

Networking Systems Administration Department
Business/Public Service Division
GREENVILLE TECHNICAL COLLEGE

COURSE SYLLABUS

Course Title: Cisco Router Configuration

Course Number: IST 202

Lecture hours per week: 3.0

Lab/Clinic Hours:

Semester credit hours: 3.0

Prerequisite: IST 201

Catalog Course Description: This course is a study of LANs, WANs, OSI models, Ethernet, token ring, fiber distributed data interface, TCP/IP addressing protocol, dynamic routing, and the network administrator's role and function.

Purpose of the Course: This course provides the knowledge and concepts required to understand how to design and build networks and configure Cisco routers.

Required text(s) or other materials:

1. Routing Protocols and Concepts: CCNA Exploration Companion Guide, bundled with Routing Protocols and Concepts: CCNA Exploration Labs and Study Guide Cisco Press, 2008; ISBN: 0-131-357719
2. NOTE: Students in traditional classes must access Blackboard for course-related information. Students in hybrid and online classes will access their online content through Blackboard.

COLLEGE-WIDE STUDENT LEARNING OUTCOMES

1. **Communication** – Students will demonstrate the ability to use active reading and listening skills and to produce effective written and oral communication for varying audiences.
2. **Information Technology and Technological Literacy** – Students will demonstrate competency in using computer technology within a field of study.
3. **Critical Thinking/Reasoning** – Students will demonstrate the ability to apply the scientific method, mathematical processes, and research skills to analyze and solve problems/issues by using reflection and reasoning to justify conclusions.
4. **Professional and Personal Responsibility** – Students will demonstrate the ability to exhibit conduct, attitudes, and etiquette appropriate to the student's community and chosen career. Students will demonstrate the ability to manage time, to use effective interpersonal skills, and to display responsible behavior.

5. Diversity – Students will demonstrate the ability to recognize diversity and to demonstrate respectful conduct and attitudes toward all. Students will demonstrate the ability to explain how global issues impact life, work, and opportunities.

Approved March 26, 2009

NETWORKING SYSTEMS ADMINISTRATION PROGRAM STUDENT LEARNING OUTCOMES
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Upon successful completion of the Network Administration program, the graduate will be able to:

1. Set up, maintain, and troubleshoot computer and network hardware.
2. Install, maintain, and troubleshoot operating system and application software.
3. Construct and configure local area networks according to specification.
4. Administer and troubleshoot network operating systems.
5. Design and develop programming solutions to prescribed problems

Approved August 2009

IST 202 COURSE OUTCOMES

Students who successfully complete this course will have demonstrated a level of correct answers on the course assessment(s) that will be at least 80 percent for 80 percent of the course outcomes

1. The student will be able to install and configure dynamic routing protocols on a Cisco router.
2. The student will be able to explain the operations of static and dynamic routing.
3. The student will be able to explain and demonstrate Variable Length Subnetting.
4. The student will be able to explain packet propagation in a TCP/IP network.

The outcomes of the IST 202 course are intended to meet the Network Systems Administration program outcomes numbered 1, 2 and 3 above.

IST 202 – Main Topics

The following is a tentative schedule for the course. The instructor reserves the right to make schedule changes based on the needs of the students in the class.

Tutoring is now available in the Business Division Student Lab located on the Barton Campus in the Engineering Building (#103), Room 115. The hours for tutoring are posted in the lab (ET 115); no appointment is necessary. There are no fees required for this service.

Module 1 – Introduction to Routing and Packet Forwarding

- CLI Configuration and Addressing
- Building the Routing Table
- Path Determination and Switching Functions

Module 2 – Static Routing

- Routers and the Network
- Static Routes

Module 1 Test

Module 3 – Introduction to Dynamic Routing Protocols

- Classifying Dynamic Routing Protocols
- Metrics
- Administrative Distances

Module 2 Test

Module 3 Test

Module 4 – Distance Vector Routing Protocols

- Network Discovery
- Routing Table Maintenance
- Routing Loops

Module 4 Test

Module 5 – RIP Version 1

- Basic RIPv1 Configuration
- Verification and Troubleshooting
- Automatic Summarization
- Default Routes

Module 5 Test

Module 6 – VLSM and CIDR

- Classful and Classless Routing
- VLSM
- CIDR

Module 6 Test

Module 7 – RIPv2

- Configuring RIPv2
- VLSM and CIDR

Module 7 Test

Module 8 – The Routing Table
Routing Table Lookup Process
Routing Behavior

Module 8 Test

Module 9 – EIGRP
Introduction
Basic EIGRP Configuration
EIGRP Metric Calculation
DUAL

Module 9 Test

Module 10 – Link State Routing Protocols
Link-State Routing
Implementing Link-State Routing Protocols

Module 10 Test

Module 11 – OSPF
Introduction
Basic OSPF Configuration
OSPF Metric

Module 11 Test

FINAL WRITTEN EXAM – COMPREHENSIVE – COVERS ALL MODULES AND LECTURES
FINAL HANDS-ON SKILLS-BASED EXAM – COVERS ALL HANDS-ON LAB MATERIAL

This calendar is TENTATIVE. It is intended for planning purposes only and may be changed at anytime by the instructor.

Date	Day	Class	Schedule	Tests
10/11/10	Mon	1	Practice Lab Hand-out	
10/13/10	Wed	2	Module 1: Intro to Routing and Packet Forwarding	
10/18/10	Mon	3	Module 1 Labs Lab 1-1	
10/20/10	Wed	4	Module 2: Static Routing Lab 2-1	Test Mod 1

10/25/10	Mon	5	Module 3: Introduction to Dynamic Routing Protocols Lab 3-2	Test Mod 2
10/27/10	Wed	6	Module 4: Distance Vector Routing Protocols Lab 4-1	Test Mod 3
11/01/10	Mon	7	Module 5: RIP Version 1 Lab 5-1, 5-3	Test Mod 4
11/03/10	Wed	8	Module 6: VLSM and CIDR Activity 6-1, 6-3, 6-4	Test Mod 5
11/08/10	Mon	9	Module 7: RIPv2 Lab 7-1, 7-3	Test Mod 6
11/10/10	Wed	10	Module 8: The Routing Table Lab 8-1	Test Mod 7
11/15/10	Mon	11	Module 9: EIGRP Lab 9-1, 9-2	Test Mod 8
11/17/10	Wed	12	Module 10: Link-State Routing Protocol	Test Mod 9
11/22/10	Mon	13	Module 11: OSPF Labs: 11-1, 11-3	Test Mod 10
11/24/10	Wed		No Class - Thanksgiving	
11/29/10	Mon	14		Test Mod 11
12/01/10	Wed	15	Practice	
12/06/10	Mon		Final Exam Hands-on	

IST 202 – Course Specific Requirements

SPECIAL NOTE TO ONLINE STUDENTS: Online students will be REQUIRED to come to the Barton Campus to complete hands-on labs. The number of required on-campus meetings will vary from class to class. Students should plan on at least 2 to 3 meetings. Online students will be required to complete the labs to satisfactorily complete the course. Also, the final examination for online students will be administered on the Barton Campus. The final examination will be scheduled at a time determined by the administration.

IST 202 – EVALUATION AND GRADING INFORMATION

Grades for this course will be calculated as follows:

The Cisco curriculum is available at the web site cisco.netacad.net. The text is used as an enhancement to the online curriculum. The online curriculum and review quizzes can be accessed with your user name and password. To receive full benefit from the online curriculum, be sure to visit links recommended and review audio portions.

The final exam will consist of an online assessment and a skill based assessment.

Grading Policy

Unit Tests (Cisco Online)	50 percent
Class Assignments	10 percent
Final Examination (Cisco Online)	20 percent
Skills Based Assessment	20 percent

NOTE: ALL GRADED TESTS AND EXAMS ARE RETAINED BY THE INSTRUCTOR.

- All assignments (i.e., labs, projects, research papers, etc.) for this course must be completed and submitted to the instructor by the due date established in order to receive full credit for the assignment.
- Assignments not submitted by the due date can receive up to a maximum of 80 percent credit if it is submitted within one week of the due date.
- Assignments submitted after one week of the due date will have a zero (0) grade recorded for the assignment.
- In the event that an assignment is made less than one week prior to the end of the course, the assignment must be submitted by the last day of class prior to the beginning of the final exam period and will not be accepted late.

Final letter grades will be issued as follows:

A	=	90 - 100	points
B	=	80 - 89	points
C	=	70 - 79	points
D	=	60 - 69	points
F	=	0 - 59	points

READ THIS SYLLABUS CAREFULLY

You should read this syllabus carefully and ask your instructor about *any* aspects that you do not understand. The syllabus is an agreement between you and your instructor concerning course objectives, course content, grading, and other policies and procedures particular to this course. The above information is specific to the course. Three additional documents are provided as attachments and *are considered a part of this syllabus*:

Attachment 1:


Each instructor will provide a supplement to this syllabus. The supplement will include: a week-by-week plan of instruction based on the section in which you are enrolled; your instructor's name, office hours and/or office location; and your instructor's contact information and recommended best methods to contact your instructor.


Attachment 2:

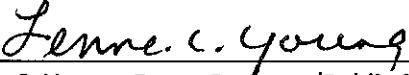
The Department responsible for developing and teaching has policies and procedures in place to assure quality instruction for all students. These are attached as "Departmental Policies and Procedures."

Attachment 3:

Please note that it is your responsibility to read the current Student Handbook included in Greenville Technical College's Catalog. (See website.) The Student Handbook addresses specific academic and student conduct policies and procedures. Excerpts from the Student Handbook representing the policies and procedures most often referred to in working with students are provided for your convenience as "Attachment 3."

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13 Aug 10
Date

This syllabus will remain in effect until revised or reviewed no later than August 2011.