

## COURSE DESCRIPTION

Dept., Number	<b>CSC 120</b>	Course Title	<b>Web Server Administration</b>
Semester hours	<b>3</b>	Course Coordinator	<b>Jinsong Ouyang</b>
		URL (if any):	<b><a href="http://gaia.ecs.csus.edu/~ouyang/">http://gaia.ecs.csus.edu/~ouyang/</a></b>

### Catalog Description

Managing and maintaining Web servers. Administering open source and commercial Web servers, Web hosting alternatives, professional standards and practices of website hosting, Web server installation, configuration, management, and security. Selecting and using technologies to support professional quality websites. Prerequisite: At least a C- grade in CSC 80.

### Textbook

Microsoft Official Academic Course, 70-290 Managing and Maintaining a Microsoft Windows Server 2003 Environment Package, [Textbook and Lab Manual with two CDS], Wiley, 2004.

### References

Apache.org and Microsoft.com websites.

### Course Goals

After completing this course, students will be able to:

1. Understand web hosting alternatives.
2. Deploy a website on a web server.
3. Understand the roles of common web technologies.
4. Install, configure and maintain the most common web servers.
5. Understand the client/server communication process.

### Prerequisites by Topic

*Thorough understanding of:*

- PC operation and file and folder creation.
- FTP Process using an FTP program or Web browser.
- Web page creation using HTML / XHTML and CSS.
- Basic understanding of file management commands in the Unix file system.

### Major Topics Covered in the Course

1. Unix file and system administration (2 hours).
2. Server side Web page processing alternatives (2 hours).
3. Using server side “includes” (2 hours).

4. Installing Web servers (3 hours).
5. Establishing and monitoring Web server security (5 hours).
6. The client / server communication process (2 hours).
7. Installing Web databases to support Web applications (2 hours).
8. Administering organizational units, users and groups (6 hours).
9. Domain Name System (DNS) and Active Directory (2 hours).
10. Creating and administering backup strategies (2 hours).
11. Using virtual directories and aliases (1 hour).
12. Managing custom error pages (1 hour).
13. Monitoring server performance (4 hours).
14. Server logs (3 hours).
15. Administering Simple Mail Transfer Protocol (SMTP) server (2 hours).
16. Administering File Transfer Protocol (FTP) Servers (4 hours).
17. Remote administration (2 hours).

## **Outcomes**

### *Thorough understanding of:*

- Web hosting alternatives.
- Administration and configuration of a major open-source Web server.
- Administration and configuration of a widely used commercial Web server.
- The client / server communication process.
- Server-side includes.
- User and group administration.

### *Basic understanding of:*

- Monitoring server performance and security.

### *Exposure to:*

- Server side programming options.
- Server hardware options (advantages and disadvantages).

## **Laboratory Projects**

1. Installing and configuring a Web server.
2. Utilization of server-side includes.
3. Web server administration.
  - a. Creating, managing, and using user accounts.
  - b. Creating, managing, and using user groups.
  - c. Monitoring performance.
  - d. Backing up and restoring data.
4. SMTP server administration.
5. FTP server administration.
6. Securing a Web server.

**Estimated Curriculum Category Content (Semester hours)**

<i>Area</i>	<i>Core</i>	<i>Advanced</i>	<i>Area</i>	<i>Core</i>	<i>Advanced</i>
Algorithms			Data Structures		
Software Design			Prog. Languages		
Comp. Arch.					

**Oral and Written Communications**

No significant component.

**Social and Ethical Issues**

The class thoroughly discusses website creation, including the following issues:

1. Privacy on the web.
2. Use of open-source technologies vs. commercial technologies.

**Theoretical Content**

No significant component.

**Problem Analysis**

Students analyze Web server and hosting alternatives.

**Solution Design**

Students analyze Web server and hosting alternatives.

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