Scaling Networks   2023-2024 Catal

[ARCHIVED CATALOG]

NETI 205 - Scaling Networks

PREREQUISITES: NETI 115 - Routing and Switching.
PROGRAM: Network Infrastructure
CREDIT HOURS MIN: 3
LECTURE HOURS MIN: 1.5
LAB HOURS MIN: 3
DATE OF LAST REVISION: Fall, 2014

Covers the architecture, components, and operations of routers and switches in a complex network. Students learn how to configure routers and switches for advanced functionality. Students will be able to configure and troubleshoot routers and switches and resolve common issues. Students will also develop the knowledge and skills needed to implement network services and protocols.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Configure and troubleshoot DHCP and DNS operations for IPv4 and IPv6.
2. Understand and describe the operations and benefits of the Spanning Tree Protocol.
3. Configure and troubleshoot Spanning Tree Protocol operations.
4. Understand and describe the operations and benefits of link aggregation and VLAN Trunk Protocol.
5. Configure and troubleshoot VLAN Trunk Protocol and Rapid Spanning Tree Protocol.
6. Configure and troubleshoot basic operations of routers in a complex routed network for IPv4 and IPv6.
7. Configure and troubleshoot advanced operations of routers and implement routing protocols for IPv4 and IPv6.
8. Manage Cisco IOS® Software licensing and configuration files.

COURSE CONTENT: Topical areas of study include -

- VLANs
- STP
- RSTP
- PVSTP
- EIGRP
- DHCP
- OSPF
- DNS
- Routing
- Cisco IOS 15 Licensing
- Link Aggregation
- VTP
- RIP
- IPv4
- IPv6

SOFTWARE REQUIREMENTS:

Face-to-Face Sections Lab requirements:

- Proctored Final Exam and Skills Exam, using an on-campus network lab or "Net Lab (NDG)" are required.
- Cisco' NetSpace Learning Management System.
- Wireshark packet analyzer (latest version).
- Cisco' Packet Tracer network simulator (latest version).
- Terminal Emulation Software.
  - Tera Term (latest version)
  - PuTTY (latest version)
- TFTP 32 (latest version)

CERTIFICATION/LICENSURE DISCLAIMER:

Ivy Tech cannot guarantee that any student will pass a certification or licensing exam. Your success will be determined by several factors beyond the instruction you are given in the classroom including your test-taking skills, your willingness to study outside of class, and your satisfactory completion of appropriate practice exams. Certification exam questions are drawn from databases of tens of thousands of possible questions and no two people are asked exactly the same progression of questions. Therefore, a thorough understanding of the subject matter is required. The goal of Ivy Tech in providing a certification exam studies class is to assist you in understanding the material sufficiently to provide a firm foundation for your studies as you prepare for the exam.

Course Addendum - Syllabus (Click to expand)