ITNW 2321
Networking with TCP/IP
Spring 2016

Instructor: Michael Slaughter
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Office Number: (806) 716-2242
Course Name: ITNW 2321.271
Course Days: Wednesday (Hybrid)
Course Time: 01:00 PM – 04:30 PM

Course Description

Set up, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP) on networking operating systems. Configure IP addressing and routing; design and implement a domain name server; static and dynamic IP addressing; subnets and supernets; and use network management utilities to maintain and troubleshoot IP networks.

Hybrid

This is a hybrid format class. This means we will meet for class once a week, and the remaining part of the course will be online. You must check Blackboard regularly for updates, otherwise you may miss an important announcement. Our in class meeting will be a mix between in class labs and lectures.

Textbook and Hardware Requirements

We will be using TestOut LabSim for this course. You will need to purchase an activation code from the SPC bookstore. Once activated, you will need to enroll in the course mentioned below. Also below is a link to a video with instructions on how to enroll in the LabSim course. This software will provide you with a virtual environment that we will use for labs, homework assignments and exams. It will also provide you with a wealth of information, reading materials, and videos to aid in your learning experience.

LabSim:
Promo Code: 14-232TA
Course Product: TestOut Routing and Switching Pro – 200-120
                    ISBN: 978-1-935080-55-8
School Name: South Plains College
Instructor Name: Michael Slaughter
Course Name: SP2016-ITNW2321.271
Purchase Link: http://www.testout.com/home/student-resources/student-purchasing
Instructions Link: http://www.testout.com/home/student-resources/how-to-tutorials
   (View the "Students Not Activated by Teachers" PDF)

Textbook:
Title: CCENT/CCNA ICND1 100-101 Official Cert Guide, Academic Edition
ISBN: 9781587144851

Assumed Knowledge

It is assumed that you possess basic computer skills relating to using the internet, applications and other basic computing tasks. It is also assumed that you have taken or possess the needed knowledge equal to ITNW1325 Fundamentals of Networking and ITSC1325 PC Hardware. If you have not taken those courses, or question your knowledge, please contact me ASAP about how to proceed. It is also assumed that if you run into content you do not understand; you will research that content on your own as well as ask the instructor for assistance.

Software Requirements

Because some of the assignments will be done and submitted outside of class, you will need access to the following programs outside of the classroom:
- Internet Connection and Web Browser (Chrome or IE)
- Adobe Reader
- Microsoft Office
- TestOut Account

Communication

Communication for this class will be conducted through SPC email. All students will be required to check their SPC student email accounts regularly for course updates and announcements. Please include your name, course name, and section number in all email communication. Other important announcements may be given during in class meetings, so attendance is key for complete communication.

Attendance Policy

You will be **dropped** from the course with an "X" or an "F" after **four** absences, or if I feel the objectives cannot be met due to excessive absence. If you are not sure how many absences you have accumulated, please be sure to notify me so that I can provide you with an absentee count.

If you are absent, you are still required to complete the assigned work by the indicated due date. You'll want to be sure to ask a classmate what material you missed on the day you were absent so that you'll be caught up when you return. I will not repeat the information you missed when you return. Frequent tardiness will result in an absence.

Reading/Study Assignments

Mandatory, assigned reading is a requirement for this course. Reading assignments includes all material in the LabSim course content that is assigned for a given week, as well as the chapters assigned in the CCENT textbook. Study assignments include all lectures in LabSim, demonstrations in LabSim, notes taken from your in-class lectures, and other content presented throughout the course. Although reading/study assignments are not taken for a grade, they are required to be successful in this course.

Assignments and Lab Projects

Procrastination will not serve you well in this course. Most assignments will be available through the LabSim software. Each chapter will have several small assignments and labs that will count

toward your homework grade. For the TestOut LabSim section assigned, all labs and exams are pulled for homework grades.

There will also small homework assignments and projects that will be assigned periodically throughout the semester. These assignments and/or projects will be announced in class and available in Blackboard. **NO LATE WORK IS ACCEPTED!** In-class labs will also be completed throughout this course. It is expected that you take care of all equipment and check that equipment in/out with the instructor.

Quizzes
Quizzes will be given throughout the semester. You are required to be in class to take a quiz. No make-up quizzes will be given.

Exams
There will be two exams given in this class, a midterm and a final exam. **Make-up exams will not be given.** If the midterm exam is missed, then the final exam grade will count as both the final and midterm grade. Also, if a student does better on the final than the midterm, I will substitute the final grade as the midterm grade.

Grades
Grades will be calculated as follows:

	Possible Points
Assignments/Lab Projects	20%
Quizzes	10%
Midterm	30%
Final Exam	40%

All assignments are mandatory. **I reserve the right to drop or fail you if homework assignments are frequently missed or incomplete.**

Grades will be available through LabSim (Homework/Exam Grades) and Blackboard. Blackboard grades will show a running average of how you are performing throughout the semester. Blackboard grades will be updated regularly throughout the semester.

Instructional and Outside Course Time Estimation:
In-Class Instructional/Lab/Quiz Time: 3.3hrs/wk x 16wks = 52.8 hrs
TestOut LabSim Time: 3.0hrs/wk x 16wks = 45 hrs
Midterm Exam Prep: 4 hrs/wk x 2 wks = 8hrs
Final Exam Prep: 4hrs/wk x 3wks = 12 hrs
Exam Time: 2hrs/exam x 2 = 4 hrs
Total Course Time = 121.8 hrs
Total Time/Week = 7.6125 hrs

In-Class Computer, Cell Phone and iPod Use

Students will **not** be allowed to surf the web, check their personal e-mail or social media accounts, or do work for any other course while class is in session.

Students will not be allowed to use their cell phones during class. If the student is found using social media, surfing the web, or using their cell phone, they will be asked to leave the class and they will be counted absent for that day. If the incident reoccurs, they will be reported to the dean of students. In cases of emergency, the student is asked to leave the classroom to use their cell phone. **If a student has a cell phone or other device out during an exam, they will be asked to leave and will get a zero for that exam.**

Food and Drinks

No food or drinks are allowed in the Technology Center. Do not bring those to class. If you do, you will be asked to leave class and counted as absent. If this happens more than once you may be dropped from the class.

Drop Policy

You may be dropped from this course for the following reasons:

- Attendance
  - You have four or more absences
- Participation, completion of homework, exams, and team project
  - You have missed 2-3 classes and several homework assignments
  - You have missed several homework assignments
  - You have missed two or more exams without rescheduling with the instructor
- Academic Integrity
  - Cheating, plagiarism, or sharing your work with others

Academic Integrity

It is the aim of the faculty at South Plains College to foster a spirit of complete honesty and a high standard of integrity. The attempt of any student to present as his or her own any work which he or she has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences and possible suspension. Please refer to the SPC General Catalog regarding consequences for cheating and plagiarism. **I reserve the right to administratively drop with an "F" any student whom I suspect of academic dishonesty.**

Do not, under any circumstances, turn in another student's file as your own. Do not, under any circumstances, give your file to anyone else to turn in as their own. Both situations are representative of academic dishonesty and will be treated as such. Disclaimer

Because we will use Blackboard to conduct a portion of this class, please note that the materials you may be accessing in chat rooms, bulletin boards or unofficial web pages are not officially sponsored by South Plains College. The United States Constitution rights of free speech apply to

all members of our community regardless of the medium used. We disclaim all liability for data, information or opinions expressed in these forums.

Diversity Statement

In this course, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world, and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should be and can be.

Special Services

4.1.1.2 Disabilities Statement
Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office through the Guidance and Counseling Centers at Reese Center (Building 8) 716-4606, or Levelland (Student Services Building) 716-2577.

Counseling

If at any point in the semester you find yourself having trouble with stress or feel depressed please stop in and see a counselor. Counseling services are available at all campuses. The number for the counseling office is 806-716-2366. Below is a link to SPC's personal counseling services.
http://www.southplainscollege.edu/information-for/current-spc-students/counseling-current/personal-counseling.php

Course Schedule

Week	Date	Chapter
1	Jan 19-24	TestOut 1.0
2	Jan 25-31	TestOut 2.0-2.5 CCENT Cert Guide Chp 1-5
3	Feb 1-7	TestOut 2.6-2.8 CCENT Cert Guide Chp 1-5
4	Feb 8-14	TestOut 3.0-3.3 CCENT Cert Guide Chp 6-8
5	Feb 15-21	TestOut 3.4-3.6 CCENT Cert Guide Chp 6-8
6	Feb 22-28	TestOut 4.0-4.4 CCENT Cert Guide Chp 6-8 Midterm Review
7	Feb 29 – Mar 6	TestOut 4.5-4.9 CCENT Cert Guide Chp 6-8 Midterm Review
8	Mar 7-13	MIDTERM EXAM
9	Mar 14-20	SPRING BREAK
10	Mar 21-27	TestOut 5.0 CCENT Cert Guide Chp 11-14 and Chp 19-20
11	Mar 28 – Apr 3	TestOut 6.1-6.4 CCENT Cert Guide Chp 15-18 and Chp 21
12	Apr 4-10	TestOut 6.5-6.9 CCENT Cert Guide Chp 15-18 and Chp 21
13	Apr 11-17	TestOut 7.1-7.4 CCENT Cert Guide Chp 22-24
14	Apr 18-24	TestOut 7.5-7.8 CCENT Cert Guide Chp 22-24
15	Apr 25 – May 1	TestOut 8.0 CCENT Cert Guide Chp 25-29
16	May 2-8	TestOut 9.0 CCENT Cert Guide Chp 10
17	May 9-12	FINALS

* **Dates are subject to change. Homework is due by 11:59 PM on Sunday night.**

Approximate Time for the Course

The total time for the LabSim Routing and Switching Pro course is approximately 88 hours and 17 minutes. The time is calculated by adding the approximate time for each section which is calculated using the following elements:

- Video/demo times
- Approximate time to read the text lesson (the length of each text lesson is taken into consideration)
- Simulations (5 minutes assigned per simulation, of course many students may take longer depending upon their knowledge level and experience)
- Questions (1 minute per question)

The total amount of LabSim content we will be covering comes to about 50 hours, which breaks down to about 3.5 hours of homework per week, plus time to read the content from the Pearson CCENT Cert Guide. The reason for the intensity in this course, is because this is what the industry expects you to know coming out of school. Dedicate the time to LEARNING the content and you will appreciate it when you graduate. –M. Slaughter

The breakdown for this course is as follows:

Module	Sections	Time	Minute	HR:MM
1.0 ICND1 Introduction				
	1.1 ICND1 Introduction	5	5	:05
2.0 Cisco Devices				
	2.1 Networking Fundamentals	20		
	2.2 Network Devices	45		
	2.3 TCP/IP Networking Model	45		
	2.4 Data Encapsulation	15		
	2.5 OSI Networking Model	35		
	2.6 Data Communications	30		
	2.7 Ethernet Networking	45		
	2.8 WAN Fundamentals	25	260	4:20

6.0 IP Routing Technologies			
6.1 IP Routing	30		
6.2 Routing Implementations	25		
6.3 Static Routing	20		
6.4 Dynamic Routing	50		
6.5 Route Summarization	30		
6.6 Open Shortest Path First (OSPF) Overview	35		
6.7 OSPF Configuration	45		
6.8 InterVLAN Routing Overview	30		
6.9 InterVLAN Routing Configuration	40	305	5:05
7.0 IP Services			
7.1 Dynamic Host Configuration Protocol (DHCP)	55		
7.2 Access Control Lists (ACLs)	30		
7.3 ACL Commands	20		
7.4 ACL Configuration	45		
7.5 Extended ACL Configuration	45		
7.6 Network Address Translation (NAT) Overview	15		
7.7 NAT Configuration	40		
7.8 Network Time Protocol (NTP)	15	265	4:25
8.0 IPv6 Addressing			
8.1 IPv6 Addressing Overview	35		
8.2 IPv6 Host Configuration	25		
8.3 IPv6 Routing	20	80	1:20

TestOut Switching Pro Practice Exams			
1. Switch Setup and Configuration (4 simulation questions)	20		
2. Switch Interface Configuration (4 simulation questions)	20		
3. TCP/IP Configuration (3 simulation questions)	15		
4. VLAN Configuration (11 simulation questions)	55		
5. InterVLAN Routing (4 simulation questions)	20		
6. Spanning Tree Configuration (5 simulation questions)	25		
7. Switch Security (3 simulation questions)	15		
8. EtherChannel Configuration (2 simulation questions)	10		
TestOut Switching Pro Certification Practice Exam (15 questions)	75	255	4:15
TestOut Routing Pro Practice Exams			
1. Router Setup and Configuration (4 simulation questions)	20		
2. Router Interface Configuration (13 questions)	65		
3. IP Routing Implementation (6 simulation questions)	30		
4. OSPF Routing Configuration (4 simulation questions)	20		
5. EIGRP Routing Configuration (3 simulation questions)	15		
6. Access Control List Configuration (7 simulation questions)	35		

7. Frame Relay Configuration (6 simulation questions)	30		
8. NAT Configuration (4 simulation questions)	20		
9. DHCP Server Configuration (3 simulation questions)	15		
10. Router Security Configuration (1 simulation question)	5		
11. High Availability Configuration (3 simulation questions)	15		
TestOut Routing Pro Certification Practice Exam (15 simulation questions)	75	345	5:45
Cisco ICND1 (100-101) Practice Exams			
1.0 Operation of IP Data Networks (56 questions)	56		
2.0 LAN Switching Technologies (85 questions)	85		
3.0 IP Addressing (IPv4 / IPv6) (98 questions)	98		
4.0 IP Routing Technologies (104 questions)	104		
5.0 IP Services, (53 questions)	53		
6.0. Network Device Security (60 questions)	60		
7.0 Troubleshooting (39 questions)	39		
Cisco ICND1 (100-101) Certification Practice Exam (60 questions)	60	555	9:15
Cisco ICND2 (200-101) Practice Exams			
1.0 LAN Switching Technologies (20 questions)	20		
2.0 IP Routing Technologies (83 questions)	83		
3.0 IP Services (50 questions)	50		
4.0 Troubleshooting (46 questions)	46		

5.0 WAN Technologies (79 questions)	79		
Cisco ICND2 (200-101) Certification Practice Exam (60 questions)	60	338	5:38
Cisco CCNA (200-120) Practice Exams			
1.0 Operations of IP Data Networks (56 questions)	56		
2.0 LAN Switching Technologies (104 questions)	104		
3.0 IP Addressing (IPv4 / IPv6) (98 questions)	98		
4.0 IP Routing Technologies (169 questions)	169		
5.0 IP Services (103 questions)	103		
6.0 Network Device Security (60 questions)	60		
7.0 Troubleshooting (84 questions)	84		
8.0 WAN Technologies (79 questions)	79		
Certification Practice Exam (60 questions)	60	813	13:33
	Total Time	**5297**	**88:17**