ITCC 1401 - Cisco Routing and Switching 1: Introduction to Networks

HOUSTON COMMUNITY COLLEGE SYSTEM
Computer Science Technology Department
Houston Community College System
Department Website: http://csnw.hccs.edu

CRN: 89498             Semester: Spring 2016
CAMPUS: Spring Branch  DAY/TIME: Wednesday 6pm-10pm
Room: SB120             
Instructor: Sean Otmishi

Email Address: sean.otmishi@hccs.edu

Office Hours:
Spring Branch Room AD3 – Email me first, to see when I will be in the room.

ITCC 1401 – Cisco Routing and Switching 1: Introduction to Networks
Prerequisite: BCIS 1405 or COSC 1436 or Department Approval
Credit: 4 (3 lecture, 3 lab)
Web-Enhanced Course – 4 hours in class and 2 hours online

Course Description: A course introducing the architecture, structure, functions, components, and models of the internet. It also describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and physical layers. The course covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes.

Student Learning Outcome:
- Understand and describe the devices and services used to support communications in data networks and Internet.
- Understand and describe the role of protocols layers in data networks.
- Understand and describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments.
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- Design, calculate, apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks.
- Explain fundamental Ethernet concepts such as media, services, and operations.
- Build a simple Ethernet network using routers and switches.
- Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations.
- Utilize common network utilities to verify small network operations and analyze data traffic.

There is no textbook purchase required for this course! However, there is a textbook available for those who wish to purchase one. You are NOT required to purchase the textbook below or any other reading materials. All materials for the course are included with the course online.

TEXTBOOK (optional):

**Introduction to Networks v5.0 Course Booklet (Course Booklets)**

1587133113 / 9781587133114

**Introduction to Networks v5.0 Lab Manual (Lab Companion)**

1587133121 / 9781587133121

**Introduction to Networks Companion Guide**

1587133164 / 9781587133169

Another excellent textbook that I would like to recommend appears at the end of this document.

**Lab Requirements**: yes

**Detailed Course Evaluation:**

| COURSE GRADING: | GRADING SCALE: |
ITCC 1401 - Cisco Routing and Switching 1: Introduction to Networks

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<thead>
<tr>
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<tbody>
<tr>
<td>40%</td>
<td>Final Exam – Skills</td>
<td>A</td>
<td>90 – 100</td>
</tr>
<tr>
<td>30%</td>
<td>Final Exam – Written</td>
<td>B</td>
<td>80 – 89</td>
</tr>
<tr>
<td>30%</td>
<td>Chapter Exams</td>
<td>C</td>
<td>70 – 79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D</td>
<td>60 – 69</td>
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<tr>
<td></td>
<td></td>
<td>F</td>
<td>0 – 59</td>
</tr>
<tr>
<td>100%</td>
<td>TOTAL</td>
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Exams (100%): There will be a total of 13 exams: 1 written Final exam, 1 skills-based (hands-on), and 11 assessments – 1 for each chapter to be covered in the course.

The exams are composed to test knowledge and skills acquired through reading and lecture. The exam will not be a group effort. There will be NO MAKE UP for the Final Exam. The Final Exam is an evaluation of your individual knowledge and skill acquired by attending and preparing each week for this class.

The Final Exam will be comprehensive, but you will be informed of those topics that the exam will feature, so that you will be able to focus your study in those areas.

Tardiness: You are expected to be on time for all classes and you are responsible for all material covered in class. However, I do understand that circumstances occur (traffic, job responsibilities, transportation challenges, etc) may interfere with your arriving at the scheduled start time. Please come regardless of the arrival time. It is better to come for some time, than no time at all.

Make-up policy: If you are not present on the day of one of the end-of-chapter exams, you will be allowed to take the exam at a later date. However, you must take the makeup exam within 2 weeks of the originally scheduled date.

TENTATIVE SEMESTER SCHEDULE
### ITCC 1401 - Cisco Routing and Switching 1: Introduction to Networks

<table>
<thead>
<tr>
<th>Dates</th>
<th>Assignments</th>
<th>Chapter</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Orientation&lt;br&gt;Navigating the Cisco Networking Academy Online Learning Management System</td>
<td>Pretest/Chapter 1</td>
</tr>
<tr>
<td>Week 2</td>
<td>Living in a Network-Centric World.</td>
<td>1</td>
</tr>
<tr>
<td>Week 3</td>
<td>Communicating over the Network</td>
<td>2</td>
</tr>
<tr>
<td>Week 4</td>
<td>Application Layer Functionality and Protocols</td>
<td>3</td>
</tr>
<tr>
<td>Week 5</td>
<td>Application Layer Functionality and Protocols continued</td>
<td>3</td>
</tr>
<tr>
<td>Week 6</td>
<td>OSI Transport Layer</td>
<td>4</td>
</tr>
<tr>
<td>Week 7</td>
<td>OSI Network Layer</td>
<td>5</td>
</tr>
<tr>
<td>Week 8</td>
<td>Addressing the Network – IPV4</td>
<td>6</td>
</tr>
<tr>
<td>Week 9</td>
<td>Addressing the Network – IPV4</td>
<td>6</td>
</tr>
<tr>
<td>Week 10</td>
<td>Addressing the Network – IPV4</td>
<td>7</td>
</tr>
<tr>
<td>Week 11</td>
<td>Data Link Layer</td>
<td>8</td>
</tr>
<tr>
<td>Week 12</td>
<td>OSI Physical Layer</td>
<td>9</td>
</tr>
<tr>
<td>Week 13</td>
<td>Ethernet</td>
<td></td>
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<tr>
<td>Week 14</td>
<td>Planning and Cabling Your Network</td>
<td>10</td>
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<tr>
<td>Week 15</td>
<td>Configuring and Testing Your Network continued</td>
<td>11</td>
</tr>
<tr>
<td>Week 16</td>
<td>Final Exam review</td>
<td>11</td>
</tr>
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</table>

This schedule is subject to change based on class progress and the instructor’s discretion.
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Course Objectives:

- Understand and describe the devices and services used to support communications in data networks and Internet.
- Understand and describe the role of protocols layers in data networks.
- Understand and describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments.
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- Build a simple Ethernet network using routers and switches.
- Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations.
- Utilize common network utilities to verify small network operations and analyze data traffic.

Complete Syllabus: The course syllabus consists of this instructor provided section and three other items. These other three items are prepared by the Computer Science Technology Department and are available on the department web site at: http://csci.hccs.edu under “Course Listing” then “Catalog Course Descriptions” for the ITCC 1404 course.

Course Requirements and Expectations:

All students are required to have the prescribed textbooks and lab manuals for this course by the second day of class. I (the Instructor) expect all students to do well in this class, and we all know that success is achieved through hard work, dedication and commitment. My expectations are high for every student.

AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Support Services Office (DSSO) of the respective College at the beginning of each semester. Faculty is authorized to provide only the accommodation(s) requested by the DSSO.

If you have any questions, please contact Disability Counselor at your college

- Central: John Reno 713.718.6179 & Andrea Hernandez 713.718.6331
- Northeast: Kim Ingram 713.718.8420
- Northwest: Mahnaz Kolaini 713.718.5422
- Southeast: Jette Friis 713.718.7218
- Southwest Dr. Becky Hauri 713.718.7910
- District Office: Donna Price at 713/718-5165.

ACADEMIC HONESTY

Students are expected to complete all materials (exams & exercises) on their own. This does not prevent the student from seeking assistance from the instructor or other students. Copying/Modifying of assignments or cheating on
exams will result in dismissal from this course and the student may be expelled from HCCS. Please refer to the current HCCS Student Handbook, Scholastic Dishonesty and Violations for further information.

SEXUAL HARASSMENT
It is a violation of HCC policy for an employee, agent, or student of the college to engage in sexual harassment as defined in the Equal Employment Opportunity Commission (EEOC) guidelines. Any student who has a complaint concerning this policy has the opportunity to seek resolution of such a complaint in accordance with procedures set forth in the student handbook. Report any complaints immediately to College Administration or call the institution Equity & Compliance Office 713.718.8271

ATTENDANCE AND WITHDRAWAL POLICIES
The State of Texas imposes penalties on students who drop courses excessively. Students are limited to no more than SIX total course withdrawals throughout their educational career at a Texas public college or university.

To help students avoid having to drop/withdraw from any class, HCC has instituted an Early Alert process by which your professor will “alert” you and Distance Education (DE) counselors that you might fail a class because of excessive absences and/or poor academic performance. Contact your DE professor regarding your academic performance or a DE counselor to learn about helpful HCC resources (e.g. online tutoring, child care, financial aid, job placement, etc.).

In order to withdraw from your DE class, you MUST first contact your DE professor, PRIOR to the withdrawal deadline to receive a “W” on your transcript. After the withdrawal deadline has passed, you will receive the grade that you would have earned. Zeros averaged in for required coursework not submitted will lower your semester average significantly, most likely resulting in a failing grade of an “F”. It is the responsibility of the student to withdraw from the class; however, your professor reserves the right to withdraw you without your request due to excessive absences. If you do not feel comfortable contacting your professor to withdraw, you may contact a DE counselor. However, please do not contact both a DE counselor and your DE professor to request a withdrawal; either one is sufficient.

The final withdrawal deadline should be listed in your syllabus (or can be found on the distance education website under the Academic Calendar link in the Current Student area). Classes of other duration (mini-term, flex-entry, 8-weeks, etc.) may have different final withdrawal deadlines. Please review HCC’s online “Academic Calendar by Term” or contact HCC Registrar’s Office at 713.718.8500 to determine mini-term class withdrawal deadlines.

Course Requirements and Grading Policy
The Houston Community College grading system will be used to evaluate students’ performance in this course. Each instructor will provide detailed information about grade calculation. For this course “C” or better grade is acceptable.
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<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
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<tbody>
<tr>
<td>A-Excellent</td>
<td>90-100 %</td>
</tr>
<tr>
<td>B-Good</td>
<td>80-89 %</td>
</tr>
<tr>
<td>C-Fair</td>
<td>70-79 %</td>
</tr>
<tr>
<td>D-Minimal</td>
<td>60-69 %</td>
</tr>
<tr>
<td>F-Failure</td>
<td>0-59 %</td>
</tr>
</tbody>
</table>

CCENT Study Guide: Exam 100-101 (ICND1)

Todd Lammle

Paperback
744 pages
August 2013