

Prepared by the Department of Business

Date of Departmental Approval: January 29, 2018

Date approved by Curriculum and Programs: March 7, 2018

Effective: Fall 2018

1. **Course Number:** BIT252 / BIT252L  
**Course Title:** Connecting Networks (Cisco 4)
2. **Description:** This course provides students with hands-on professional knowledge selecting, configuring and troubleshooting Wide Area Networking (WAN) technologies and network services using simulated and real equipment. Virtual Private Network (VPN) operations for complex networks are covered This is the second of two courses needed to prepare for the Interconnecting Cisco Networking Devices Part 2 (ICND2) and the last of four courses for the Cisco Certified Network Associate (CCNA.) (3 class hours/ 2 laboratory hours)
3. **Student Learning Outcomes (instructional objectives; intellectual skills):**  
Upon successful completion of this course, students are able to do the following:
  - Explain and describe different WAN technologies and their benefits
  - Paraphrase the operations and benefits of virtual private networks (VPNs) and tunneling
  - Explain, configure and troubleshoot serial connections
  - Interpret, configure and troubleshoot broadband connections
  - Summarize, configure and troubleshoot tunneling operations
  - Experiment, configure and troubleshoot Network Address Translation (NAT) operations
  - Monitor and troubleshoot network operations using syslog, SNMP, and NetFlow
  - Compare and describe network architecture: borderless, data centers and virtualization, and collaboration technology and solutions.
  - Identify and describe Dynamic Multipoint Virtual Private Networks (DMVPN)
  - Implement Point-to-Point over Ethernet (PPPoE)
  - Experiment with, configure and troubleshoot the External Border Gateway Protocol (eBGP)
  - Integrate LAN Security Best Practices into network configurations
  - Configure, analyze and troubleshoot using a Switched Port Analyzer (SPAN) on your switch
  - Collect and analyze information about network performance in real time using the Cisco Internet protocol service level agreement (IP SLA) feature
  - Demonstrate the use of the Cloud and Virtualization within a WAN environment
  - Configure network devices using network programming
  - Configure and troubleshoot Simple Network Management Protocol (SNMPv3) configurations
  - Display proficiency with various networking configurations and commands using different protocols that support WAN networks compliant with the Cisco Academy hands on requirements.
  - Write documentation responding to multiple networking questions and issues.
4. **Credits:** 4 credits
5. **Satisfies General Education Requirement:** No
6. **Prerequisite:** BIT249 (Scaling Networks (Cisco 3))
7. **Semester(s) Offered:** Varies
8. **Suggested General Guidelines for Evaluation:** hands on labs, simulated labs, homework, quizzes, final
9. **Content Outline of Course:** (Optional)