CMIS 430 – Advanced Networking and Communication Systems
Professor’s notes*
As of July 9, 2007

*Note: All content is based on the professor’s opinion and may vary from professor to professor & student to student. All content may be changed without notice. This information is for the purpose to provide analysis but is not binding in any form.

From a Scale 1-10 (1 = low demands; 5 = moderate demands; 10 = very demanding), How would you rate the overall level of difficulty of this course?

Level of demand = 9
This course is technical, period. It has labs, it is intense reading, it has a lot of self-quizzing. It requires a very focused learner and is very time consuming.

From a Scale 1-10 (1 = low demands; 5 = moderate demands; 10 = very demanding), How would you rate the level of the reading requirements in this course?

Level of demand = 8+
This will depend on your experience level with Cisco routing.

From a Scale 1-10 (1 = low demands; 5 = moderate demands; 10 = very demanding), How would you rate the level of the lecture requirements in this course?

Level of demand = 8
Most of the material is in the text. Lecture notes are supplementary, but still very technical.

From a Scale 1-10 (1 = low demands; 5 = moderate demands; 10 = very demanding), How would you rate the level of the online exam requirements in this course?

Level of demand = 8
The online exams are difficult. They are open book but not simple.

From a Scale 1-10 (1 = low demands; 5 = moderate demands; 10 = very demanding), How would you rate the level of the discussion board requirements in this course?

Level of demand = 8
Three to five discussion board questions that all need original answers and responses for each unit. All are technical in nature.

From a Scale 1-10 (1 = low demands; 5 = moderate demands; 10 = very demanding), How would you rate the level of the written paper requirements in this course?

Level of demand = 3
Very limited. What is required however are labs, which is unique.

Additional comments:

The course is extremely well organized and broken into methodical digestible modules for the learners, but it is very heavy in reading and understanding technical jargon.

The course has a lab requirement.

Learners coming in with the most technical experience will have the easiest time digesting the information. There is homework, current event articles, and quizzes due at regular intervals.
Textbooks:


<table>
<thead>
<tr>
<th>WEEK</th>
<th>READING &amp; STUDY</th>
<th>LEARNING OUTCOMES</th>
<th>LEARNING ACTIVITIES</th>
<th>PERCENT OR POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chapter 1</td>
<td>B, H</td>
<td>Discussion Board 1</td>
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<tr>
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<td>Chapter 2</td>
<td>A, H, E</td>
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<td>Lab 1</td>
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<td>Chapter 3</td>
<td>B, I, D</td>
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<tr>
<td>4</td>
<td>Chapter 4</td>
<td>C, F, G</td>
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<td>A, D, F</td>
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<td>6</td>
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<td>E, F, I</td>
<td>Discussion Board 6</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Lab 2</td>
<td>25</td>
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<td></td>
<td></td>
<td>Test 2</td>
<td>15</td>
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<tr>
<td>7</td>
<td>Chapter 7, 8</td>
<td>C, H, I</td>
<td>Discussion Board 7</td>
<td>2.5</td>
</tr>
<tr>
<td>8</td>
<td>Chapter 9</td>
<td>I, H, G</td>
<td>Discussion Board 6 Test 3</td>
<td>2.5</td>
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<td></td>
<td><strong>TOTAL PERCENT OR POINTS</strong></td>
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COURSE SYLLABUS

CCIT
COURSE # CMIS430
COURSE TITLE: ADVANCED NETWORKING AND COMMUNICATION SYSTEMS

COURSE DESCRIPTION
A study of how to design, configure, maintain, and scale routed networks. Implements routing protocols such as RIPv2, EIGRP, OSPF, IS-IS, and BGP. Topics include: advanced IP addressing, routing principles, configuring EIGRP, OSPF, and IS-IS, manipulating routing updates, and configure basic BGP.

RATIONALE
The course focuses on introducing techniques and technology for Internet routing. The course was designed based on the content needed for the Cisco Certified Network Professional (CCNP®) exam. This course is not an approved Cisco course, but will provide students with practical information on all of the important concepts central to Internet routing, including basic and advanced BGP and OSPF, EIGRP, route reflectors, IP routing principles, and ISIS. The course will also provide students with online lab time for practice. The course instructs students on the use of advanced routing in implementing scalability for Cisco routers that are connected to LANs and WANs.

I. PREREQUISITES
CMIS 330 or consent of the instructor.

II. REQUIRED TEXTBOOK(S)

III. MATERIALS FOR LEARNING
A. Internet access (broadband recommended) and Microsoft Word
B. Textbook
C. Online lab (Available at http://www.cconlinelabs.com/). Contact the organization early on in the course and tell them you need a scheme for the CCNP configuration. Cost is as low as $2.50/hour and students can buy a block of time.
IV. **Measurable Course Objectives**

A. Learn to manage IP addresses by centralizing addresses, selecting and configuring the appropriate services.

B. Compare distance-vector and link-state protocol operation.

C. Design a scalable, routed network that includes link-state protocols, distance vector protocols, and path vector protocol.

D. Describe and practice the implementation of multihome interconnection, configure the routers to properly interconnect into the Internet using the online lab.

E. Design multiple routed and routing protocols; implement case studies that reflect a scalable internetwork.

F. Troubleshoot networks, and critique network designs using CCNP approved methodology.

G. Administer network devices, manage network environment providing interface needs to those who will use the computer network.

H. Demonstrate proficiency in the material covered and the ability to apply the material in networking system evaluation opportunities.

I. Assess the strengths and weaknesses of various networking systems and how network design impacts the services that utilize it.

V. **Course Requirements and Assignments**

A. Textbook readings

B. Discussion boards

Students are expected to answer each discussion board question by the third day of the week. All follow up posts (minimum of 2 per thread per learner per week) must be submitted by the last day of the unit.

C. Assignments – No assignment is accepted beyond the end of the course. Late assignments receive a 10% per day penalty for each day they are late. Assignments are midnight of your time zone into the assignment submission area on Blackboard.

D. Cisco Lab 1, Lab Companion

Perform exercises in lab 2.10.3 Using DHCP and IP Helper Addresses on page 33. You will need access to the Cisco lab. When you are finished, submit screen shot and answers to questions to the assignments area.

E. Cisco Lab 2, Lab Companion

Perform exercises in lab 5.7.1 EIGRP on page 67, and lab 6.9.5 Configuring an NSSA on page 109. You will need access to the Cisco lab.
When you are finished, submit screen shot and answers to questions to the assignments area.

F. Exams/Tests – Exams will be entirely online and are open book. The goal of the exam is to reinforce required, important material to help you achieve course objectives and prepare you for the CCNP examination, should you choose to take it. Exams will open on the first day of the unit, and will close on the last day. You must take the exam within the specified period of time. Exams may not be taken late.

VI. EVALUATION AND GRADING

A. Weight (or points)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Discussion Boards</td>
<td>20%</td>
</tr>
<tr>
<td>Cisco Lab 1</td>
<td>10%</td>
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<tr>
<td>Cisco Lab 2</td>
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<tr>
<td>Chapters 1-3</td>
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<td>Chapters 4-6</td>
<td>15%</td>
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<tr>
<td>Chapters 7-9</td>
<td>15%</td>
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</tbody>
</table>

B. Scale

A = 94–100       B = 86–93       C = 75–85       D = 68–74       F = 0–67
(Graduate)