Montgomery County Community College
CIS 172 B
Connecting Networks (Cisco Semester 4)
3-3-2

CATALOG DESCRIPTION:
This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network.

REQUISITES:
Previous Course Requirements
- CIS 172 or Cisco Semester 3 from any authorized Cisco academy

Concurrent Course Requirements:
None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Understand and describe different WAN technologies and their benefits.	Lecture/Discussion Hands on Lab Exercises Homework Assignments Projects	Chapter Tests Written and Skills-Based Examinations
2. Understand and describe the operations and benefits of virtual private networks (VPNs) and tunneling protocols.	Lecture/Discussion Hands on Lab Exercises Homework Assignments Projects	Chapter Tests Written and Skills-Based Examinations
3. Configure and troubleshoot serial and broadband connections.	Lecture/Discussion Hands on Lab Exercises Homework Assignments Projects	Chapter Tests Written and Skills-Based Examinations
4. Monitor and troubleshoot network operations using Syslog, Simple Network Management Protocol (SNMP), and NetFlow.	Lecture/Discussion Hands on Lab Exercises Homework Assignments Projects	Chapter Tests Written and Skills-Based Examinations

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
5. Design network architectures for Borderless networks, Data centers and virtualization, and Collaboration technology and solutions.	Lecture/Discussion Hands on Lab Exercises Homework Assignments Projects	Chapter Tests Written and Skills-Based Final Examinations

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:
1. Hierarchical Network Design
2. Connecting to the WAN
3. Point-to-Point Connections
4. Frame Relay
5. Network Address Translation for IPv4
6. Broadband Solutions
7. Securing Site-to-Site Connectivity
8. Monitoring the Network
9. Troubleshoot the Network

LEARNING MATERIALS:
Required
Online curriculum from Cisco Academy web portal. Free for all students.

Optional
Connecting Networks Course Booklet, Cisco Press: ISBN: 9781587133305

COURSE APPROVAL:

Prepared by:	Alan Evans	Date: 3/2002
Revised by:	Alan Evans	Date: 2/2005
Revised by:	Jason Wertz	Date: 3/2008
Revised by:	Anil Datta	Date: 11/2013
VPAA/Provost or designee Compliance Verification:		
	Victoria L. Bastecki-Perez, Ed.D.	Date: 12/13/2013

This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.