Course Number: TCS-441/641
Course Title: Scalable Internetworks
Course Credits: 3
Semester: Fall 2008

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Catalog Description : One of three core courses for preparation for the Cisco CCNP and CCDP professional certification. Students will learn how to build scalable routable networks. Students are required to pass the associated Cisco certification examination.

Prerequisites: CCNA or TCS-145

Course Objectives:

1. List the key information routers need to route data
2. Describe classful and classless routing protocols
3. Given a pre-configured laboratory network, discover the topology, analyze the routing table and test connectivity using accepted troubleshooting techniques.
4. Given and IP address range, use VLSM to extend the use fo the IP addresses
5. Given a network plan that includes IP addressing, explain if route summarization is or is not possible
6. Configure and IP helper address to manage broadcast
7. Explain the advantages of OSPF over RIP in a large network
8. Configure and verify OSPF operation in single area
9. Describe the issues with interconnecting multiple areas and how OSPF addresses each.
10. Explain how OSPF supports the use of VLSM, and route summarization in multiple areas
11. Configure and verify OSPF operation in a multiple area environment
12. Describe EIGRP features and operation
13. Explain how EIGRP handles routes, VLSM, and route summarization
14. Describe how EIGRP supports large networks
15. Configure and verify EIGRP routing in a network
16. Describe BGP features and operation
17. Explain how BGP policy-based routing functions within and autonomous system
18. Configure and verify BGP operation within an autonomous system
19. Explain and configure different ways to control routing update traffic.
20. Given a set of network requirements, configure many of the features discussed it the course and verify proper operation of the routers

21. (Graduate) Identify and evaluate new and emerging technologies in scalable Internetworks.

Evaluation:

Labs/Homework: 30%

Practical final : 20%

Chapter quizzes: 25%

Exam 642-901: 25%

Exam 642-901 is the industry certification that goes along with this course. It will be the final exam in this course. Exam 642-901 must be completed by Friday December 19th at 2:00 p.m. Any test score turned in after 2;00 pm on 12/19/2008 will not be accepted and will receive a score of 0.

Grading:

Final Average	Final Grade
92-100	A
91-90	A-
87-89	B+
86-82	B
81-80	B-
79-77	C+
76-72	C
71-70	C-
69-68	D+
67-62	D
61-60	D-
<60	F

Late Assignments, missed examinations or other graded activities: All graded activities (examinations, laboratory activities, etc.) will be completed by the specified time or the student will receive a grade of ZERO. Quizzes will be taken at the beginning of class on the http://cisco.netacad.net site. You must be in class in order to take a quiz.

Laboratory Activities: Students are expected to be in lab on lab day in order to begin the lab, if you are not in class on that day you will not be given credit for the lab. Students should expect to spend additional time in the laboratory beyond scheduled class time. Open laboratory hours will be posted and announced the first week of the semester.

Information on accommodation of special needs, religious beliefs, and participation in University-Sanctioned Activities: Students should notify the instructor as soon as possible so prior arraignments could be made in accordance with university policy.

Procedures for notifying students of class cancellations: For non-school closing cancellations, a notice will be posted on the classroom door.

Attendance Policy: Attendance will be recorded each class period. If you are not in class you can't participate in the learning. You (the student) are responsible for all material assigned/presented regardless of attendance.

General Written Assignment Policy: *The APA Style Manual* will be used for all formal papers.

Academic Misconduct: Students are directed to the Student Handbook for academic conduct questions. Students are to do their own work, cheating on assignments, will result in a grade of zero for that assignment, cheating on a test will result in an F for the class. All cases of cheating will be reported to the chair of the Apparel, Communication and Technology Department for review, and possible further action as deemed necessary by the chair.

Laboratory Use: Open lab hours will be posted, not all lab assistants however will be able to answer questions. The illegal use of the computer network and computers will not be tolerated.

Reading & e-Reading Assignments: Students are expected to read each chapter/module prior to the date the material is presented in class.

You can login and read the material via our site: http://itm.uwstout.edu using your Stout email username/password or you can log into http://cisco.netacad.net using your Cisco Academy id and password.

Cell Phones Cell phone usage will not be permitted in class. Either silent your cell phone or turn the power off on your cell phone. The instructor realizes that there may be extenuating circumstances and you may have to leave your cell phone on for a phone call. If this is the case, please try to use vibrate mode. If you leave the ringer on, please silence the cell phone immediately. Please do not talk in the class room, kindly retire to the hallway to have your conversation. If you accidentally leave your phone on, please silence it immediately.