

**CIS 58.81C Course Outline as of Spring 2011****CATALOG INFORMATION**

Dept and Nbr: CIS 58.81C Title: CISCO NETWORKING 3

Full Title: Cisco Networking 3

Last Reviewed: 3/26/2001

Units	Course Hours per Week		Nbr of Weeks		Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	2.00	8	Lab Scheduled	35.00
		Contact DHR	1.50		Contact DHR	26.25
		Contact Total	5.50		Contact Total	96.25
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 166.25

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

Third semester of Cisco's Networking Academy curriculum. Topics include further study of the OSI/ISO model, VLANs, LAN Network Design, IP Routing Protocols, Access Control Lists (ACLs), Cisco Routers in Netware Networks, Network Documentation, Network Security, Planning Structured Cabling, Network Performance, Server Administration, and Network Troubleshooting.

**Prerequisites/Corequisites:**

Course Completion or Current Enrollment in CIS 58.81B ( or CIS 84.81B)

**Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Third semester of Cisco's Networking Academy curriculum. Topics include further study of the OSI/ISO model, VLANs, LAN Network Design, IP Routing Protocols, Access Control Lists (ACLs), Cisco Routers in Netware Networks, Network Documentation, Network Security, Planning Structured Cabling, Network Performance, Server Administration, and

Network Troubleshooting. (Grade Only)

Prerequisites/Corequisites: Course Completion or Current Enrollment in CIS 58.81B ( or CIS 84.81B)

Recommended: Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

### **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

### **COURSE CONTENT**

**Outcomes and Objectives:**

The student will:

1. List the required IPX address and encapsulation type.
2. Configure IPX access lists and SAP filters to control basic Novell traffic.
3. Enable the Novell IPX protocol and configure interfaces.
4. Monitor Novell IPX operation on the router.
5. Describe the advantages of LAN segmentation.
6. Test LAN segmentation using bridges.
7. Test LAN segmentation using routers.
8. Test LAN segmentation using switches.
9. Examine and categorize two switching methods.
10. Describe full-and half-duplex Ethernet operation.
11. Analyze network congestion problem in Ethernet networks.
12. Analyze the benefits of network segmentation with bridges.
13. Analyze the benefits of network segmentation with routers.
14. Analyze the benefits of network segmentation with switches.
15. Analyze the features and benefits of Fast Ethernet.
16. Analyze the guidelines and distance limitations of Fast Ethernet.
17. Distinguish between cut-through and store-and-forward LAN switching.
18. Evaluate the operation of the Spanning Tree Protocol and its benefits.
19. Describe the benefits of virtual LANs.

**Topics and Scope:**

1. The OSI Reference Model and the Problems It Solves
  - a. The Physical Layer of the OSI Reference Model
  - b. The Data Link Layer of the OSI Reference Model
  - c. Routing and the Different Classes of Routing Protocols
  - d. The Transport Layer of the OSI Reference Model
2. Various LAN Communication Problems
3. Full-Duplex Transmitting, the Ethernet Standard, and LAN Segmentation
4. Switching and VLANs
5. The Spanning-Tree Protocol
6. VLANs
  - a. VLAN Implementation
  - b. Benefits of VLANs
7. LAN Network Design Goals and Components
  - a. Layer 1 Design
  - b. Layer 2 Design
  - c. Layer 3 Design
8. The Network Layer Basics
9. IP Routing Protocols
10. IGRP Operation
11. Access Control Lists (ACLs)
  - a. ACL Configuration Tasks
  - b. Standard ACLs
  - c. Extended ACLs
  - d. Named ACLs
  - e. Using ACLs with Protocols
  - f. Placing ACLs
12. Cisco Routers in Netware Networks
  - a. Novell Encapsulation
  - b. Novell Routing
  - c. Monitoring and Managing an IPX Network
13. Network Documentation
14. Network Security
15. Planning Structured Cabling: Identifying Potential Wiring Closets
16. Network Performance
17. Server Administration
18. Network Troubleshooting

**Assignment:**

1. Individual hands-on exercises to demonstrate each topic.
2. Reading approximately 50 pages weekly from the textbook.
3. Participate in class discussion topics.

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Quizzes, Exams, Hands-on computer exercises

Problem solving  
20 - 50%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

SET UP, MAINTAIN AND TROUBLESHOOT NETWORKS

Skill Demonstrations  
20 - 50%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion, PERFORMANCE EXAM(S)

Exams  
20 - 50%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

### **Representative Textbooks and Materials:**

"CCNA Guide to Cisco Networking Fundamentals", by Kurt Hobson  
- Course Technology 2000