SSC

SPARTANBURG
COMMUNITY
COLLEGE

CISCO TROUBLESHOOTING
Course Syllabus

Date   11/29/11

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COURSE NUMBER: IST 204

PREREQUISITE(S): IST 203 with a grade of C or better.

CO-REQUISITE(S): None

COURSE DESCRIPTIONS This course is a study of troubleshooting network problems.

TEXTBOOK(S): Accessing the WAN Course Booklet

ISBN: 1-58713-255-9, Cisco Press 2010

SSC customized lab manual available in Book-Inn

REFERENCE(S): Online curriculum, http://cisco.netacad.net

OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT: Notebook for homework and extra lab assignments

METHOD OF INSTRUCTION: Lecture/lab projects

GRADING SYSTEM:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
60	-	69	=	D
Below	-	60	=	F

The standard mathematical procedure of rounding will be applied to arrive at a whole number percentage in final grade calculation.

GRADE CALCULATION METHOD:

Online tests	=	30%
Labs/Packet Tracer activities	=	30%
Online Final Exam	=	20%
Skills Based Final Exam	=	20%
	=	100%

ATTENDANCE POLICY:

The student is responsible for punctual and regular attendance in all classes, laboratories, clinical, practica, internships, field trips, and other required class activities. The College does not grant excused absences; therefore, students are urged to reserve their absences for emergencies. When illness or other emergencies occur, the student is responsible for notifying instructors and completing missed work if approved for late submission by instructors.

The student is tardy if not in class at the time the class is scheduled to begin and is admitted to class at the discretion of the instructor.

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student enrolling in and attending at least one course session remains enrolled until the student initiates a withdrawal.

Withdrawal Policy: During the first 75% of the course, a student may initiate withdrawal and receive a grade of W. A student cannot initiate a withdrawal during the last 25% of the course. Extenuating circumstances require documentation and approval by the appropriate department head and academic dean.

Absences for Religious Holidays: Students who are absent from class in order to observe religious holidays are responsible for the content of any activities missed and for the completion of assignments occurring during the period of absence. Students who anticipate their observance of religious holidays will cause them to be absent from class and do not wish such absences to penalize their status in class should adhere to the following guidelines:

1. Observance of religious holidays resulting in three or fewer consecutive absences: Discuss the situation with the instructor and provide written notice at least one week prior to the absence(s). Develop (in writing) and instructor-approved plan which outlines the make up of activities and assignments.

2. Observances of religious holidays resulting in four or more consecutive absences: Discuss the situation with the instructor and provide the instructor with written notice within the first 10 days of the academic term. Develop an instructor-approved plan with

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outlines the make up of activities and assignments.

CLASSROOM CONDUCT:

ACADEMIC DISHONESTY: Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

CELLULAR PHONES AND PAGERS/BEEPERS: Cellular phones, pagers and beepers are not permitted to be turned on or used within the classroom. Use of these devices during classroom time will be considered a violation of the student code as it relates to "disruptive behavior."

CLASS/LAB PROCEDURES:

The Cisco curriculum is available at the web site http://www.CISCO.com/web/learning/netacad/index.html . 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 recommended links, review audio portions and complete e-learning activities.

Lectures/labs will start at the beginning of class. The lecture/lab will be over the topics designated on the daily assignment table.

Online module tests will be completed outside of class. You may complete them at home or somewhere else on campus. Once you begin a test, you have 1 hour to complete it. So – be sure to have completed your studying and have your notes organized before beginning the test. Days and times of test activation will be determined in class.

Final assessment in this class consists of two parts, an online final and a skills-based exam. The skill-based exam is an individual test. The grade is based on the number of points earned during a 90-minute testing period including the set up, testing and debugging of a Class B network using routers, switches, VLANs, NAT, ACLs, and a WAN technology such as frame relay.

The Learning Center, located in the rooms E-2 & E-5 of the East Building, provides computers for your use. Check the website http://www.sccsc.edu/resources/tutoring/tlc or call 592-4968 for current semester operating hours.

ACCOMMODATIONS: Students who need special accommodations in this class because of a documented disability should notify Student Disability Services by calling (864) 592-4818, toll-free 1-800-922-3679; via email through the SCC web site at www.sccsc.edu/resources/disabilities; or by visiting the office located in the East Building Room 30-B on the SCC Central campus. Contacting Student Disability Services early in the semester gives the College an opportunity to provide necessary support services and appropriate accommodations.

Inclement Weather Schedule:
• Check SCC Web Site: www.sccsc.edu
• Tune to **Channel-7** Local T.V. Station (CBS)
• Tune to an FM/AM Local radio station

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COURSE OUTCOMES & OBJECTIVES: **Upon satisfactory completion of this course, the student will be able to:**

I. Describe techniques to scale IP addresses.
   1. Configure and verify NAT and PAT.
   2. Troubleshoot NAT and PAT.
   3. Configure and verify DHCP.
   4. Troubleshoot DHCP.

II. Describe WAN technologies.
   1. List WAN standards.
   2. Name WAN encapsulation types.
   3. Differentiate between packet-switched and circuit-switched technologies.

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III. Set up a network using Point-to-Point Protocol.
1. Configure and verify PPP.
2. Configure PPP authentication.

IV. Set up a network using frame relay.
1. Configure frame relay.
2. Understand LMI (Local Management Interface) features.

V. Explain important aspects of network security.
1. Identify security threats to enterprise networks.
2. Configure basic router security.
3. Disable unused router services and interfaces.

VI. Set up a network using Access Control Lists to filter traffic on a network.
1. Configure standard and extended access control lists to apply security to a network.
2. Monitor and troubleshoot ACL issues.

VII. Describe the enterprise requirements for providing teleworker services.
1. Explain the differences between private and public network infrastructures.
2. Describe how VPN technology can be used to provide secure teleworker services.

VIII. Configure a new generation of RIP routing protocol to use IP version 6.

IX. Describe various troubleshooting techniques and troubleshooting tools.
1. Establish and document a network baseline.

X. Demonstrate the ability to work with individuals possessing different opinions and abilities to accomplish a task within an assigned time.

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