ITCC 2477 – 83352
CCNA R & S Connecting Networks
(CCNA 4)
Spring 2017
March 21 – May 11, 2017

Instructor: Terry Ting
Office: D229
Office Hours: 8:30 a.m. – 4:30 p.m. Monday through Friday
Phones: 972-238-6281 (Office)
E-mail: tting@dccc.edu

Course Description:
This course introduces the WAN technologies and network services required in enterprise networks. The course is based on the Cisco Network Architecture used in integrating network services and in explaining how to select the appropriate devices and technologies to meet network requirements. Students will learn how to implement and configure common data link protocols and how to apply WAN security concepts, principles of traffic, access control, and addressing services to bring about efficiency, productivity and security. Finally, student will learn how to observe, detect, troubleshoot, and correct common implementation issues in enterprise networks.

This course covers the following topics:
- Hierarchical Network Design
- Connecting to the WAN
- Point-to-Point Connections
- Frame Relay
- Network Address Translation for IPv4
- Broadband Solutions
- Securing Site-to-Site Connectivity
- Monitoring the Network
- Troubleshooting the Network

Prerequisites:
Cisco CCNA 1 (Introduction to Networks), CCNA 2 (Routing and Switching Essentials), and CCNA 3 (Scaling Networks)

Class Schedule:
Lecture: T R 05:30 p.m. – 08:25 p.m. Room: D105
Lab: T R 08:30 p.m. – 11:05 p.m. Room: D105

Credit Hours: 4.00
Learning Outcomes:
The Cisco CCNA R & S: Connecting Networks curriculum provides a comprehensive overview of networking; from fundamentals to advanced applications and services. It is based on a hierarchical approach to network design. This course emphasizes theoretical concepts and practical application, while providing opportunities for students to gain the skills and hands-on experience needed to design, install, operate, and maintain networks in small-to-medium businesses, as well as enterprise and service provider environments.

CCNA R & S offers in-depth theories, challenging labs, and a detailed overview of protocol operations. It is designed for students with advanced problem-solving and analytical skills who would like to advance their careers in networking or gain a CCNA professional certification.

Upon completion of this course, the student will be able to perform tasks including:

- Understand and describe different WAN technologies and their benefits
- Understand and describe the operations and benefits of virtual private networks (VPNs) and tunneling
- Understand, configure, and troubleshoot serial connections
- Understand, configure, and troubleshoot broadband connections
- Understand, configure, and troubleshoot tunneling operations
- Understand, configure, and troubleshoot Network Address Translation (NAT) operations
- Monitor and troubleshoot network operations using syslog, SNMP, and NetFlow
- Understand and describe network architectures:
  ◦ Borderless networks
  ◦ Data centers and virtualization
  ◦ Collaboration technology and solutions

Textbook and Materials:
1. On-line course materials
3. One set of earphones for on-line multimedia presentation
4. One folder/notebook for lab notes
5. One USB flash drive

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* This is the book for Version 6 curriculum:
Course Evaluation:
Attendance and teamwork ........ 10%
On-line chapter exams .......... 15%
On-line final exam .............. 20%
Lab exercises .................... 25%
Skills-based final exam ......... 30%
Total .............................. 100%

The final course grade is determined as follows:
A ................................. 90 – 100%
B ................................. 80 – 89%
C ................................. 70 – 79%
D ................................. 60 – 69%
F ................................. 59% and below

Course Requirements

Attendance:
This class requires 100% attendance. You are expected to attend class regularly. Please notify me if you will be absent.

Attendance:
If you are unable to complete this course, you must withdraw by Saturday, April 29, 2017. A grade of W will be assigned. Withdrawing from a course is a formal procedure, which you must initiate. I cannot do it for you. If you stop attending and do not withdraw from the class, you will receive a grade of F.

Before dropping, please be sure to refer to the topic Stop Before You Drop under the section titled Institution Policies of the College Policies shown at the end of this syllabus. I hope you will discuss your plans with me if you are considering withdrawing from this course.

Teamwork:
As in any organization, students should portray themselves as capable of working as a team. The lab setting is such that students will work as teams of various sizes in engaging the assigned labs. Cooperation and agreements are expected for the successful performance of the team.

Class Participation:
This is an important part of this course. Your active participation is required to ensure successful assimilation of the course content. You are expected to have read the material scheduled before coming to class. The time in class should ideally be spent on reviewing the curriculum, taking the on-line chapter tests and performing the scheduled lab
assignments. The on-line curriculum can be accessed at any time via the Internet with your login and password. Plan for a full class time of group work, lab and lecture.

There are four tasks that are required to complete this class. These are:

**Required Labs:**
The labs designed for this course form an essential part of Cisco curriculum delivery and the class grade. They help reinforce as well as build the skills necessary in a successful skills-based final exam. You are required to do these labs as good and as thorough as possible. Preferably, labs should be done after having read the on-line curriculum for that particular topic. At the end of the course, you will turn in the lab book, which will contain your notes and observations on completed lab assignments.

Students are encouraged to work on the labs specifically assigned to primarily enhance understanding and to consequently become more proficient in applying commands and in configuring network devices. To complete this requirement, all these labs once done will have to be uploaded to a dropbox set up on eCampus. The submission procedure is laid out in detail in a document separately uploaded onto eCampus.

**Online Chapter Exams:**
These exams will be activated during the class period and have to be taken in class by the date specified. No notes of any kind are allowed during the testing session. Test scores will be electronically recorded and tracked. They can be viewed on-line through the student’s Gradebook. All the exams have to be taken without any exception.

**Online Final Exam:**
This exam will be comprehensive and must be taken on the scheduled date. Notes are not allowed in this exam. If you cannot take this exam on that scheduled date, please contact me beforehand. Another alternate day and/or time will be arranged for you.

**Skills-Based Final Exam:**
The knowledge and skills built up from studying the curriculum and in doing the assigned labs and case studies will only sufficiently provide the basis for a successful performance of this exam. Students will be allowed to take this exam only after

- having satisfactorily completed and submitted all the assigned labs, and
- having completed all the on-line chapter exams.

This skills-based final exam will be conducted individually and by appointment. Some “hand-written” notes relating to the concepts from the course materials are allowed during the exam session. Time limit will be specified beforehand. Once successfully completed and approved, this exam will have to be uploaded to a dropbox set up on eCampus. The submission procedure is explained in a separate document uploaded on eCampus.
### College Policies:

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<tr>
<th>Institution Policies</th>
<th><a href="http://www.richlandcollege.edu/syllabusinfo/syllabiInformation.pdf">www.richlandcollege.edu/syllabusinfo/syllabiInformation.pdf</a></th>
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<tr>
<td><strong>Stop Before You Drop</strong></td>
<td>For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a “W”. Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access <a href="https://www1.dcccd.edu/6drop">https://www1.dcccd.edu/6drop</a>.</td>
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<td><strong>Withdrawal Policy</strong></td>
<td>If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar’s Office by the official drop date for this course (see Course Drop Date mentioned earlier in this syllabus). Failure to do so will result in your receiving a performance grade, usually an “F.” If you drop a class or withdraw from the college before the official drop/withdrawal deadline, you will receive a “W” (Withdraw) in each class dropped. For more information about drop deadlines, refer to the current printed Credit Class Schedule, contact the Admissions/Student Records office at 972-238-6100 or 6101 (Thunderduck Hall, T170), or contact the division office.</td>
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<td><strong>Repeating a Course</strong></td>
<td>Effective for Fall Semester 2005, the Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. All third and subsequent attempts of the majority of credit and Continuing Education/Workforce Training courses will result in additional tuition to be charged. Developmental Studies and some other courses will not be charged a higher tuition rate. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 Semester. See Third Attempt to Enroll in a Course at <a href="http://www.dcccd.edu/thirdcourseattempt/">http://www.dcccd.edu/thirdcourseattempt/</a>.</td>
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<td><strong>Financial Aid</strong></td>
<td>If you are receiving any form of financial aid, you should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate after the drop date are also subject to this policy.</td>
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<td><strong>Academic Honesty</strong></td>
<td>Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct <a href="http://www.richlandcollege.edu/conduct">http://www.richlandcollege.edu/conduct</a>.</td>
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<td><strong>ADA Statement</strong></td>
<td>If you are a student with a disability and/or special needs who requires accommodations, please contact the college Disability Services Office at 972-238-6180 (Voice/TTY), visit Thunderduck Hall, suite T120, or go <a href="http://richlandcollege.edu.dso">http://richlandcollege.edu.dso</a>.</td>
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<td><strong>Religious Holidays</strong></td>
<td>Absences for observance of a religious holy day are excused. A student whose absence is excused to observe a religious holy day is allowed to contract with the instructor to take a make-up examination or complete an assignment within a reasonable time after the absence.</td>
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<td><strong>Campus Emergency Operation Plan And Contingency Plan</strong></td>
<td><strong>Campus Emergency Operation Plan:</strong> Richland College and the Dallas County Community College District have developed policies and procedures for dealing with emergencies that may occur on campus. 1. To familiarize yourself with these procedures, please take time to watch the overview video: <a href="http://video.dcccd.edu/rtv/DO/emergency_dcccd.wmv">http://video.dcccd.edu/rtv/DO/emergency_dcccd.wmv</a> 2. The complete Emergency Operations Plan can be viewed and printed at the following website:</td>
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If you have questions or concerns, please contact the Richland College Office of Emergency Management. This office can be reached by phone (972/238-3794) or by e-mail (rlcoem@dcccd.edu)

**Contingency Plan:** Richland College has developed an Instructional Contingency Plan for Temporary College Closing for On-Campus Courses. Please discuss this contingency plan with your instructor.

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<th>Classroom Policies: Food, drink, cell phones, etiquette, etc.</th>
<th>Instructional staff are responsible for setting policy regarding use of food, drink and cell phones in each class they teach. Faculty will include a statement in course syllabi detailing their policy. Exceptions: This right does not extend to classrooms/areas with or near computers, lab materials, equipment, and/or college-owned books—these are restricted from food and drink.</th>
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<td>Disclaimer Reserving Right to Change Syllabus</td>
<td>The instructor reserves the right to amend a syllabus as necessary.</td>
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Notes:
1. Students should read the curriculum **before** coming to class.
2. The online curriculum version is 5.03 - CCNA R & S Connecting Networks.
3. These are all available hardware labs.
4. These are all available Packet Tracer labs.