, Audio, Printing, Imaging
- Storage Systems (Magnetic, Optical, Solid-State)
- File Systems and Data Recovery
- Client/Server roles, basic server administration
- Basic network configuration & security
- Operating Systems essentials
- "Foreign Systems" – Linux & OS-X (Apple) basics

### VI. Educational Goals and Learning Outcomes

#### A. General Education Goals

After completion of this course, the student will be able to:
1. Apply critical thinking to the troubleshooting of various Desktop Computer Hardware and Software problems (G.E. 1)
2. Apply quantitative reasoning to the synthesis and interpretation of data produced by Desktop Computers in order to configure and manage the hardware and software over time. (G.E. 4)
3. Utilize technological tools for research, information analysis, problem solving and decision making as needed for administration and maintenance of computer systems (G.E. 3)
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#### B. Student Learning Outcomes:

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

1. Install various type of hardware components on Desktop Computers
2. Install both systems and application software components on Desktop Computers
3. Understand the basic concepts of microcomputer operation.
4. Understand the operation of various hardware components such as the hard drives, CPU and other devices
5. Understand the use of different types of system software and be able to make changes when required and install various operating systems
6. Be able to understand the terminology associated with microcomputers when reading various publications such as PC Week.
7. Configure Desktop Computers for simple networking
8. Configure Desktop Operating Systems to efficiently use hardware resources such as internal and external storage devices, video display, etc.

### VII. Modes of Teaching and Learning

- Lecture/Discussion – Traditional in-class lecture and classroom discussion

- Laboratory – Detailed LAB assignments involving hardware and software installation, configuration, management and troubleshooting

- Online collaboration – utilize online systems for collaborative discussion and to synthesize approaches to problem-solving

- Case studies and research – to provide outside-the-classroom supplemental learning and discovery activities

**VIII. Papers, Examinations, and other Assessment Instruments**

- Exam – Periodic exams covering the major topics in the course

- Exam – Final Examination

- Laboratory Exercises assigned by the Instructor for in-class execution

- Quiz – Optional quizzes at the discretion of the Instructor

- Online discussions of timely topics

- Short Research papers to supplement in-class activities

**IX. Grade Determinants**

- Class Participation

- Periodic Examinations and optional Quizzes

- Final Examination

- In-class exercises or laboratories assigned by the Instructor

- Research papers

**X. Required Material – Textbook:**

Thompson & Thompson, *PC Hardware In a Nutshell, 3rd Edition,* O'Reilly, ISBN: 0-596-00513-X

**XI. Resources**

Various Hardware Platforms which students can disassemble and reassemble, PCs with Windows current operating system and Office Suite, access to the Internet, PCs with administrative account access for software installation and administrative task labs