Flex Term meets 1/20/15—3/19/15

Course Description:

This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Detailed explanations of LAN switch operations, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are introduced. Licensing/Certification Agency: Cisco Corporation. (3 Lec., 4 Lab.)

Prerequisite: ITCC 1404 or instructor approval.

Learning Objectives: Upon completion of the Scaling Networks, students will be able to perform the following tasks:

- Describe hierarchical network in small business
- Explain recommendations for designing a scalable networks
- Describe features in switch hardware to support small to medium sized business
- Describe types of routers for small to medium sized business networks
- Explain LAN redundancy and issues that you should be concerned with implementing a Redundant networks
- Explain STP Spanning Tree Protocol, its operation and configuration,
- Describe First Hop Redundancy Protocol, its operation, configuration and variety
- Explain LAN aggregation protocol, operation and configuration.
- Describe Wireless LAN technologies, concepts, and configuration.
- Describe Single-Area OSPF concepts, operations, configuration, adjusting and troubleshooting.
- Describe Multi-Area OSPF concepts, operations, configuration, and route summarization.
- Describe EIGRP concepts, operations, and configurations
- Describe EIGRP advanced configurations and troubleshooting.
- Explain IOS images, Licensing and management.

Required / Recommended Textbooks and Materials

Online Curriculum Scaling Networks http://www.netacad.com

Scaling Networks Companion Guide
Print: 9781587133282 / eBook: 9780133476408
Scaling Networks Lab Manual
Print: 9781587133251

Course Outline: The following modules will be covered in the course.
Chapter 1. Introduction to Scaling Networks
Chapter 2. LAN Redundancy
Chapter 3. LAN Aggregation
Chapter 4. Wireless LANs
Chapter 5. Adjust and Troubleshoot Single-Area OSPF
Chapter 6. Multi-Area OSPF
Chapter 7. EIGRP
Chapter 8. EIGRP Advanced Configurations and Troubleshooting
Chapter 9. IOS Imaging and Licensing

Evaluation
Students will be evaluated on their performance in the course. The final grade will be based upon the elements and weights listed here. The accumulated weighted percentages will determine the grade based on the familiar grade scale.

Must complete Cisco’s on line feedback
Must take and pass hands-on skill test at 70% or higher
Must pass Cisco Online Final at 70% or higher

Notice: A minimum score of 70% is required on both the Hands-on Skills Exam and the On-Line Final Exam to pass this course. This is a Cisco Academy requirement. Students scoring less than 70% will be offered an opportunity to retake an exam.

<table>
<thead>
<tr>
<th>Description</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Labs and Exercises</td>
<td>20%</td>
</tr>
<tr>
<td>On-line Exams</td>
<td>20%</td>
</tr>
<tr>
<td>Hands on Lab Final</td>
<td>30%</td>
</tr>
<tr>
<td>On-line Comprehensive Final Exam</td>
<td>30%</td>
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</tbody>
</table>

The final grade is determined as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100%</td>
</tr>
<tr>
<td>B</td>
<td>80-89%</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79%</td>
</tr>
<tr>
<td>D</td>
<td>60-69%</td>
</tr>
<tr>
<td>F</td>
<td>59% and below</td>
</tr>
</tbody>
</table>

Class Attendance and Participation:

Classes for this course, ITCC2408 section 83701 and ITCC-2008-82001 meet on Tuesday, and Thursday at 5:40PM to 11:05 PM each week. Beginning on 1/20/15—3/19/15.

You should read and review the material for the class session prior to the class meeting. This class curriculum is provided on-line at [http://www.netacad.com](http://www.netacad.com). Students will find it convenient to access the Internet at any time from any location to view the materials. There are a number of Labs to be completed in this class. Students must allocate significant time outside the class room in order to complete the required reading, perform the labs, and accomplish the learning.

Your ability to work with people and contribute to a team is an integral part of the business world. Students in this class will participate in team assignments and in a cooperative learning environment.

Last date to drop with a “W” is January 27th, 2015.
Failure to withdraw by the withdrawal date could result in a grade of F.
Class attendance and participation in class discussions are an important part of this course. Students are expected to attend classes regularly and in a timely fashion. As with any course, preparation is essential. You should read and review the material for the class session prior to the class meeting. This class curriculum is provided on-line. Students will find it convenient to access the Internet at any time from any location to view the materials.

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.

Packet Tracer:
Packet Tracer is very powerful network simulation software that is provided without charge via download from the Cisco Academy website. The link to the download site is on the right side of the initial login screen at http://www.netacad.com. The proficient use of Packet Tracer is fundamental to successfully completing the CCNA curriculum.

On-line 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 chapter exams have to be taken without any exception.

Final Exam:
This exam will be comprehensive and must be taken on the scheduled date. Prior to taking this exam, all chapter tests would have to be completed. Notes are not allowed in this exam. If you cannot take this exam on that scheduled date, please contact me beforehand.

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 tests.

This skills-based final exam will be conducted individually and by appointment. Some “hand-written” notes relating to the curriculum are allowed during the exam session. Time limit will be specified beforehand.

Environment
No food, drinks, or tobacco will be permitted in the classrooms. Students are expected to maintain proper classroom decorum at all times. D257 can be used for your online work on non-class days and before normal class begins. See personnel at counter D229 for details.
Cooperative Learning

Cooperative Learning is the instructional participation in small groups, allowing students to work together to maximize the quality of their own instruction and that of the other group members. The objective is to produce a higher academic achievement and build more positive relationships among the students than would be possible outside this environment. This will result in valuable preparation for the student in the business world.

The Journal

Student reflection is an important element of instruction that takes a short time for each lesson and helps the students analyze their own learning and become more responsible for their learning.

A crucial element in a lesson is the student reflection. During the reflection the student thinks back upon some aspect of the lesson and writes a reaction to that aspect in the Journal. Reflection helps the students analyze their own learning. The process of reflection helps the student in moving the learning from short term to long-term memory. After each lesson, reflection is done in one or more of the following categories:

- Content
- Product
- Process
- Progress

The result of reflection often is goal setting for future learning.

The following elements are present in reflection:

- Key ideas from class presentations, discussions, lesson content, and activities in terms of content, process, product, or progress.
- A personal analysis of showing a connection with the purpose of the content.
- Questions or statements that indicate a requirement for further clarification or inquiry.
- Attention to the process involved in accomplishing an important task or product.
- Specific applications of what is being learned to other content or subjects demonstrating the connections between concepts or content.
- Thoughtfulness as reflected in goals for improvement and/or another action that demonstrates the application of learning to self.

For Financial Aid

“If you are receiving Financial Aid grants or loans and are enrolled in a Distance Learning class, you must show participation in this class prior to the certification date by either e-mailing/contacting the instructor or logging on to eCampus. Do not drop or stop attending any class without consulting the Financial Aid Office. Changes in your enrollment level and failing grades may require that you repay financial aid funds.”

For All Other Classes:

“If you are receiving Financial Aid grants or loans, you must begin attendance in all classes prior to the certification date. Do not drop or stop attending any class without consulting the Financial Aid Office. Changes in your enrollment level and failing grades may require that you repay financial aid funds.”

Open Lab Date, Hour & Location

Monday ~ Friday, 1:00PM ~ 5:00PM & D105.
Saturday 10:00AM ~ 4:00PM
Sunday 1:00PM ~ 5:00PM
Phone: 972-238-6317
Please call to verify

Class Schedule:
Lecture: T TH 05:40 p.m. – 08:25 p.m. Room: D105
Lab: T TH 08:30 p.m. – 11:05 p.m. Room: D105

Tentative Schedule

The students will be required to complete an exam at the end of each chapter.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Lecture / Lab</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>T 1/20</td>
<td>Introduction to Course</td>
</tr>
<tr>
<td>2</td>
<td>TH 1/22</td>
<td>Chapter 1, Exercises, and Labs</td>
</tr>
<tr>
<td>3</td>
<td>T 1/27</td>
<td>Chapter 2, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>4</td>
<td>TH 1/29</td>
<td>Chapter 2, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>5</td>
<td>T 2/3</td>
<td>Chapter 3, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>6</td>
<td>TH 2/5</td>
<td>Chapter 4, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>7</td>
<td>T 2/10</td>
<td>Chapter 5, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>8</td>
<td>TH 2/12</td>
<td>Chapter 6, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>9</td>
<td>T 2/17</td>
<td>Chapter 7, Exercises, Labs, and Exams</td>
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<tr>
<td>10</td>
<td>TH 2/19</td>
<td>District Conference (No Class)</td>
</tr>
<tr>
<td>11</td>
<td>T 2/24</td>
<td>Chapter 8, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>12</td>
<td>TH 2/26</td>
<td>Chapter 8, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>13</td>
<td>T 3/3</td>
<td>Chapter 9, Exercises, Labs, and Exams</td>
</tr>
<tr>
<td>14</td>
<td>TH 3/5</td>
<td>Review (Spring break for a next week)</td>
</tr>
<tr>
<td>15</td>
<td>T 3/17</td>
<td>Skill Final</td>
</tr>
<tr>
<td>16</td>
<td>TH 3/19</td>
<td>Comprehensive Final</td>
</tr>
</tbody>
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Institution Policies

[www.richlandcollege.edu/syllabusinfo/syllabusinformation.pdf](http://www.richlandcollege.edu/syllabusinfo/syllabusinformation.pdf)

Classroom Policies:
Food, drink, cell phones, etiquette, etc.

Richland College policy states that food, drink (including water bottles), and smoking are not allowed in classrooms. All food and drinks will be confiscated in the classroom. Children are not permitted in the labs or classrooms at any time. No pagers, beepers, or telephones. **Please turn cell phones off when you are in the classroom and lab.**

Disclaimer Reserving Right to Change Syllabus
The instructor reserves the right to amend a syllabus as necessary.

DCCCD/Richland College Emergency Phone Number
972-860-4290