Server and Cloud Application – Network Focus Learning Objectives

AUG 26, 2024

Pre-Requisites

College Algebra transcripts
or
Math placement test available online

Outcomes

- ❑ Analyze network architecture, standards, security & protocols
- ❑ Deploy Linux/Win OS apps
- ❑ Architect cloud solutions
- ❑ Develop skills in scripting & automation

Certification Opportunities*

CompTIA Network+

AWS certified Cloud Practitioner FOUNDATIONAL

* Two certification exam vouchers are included in lab fees. WAV2T reserves the right to change which certifications are included under the voucher program.

CSC 160: Introduction to Computer Software

- ❑ Describe and demonstrate basic algorithm development
- ❑ Understand basic computer processing, programming logic, and data structures
- ❑ Demonstrate the use of basic programming logic such as iteration/selection statements; arithmetic/conditional expressions; and functions/methods
- ❑ Demonstrate the use of basic data structures such as literals/strings/int/float and lists/tuples/sets/dictionaries
- ❑ Describe software, hardware processes including the binary/decimal/hexadecimal numerical systems
- ❑ Understand and demonstrate use of basic Linux CLI
- ❑ Understand and demonstrate concepts of software development/project collaboration platforms

CSC 330: Networking and Server Fundamentals

- ❑ Introduce the OSI Model
- ❑ Understanding; LAN, Wired & Wireless Networks, IP, & WAN
- ❑ Defining Network Infrastructure & security
- ❑ Install and configure DNS servers
- ❑ Create and configure DNS zones & records
- ❑ Install, configure and manage DHCP
- ❑ Implement: Network VPN connectivity solution
- ❑ IPv4/IPv6 addressing solutions, VLSM, subnetting
- ❑ Develop high-performance network solutions
- ❑ Identify scenarios/requirements for implementing SDN

CSC 395: Applied Network Concepts

CompTIA Network+ Exam Preparation

- ❑ Establish network connectivity by deploying wired and wireless devices.
- ❑ Understand and maintain network documentation.
- ❑ Understand the purpose of network services.
- ❑ Understand basic datacenter, cloud and virtual networking concepts.
- ❑ Monitor network activity, identifying performance and availability issues.
- ❑ Implement network hardening techniques.
- ❑ Manage, configure, and troubleshoot network infrastructure.

CSC 235: Introduction to Linux and Linux Administration

- ❑ Provision and maintain Linux Infrastructure
- ❑ Gain an understanding of Linux commands and architecture
- ❑ Work at the command line to install, update, and configure system components
- ❑ Learn standards and management for user and file permissions
- ❑ Understand fundamentals of system security, performance, and maintenance
- ❑ Explore the implementation of tools for automating these practices

CSC 331: Server Configuration and Management (IAM/Linux Admin LDAP/Active Directory)

- ❑ Install/config. domain controllers, AD CS, AD FS, & AD RMS
- ❑ Create/manage AD users, groups, OUs, & computers
- ❑ Configure service authentication & account policies
- ❑ Maintain Active Directory
- ❑ Understand LDAP and IAM with Linux Administration
- ❑ Configure AD in a complex enterprise environment
- ❑ Create and manage GPOs
- ❑ Config Group Policy processing, settings & preferences
- ❑ Manage certificates & Implement WAP

CSC 456: Configuring and Deploying Cloud Technologies

AWS Cloud Practitioner Exam Preparation

- ❑ Create and scale virtual machines
- ❑ Implement storage solutions
- ❑ Configure virtual networking
- ❑ Back up & share data using Data Services
- ❑ Connect to the cloud & on-premises sites
- ❑ AWS CDK
- ❑ AWS Identity and Access Management
- ❑ Monitor infrastructure
- ❑ Manage network traffic
- ❑ Secure identities

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Cybersecurity Administration – Learning Objectives

AUG 26, 2024

Pre-Requisites

College Algebra transcripts
or
Math placement test available online

And one of the following:
- 1 Year of IT experience
- CompTIA A, Network+, CCNA
- Graduate of the Wav2T SCA/CAD Program

Outcomes

- ❑ Understand physical security principles, Internet & wireless security
- ❑ Analyze user authentication, permissions, password & audit policies, encryption & malware
- ❑ Create dedicated firewalls, network isolation & protocol security
- ❑ Configure & protect cloud data stores & local databases
- ❑ Conduct security & risk assessments & system audits
- ❑ Create an incident response report
- ❑ Create a risk assessment report on a real-world business

Certification Opportunities*

CompTIA Security+

aws certified Cloud Practitioner FOUNDATIONAL

* Two certification exam vouchers are included in lab fees. WAV2T reserves the right to change which certifications are included under the voucher program.

CSC 160: Introduction to Computer Software

Python/PHP/Linux

- ❑ Describe and demonstrate basic algorithm development
- ❑ Understand basic computer processing, programming logic, and data structures
- ❑ Demonstrate the use of basic programming logic such as iteration/selection statements; arithmetic/conditional expressions; and functions/methods
- ❑ Demonstrate the use of basic data structures such as literals/strings/int/float and lists/tuples/sets/dictionaries
- ❑ Demonstrate scripting skills using tools such as Python/PHP/Bash
- ❑ Understand and demonstrate use of basic Linux CLI
- ❑ Understand and demonstrate concepts of software development/project collaboration platforms

CSC330: Network and Server Fundamentals

- ❑ Explain the concepts of computer networking, the protocols: TCP/IP & DHCP & NPS
- ❑ Understand Windows active directory
- ❑ Implement security configuration on network devices & other technologies;
- ❑ Explain the basic concepts of virtualization, virtual machines, and software defined networks
- ❑ Intercept & analyze network traffic
- ❑ Learn how to harden OS/Apps and secure networks from attacks
- ❑ Identify adversary threat vectors (tactics & against / using OSI level protocols)
- ❑ Understand Wireshark. Metasploit, Aircrack-ng, Nmap,

CSC 325: Computer Security

CompTIA Sec+ Exam Preparation

- ❑ Understand the computer security concepts of the CIA/DAD triad as well as the threats, vulnerabilities, and risk model
- ❑ Understand the strategic and operational security requirements protecting computing system infrastructure
- ❑ Understand the governance principles of computer security
- ❑ Identify and discuss malware and social engineering attack vectors and corresponding defensive controls
- ❑ Understand and explain secure network (including OS, apps, and website) and endpoint architecture design and operations
- ❑ Understand crypto logical concepts including PKI architecture and administration

CSC 455 Cloud Technologies

AWS Cloud Practitioner Exam Preparation

- ❑ Explain concepts of Identity Management, the Control Plane, Access Control to cloud/server architectures
- ❑ AAA: Authentication, Authorization, Accounting
- ❑ Cloud security/cloud service models/backup & log analytics
- ❑ Cloud gateways, Web App security, Firewalls & dealing with DDoS threats
- ❑ Cloud Disk & Storage Encryption
- ❑ Identify key legal/ethical/regulatory elements that underpin identity management, AC, & accountability

CSC 364: Cybersecurity Threat Intelligence

- ❑ Monitor use of data files and regulate access to safeguard information in computer files
- ❑ Demonstrate how NIST Cybersecurity Framework is used in planning/assessing info. sys. security plans/ programs
- ❑ Autopsy tools – digital forensics
- ❑ Monitor current report of viruses/understand when to update virus protection systems
- ❑ Reverse engineering (Ghidra)
- ❑ Research top 10 vulnerabilities according to OWASP
- ❑ Shodan.io, OSINT

CSC 426: Vulnerability Assessment:

- ❑ Relate organizational risk management to vulnerability assessment and risk mitigation
- ❑ Apply the concepts of threat modeling & threat surfaces to IT systems, public, private and hybrid cloud environments
- ❑ Explain architectural security elements OSI
- ❑ Monitor current report of viruses/understand when to update virus protection systems
- ❑ Conduct vulnerability assessments using CVE: Common Vulnerabilities and Exposure data, in conjunction with situation-specific threat modeling
- ❑ Develop and implement risk mitigation solutions to contain, eliminate or otherwise mitigate risks found in IT systems

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Professional Development

- The Career Development Managers (CDM) for the Washington Veterans to Tech (WaV2T) program are responsible for the job placement function for a cohort of WaV2T students.
- Our CDMs also maintain relationships with employers, and graduates of the WaV2T program, managing the social network of this specialized community.



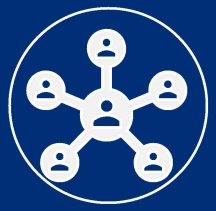
Resumes

- Translating military experience
- Personal assessment
- Target Resumes



Cover Letters

- Personalization
- Selling yourself



Virtual Presence

- LinkedIn
- Personal branding
- Social Media



Job Search

- Target job market
- Hiring managers
- Recruiters



Interview skills

- Research Company
- Mock Interviews
- Negotiations
- Job offers