

**RARITAN VALLEY COMMUNITY COLLEGE
COMPUTER SCIENCE (CS) DEPARTMENT**

CISY- 232 Internet & Web Architecture

I. Basic Course Information

- A. Course Number and Title: CISY- 232, Internet and Web Architecture
- B. Date of Proposal or Revision: Spring 2007
- C. Sponsoring Department: Computer Science (CS) Department
- D. Semester Credit Hours: 3
- E. Weekly Contact Hours: 4 (2 Lecture)
(2 Lab)
- F. Prerequisite: CISY 225 Web Page Development I
- G. Laboratory Fees: Yes

II. Catalog Description

Prerequisite: CISY 225 Web Page Development I. Students gain an appreciation for the architectural factors that a Web Manager must consider when implementing Web servers and services accessible on the Internet. This course discusses relevant aspects of the Internet architecture including the Domain Name System, how to obtain domain names and IP addresses, access technologies, and TCP/IP. Web Servers, including Operating Systems, Server Software and Services, Security Services, and Server Performance are also covered in detail.

III. Statement of Course Need

As businesses strive to incorporate Web-based strategies into their Business Plans, the demand for Web site professionals continues to grow. The creation of Web pages on the Internet has generated a great need for people with the technical knowledge to do Web page development. Individuals, business, and government agencies increasingly turn to the World Wide Web to advertise, inform, sell, and communicate. This course enables students to create interactive and complex Web sites to meet the needs of today's society.

IV. Place of Course in College Curriculum

A. Required for the following degree programs or certificates:

- Web Page Development Certificate
- Web Developer A.S. Degree
- Multimedia Communications A.A.S Degree
- CIS Elective
- Free Elective

B. Course Transferability: It is yet to be determined how this course would transfer to New Jersey Colleges.

V. Outline of Course Content

1. Architectural factors for Web management
2. Implementing Web servers and services
 - a. Building a Web Site
 - b. Adding multimedia to Web Sites
 - c. Creating Dynamic Web Pages
 - d. Implementing databases and Web Hosting
 - e. Implementing Network Security
3. Internet Infrastructure
 - a. Domains and domain naming
 - b. Domain Name System (DNS)
 - c. Network Communication Servers
 - d. Access technologies
 - e. TCP/IP Basics
4. Web servers
 - a. Software
 - b. Security
 - c. Secure online transactions
5. Web languages and scripting tools
 - a. Java
 - b. JavaScript
 - c. Java Server Pages (JSP)
 - d. CGI
 - e. Active X controls
 - f. HTML
 - g. Perl
 - h. PHP

VI. Educational Goals and Learning Outcomes

Education Goals

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

1. Demonstrate proficiency in designing and developing Web servers that can deliver Internet content (G.E. 1)
2. Communicate and collaborate with others creating and managing Web Servers that are more power and add functionality to Web sites (G.E. 2)
3. Demonstrate proficiency in using the Web server software for delivery of Internet content (G.E. 2, 3)
4. Demonstrate knowledge and skills necessary to design, develop manipulate, and manage Web servers (G.E. 2, 3)
5. Apply knowledge from other disciplines to develop web servers that can be used in problem solving or decision making (G.E. 4)
6. Recognize the ethical issues surrounding the use of computers in creating web pages (G.E. 5)

Learning Outcomes

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

1. Discuss the features of well designed web sites to meet the communication needs of the client from a Web architectural point of view.
2. Design and develop Web servers and services
3. Design domain architecture with Web server access technologies
4. Describe Web server software and security.
5. Design and publish secure web pages for ecommerce
6. Connect to remote databases to download information
7. Link web pages to other pages on the Internet
8. Interpret current copyright laws concerning information
9. Design and develop Web sites using standard Web server tools.
10. Develop more power and functionality to Web servers using Java, CGI scripts, and Active X controls

VII. Modes of Teaching and Learning

- Lecture/Discussion - Lecture with demonstration of software, problem solving techniques, and present computer literacy concepts.
- Laboratory – Lab time to analyze, design, develop, write, and present computer projects.

VIII. Papers, Examinations, and other Assessment Instruments

- Computer Projects – In-class and out of class assignments and projects
- Exams – Hands on software exams
- Presentations
- Other – Homework

IX. Grade Determinants

- Projects
- Presentations
- Homework
- Hands on Software Exams
- Final Exam

X. Suggested Materials

Textbooks: *CompTIA i-Net+ Certification*, CompTIA Press, Thomson/Course Technology, © 2006, ISBN 1423914376

XI. Resources

- Computer access, RVCC2 server, Internet Browsers (e.g., Internet Explorer, Firefox, Mozilla, etc.)
- Software: Windows XP, Windows Server 2003, UNIX, Pipeline e-mail, PowerPoint, Word Objects, PHP, AJAX, Visual BASIC.Net. These packages may change from semester to semester.

These products may change from semester to semester.