

**Northwest Arkansas Community College**  
Business and Computer Information Systems Division

**Discipline Code**

NTWK

**Course Number**

2103

**Course Title**

Web Server Administration

**Catalog Description**

This course provides students with techniques for administering a web server in a Unix server environment. Emphasis is on DNS server configuration, installation and configuration of web server software, HTTPS configuration, network client management, email services, file sharing and FTP server environment, monitoring web server performance, and troubleshooting. Students completing this course will have begun the preparation necessary for success in the following industry recognized certifications: CompTIA Linux+ and LPIC-2 (Outside lab time will be required.)

**Prerequisites**

CISM 1313 Operating Systems – UNIX  
NTWK 2014 Networking and Information Systems

**Credit Hours**

3 credit hours

**Contact hours**

45 lecture/lab contact hours

**Load hours**

3 load hours

**Semesters Offered**

Fall, On Demand

**ACTS Equivalent**

N/A

**Grade Mode**

A-F

**Learning Outcomes**

Students will:

- Explain Domain Name Server.
- Modify DNS configuration files.

- Prepare DNS zone files.
- Use appropriate values for DNS records.
- Explain DNSSEC
- Install and configure a web server.
- Use SSL and HTTPS to secure data in transit.
- Describe a proxy server
- Install and configure a proxy server.
- Explain SAMBA file server.
- Explain Network File System
- Configure and use FTP services
- Describe network protocols for authentication and directory access.
- Describe network protocols for secure file transfer.
- Describe system security best practices for web servers.
- Install and configure an email server.
- Manage and administer routine web server functions
- Troubleshooting configuration errors and installation issues.

### **General Education Outcomes Supported—**

- Students can use computers proficiently.

### **Standard Practices**

#### **Topics list**

- DNS server configuration
- DNS zones and hints for root level servers.
- DNS records
- Secure exchange of data between DNS servers.
- DNSSEC
- Apache 2 install and configuration
- Virtual hosts
- Scripting languages
- Client user authentication
- SSL configuration
- Certificates
- Proxy server and reverse proxy server
- Nginx installation and configuration
- SAMBA server configuration
- NFS server configuration
- DHCP server configuration
- PAM configuration
- LDAP utilities for data management
- Email server configuration
- Filter, sort and monitor email.
- Install and configure IMAP and POP
- IPv4 and IPv6
- Routing tables
- IP forwarding and port redirection
- Securing FTP servers and SSH

- Security best practices
- Scan and test ports on a server
- Intrusion detection systems
- Configuration of VPNs

### **Learning activities**

- A virtual environment for activities, assignments and projects utilizing a popular UNIX operating system and network.
- This course requires some in class, hands-on work and also additional hands-on work in a virtual or on-campus computer lab.

### **Assessments**

- Homework
- Lab assignments
- Hands-On activities
- Quizzes
- Projects
- Exams

### **Grading guidelines**

- A = 90-100
- B = 80-89
- C = 70-79
- D = 60-69
- F = 59 & below

### **Revision Date**

May 20, 2020