## CIS 58.81B Course Outline as of Fall 2001

# CATALOG INFORMATION

Dept and Nbr: CIS 58.81B      Title: CISCO NETWORKING 2
Full Title: Cisco Networking 2
Last Reviewed: 3/19/2001

| 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:        CIS 84.81B

**Catalog Description:**
Second semester of Cisco's Networking Academy curriculum. Topics include WAN basics, router set up, startup, and configuration, Cisco user interface, troubleshooting.

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

**Recommended Preparation:**
Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:**

**Schedule of Classes Information:**
Description: Second semester of Cisco's Networking Academy curriculum. Topics include WAN basics, router set up, startup, and configuration, Cisco user interface, troubleshooting. (Grade Only)
Prerequisites/Corequisites: Course Completion or Current Enrollment in CIS 58.81A ( or CIS 84.81A)
Recommended: Eligibility for ENGL 100 or ESL 100
Limits on Enrollment:

Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

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

| | | | | |
|---|---|---|---|---|
| **AS Degree:** | **Area** | | Effective: | Inactive: |
| **CSU GE:** | **Transfer Area** | | Effective: | Inactive: |
| **IGETC:** | **Transfer Area** | | Effective: | Inactive: |
| **CSU Transfer:** | Transferable | Effective: | Spring 2001 | Inactive: | Spring 2011 |
| **UC Transfer:** | | Effective: | | Inactive: |

**CID:**

**Certificate/Major Applicable:**
Certificate Applicable Course

## **COURSE CONTENT**

**Outcomes and Objectives:**
The student will:
1. Describe WAN standards
2. Compare and contrast the WAN connection methods
3. Discuss WAN data link protocols
4. Describe the Wan physical layer
5. Describe the benefits of network segmentation with routers
6. List the elements of the Cisco user interface
7. Configure the HyperTerminal program to interface with the Cisco router
8. Describe the various router configuration modes
9. Describe the various router passwords
10. Apply the enhanced editing features of the Cisco IOS
11. Compare router components to typical PC components
12. Describe typical router setup and startup
13. Describe and use the Cisco Discovery Protocol (CDP)
14. Configure IP on the Cisco router
15. Configure the RIP and IGRP routing protocols
16. Given a situation, troubleshoot and correct router connectivity problems

**Topics and Scope:**

1. WAN Standards
   a. ISO
   b. ANSI
   c. EIA
   d. IETF (Internet Engineering Task Force)
   e. ITU-T (aka CCITT)
2. WAN connection methods and the pros and cons of each
   a. Dedicated point-to-

    b. Multipoint

    c. Multiaccess switched service

3. WAN data link protocols

    a. SDLC

    b. Peer Device Protocols (HDLC/PPP)

    c. Switched or Relayed Protocols.

4. WAN physical layer

    a. connections required

      1) customer location

      2) phone company location

      3) connection standards

5. Benefits of routing/network segmentation

6. Cisco user interface

    a. definition

    b. functions in terms of user and administrator

7. Interfacing the Hyperterminal program

    a. definition

    b. steps preparatory to using the program

    c. COM port settings

8. Router configuration modes

    a. global configuration mode

    b. Interface configuration mode

    c. line configuration mode

    d. router configuration mode

9. Router passwords

    a. enable password

    b. enable secret password

    c. terminal password

    d. AUX password

    e. virtual terminal password

10. Advanced editing features of the Cisco IOS

    a. key combinations

    b. command history

    c. configure time and date

    d. configure router identification

11. Router components

    a. ROM

    b. Flash Memory

    c. NVRAM

    d. NVRAM

    d. RAM/DRAM

    e. router interfaces

12. Router setup and startup

    a. Boot process

      1) POST

      2) load bootstrap

      3) locate and load Cisco IOS

      4) locate and load router configuration file

13. Cisco Discovery Protocol (CDP)

    a. data link layer sharing configuration information

    b. show cdp neighbor command and its details.

    c. information available .

    d.  no cdp enable command
    e.  show cdp interface command
14. Router configuration
    a.  When to setup IP on Cisco router
    b.  Parts of the IP configuration
    c.  Using ÷secondaryø
    d.  RIP
    e.  RGIP

## 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<br>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<br>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<br>20 - 50% |
|---|

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

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

| Exams<br>20 - 50% |
|---|

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

| |
|---|
| None |

| Other Category<br>0 - 0% |
|---|

**Representative Textbooks and Materials:**
"CCNA Guide to Cisco Networking Fundamentals" by Kurt Hudson
and Kelly Cannon - Course Technology 2000