

CIST 2452 – Cisco Routing and Switching Essentials

****Disclaimer Statements****

*****Instructor reserves the right to change the syllabus and/or lesson plan as necessary.*****

*****The official copy of the syllabus is located inside the student's online course shell or will be given to them during face to face class time the first day of the semester. The syllabus displayed in advance of the semester in a location other than the course you are enrolled in is for planning purposes only.*****



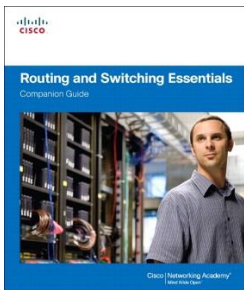
CIST 2452 – Routing and Switching Essentials
COURSE SYLLABUS
Web-enhanced / Lecture
Fall Semester 2016

****Tentative – Subject to Change**

Semester: 201712 Fall 2016
Course Title: Cisco Routing and Switching Essentials
Course Number: CIST 2452
Credit Hours/ Minutes: 4 / 4500
Class Location: 812 - Med. Tech Bldg
Class Meets: T/R 10:15-12:00 / 16 wks
(Lab) T 6:00 – 9:00pm / 16 wks
CRN: 20111

Instructor: John Taylor
Office Hours: 2:30-5:00 Mon/Wed/Thu
Office Location: 810 - Med. Tech Bldg
Email Address: jtaylor@southeasterntech.edu
Phone: 912-538-3116
Preferred method of contact: **STC Owl Mail**
Tutoring Hours: Made by Appointment

REQUIRED TEXT:



Routing and Switching Essentials – Companion Guide

By Cisco Networking Academy.
Published by Cisco Press.
Published: Feb 18, 2014;
Copyright 2014;
Pages: 864; Edition: 1st.
ISBN-10: 1-58713-318-0; ISBN-13: 978-1-58713-318-3;

You can purchase from the STC bookstore OH stcbookstore@southeasterntech.edu or 912-538-3129.

REQUIRED SUPPLIES & SOFTWARE: Internet access.

COURSE DESCRIPTION: This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Topics include switched networks, routing concepts, routing in a switched network, static and dynamic routing, single-area OSPF, access control lists and IP Services (DHCP and NAT).

MAJOR COURSE COMPETENCIES: Switched Networks, Routing Concepts, Routing in a Switched Network, Static and Dynamic Routing, Single-Area OSPF, Access Control Lists, and IP Services (DHCP and NAT).

PREREQUISITE(S): CIST 2451

COURSE OUTLINE:

1. Introduction to Switched Networks
2. Basic Switching Concepts and Configuration
3. VLANs
4. Routing Concepts
5. Inter-VLAN Routing
6. Static Routing
7. Routing Dynamically
8. Single-Area OSPF
9. Access Control Lists
10. DHCP
11. Network Address Translation for IPv4

GENERAL EDUCATION CORE COMPETENCIES: STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

STUDENT REQUIREMENTS: Class attendance is a very important aspect of a student's success in this course. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is expected. Students are expected to complete all work required by the instructor. Exceptions to the due dates of assignments due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

- **Students are expected to come prepared for each class meeting, focused and ready to learn.** This means that it is necessary to read the chapters and work outside of class in order to succeed in this course. A detailed lesson schedule has been provided at the end of this syllabus.
- **Students MUST wear their STC id; one free lanyard is provided in the student affairs division. Students may NOT enter the classroom without their student id visible. This is strictly enforced.**
- Students should complete all work shown on the attached tentative lesson schedule by the scheduled deadlines, unless otherwise notified of a change in deadline.
- Homework will be collected for a grade. **Homework assignments will not be graded after the due date; a zero will be assigned if homework is not submitted on or before the due date.**
- There may be graded in-class activities planned in which you will not be able to participate if you are not prepared for that day's class.
- **Unannounced quizzes or in-class assignments are subject to be given every day. A grade of zero will be assigned for any quizzes or in class assignments missed. There will be no makeup of quizzes or in class assignments; a grade of zero will be assigned.**
- Please make every effort to be in class every day. However, if you are SICK and CONTAGIOUS, please do not come to class.
- Students are expected to complete all tests, labs, and other assignments on the dates specified on the attached lesson schedule.
- Instructor reserves the right to modify the tentative lesson schedule attached to this syllabus with notice.

- Students should subscribe to remind.com for reminder from the instructor via email or text. Instructions will be provided to students.
- Students are responsible for policies and procedures included in the STC Catalog and must acknowledge this by signing the acknowledgement provided on the first day of class.

ATTENDANCE GUIDELINES: Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Students **will not** be withdrawn from class by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an F in a course.

SPECIAL NEEDS: Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Helen Thomas, 912-538-3126, hthomas@southeasterntech.edu, to coordinate reasonable accommodations.

SPECIFIC ABSENCES: Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

PREGNANCY: Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with Helen Thomas, (912) 538-3126, hthomas@southeasterntech.edu.

WITHDRAWAL PROCEDURE: Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from

the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

MAKEUP GUIDELINES: Students are required to take all tests/exams scheduled during the semester. Failure to take tests/exam(s) will result in a grade of zero for each. There will be no makeup of exams. If Internet or browser failure occurs, contact instructor immediately. A decision will be made at that time if the test/exam will be reset. Instructor reserves the right to deduct points from the scores for exceeding the scheduled time limit on the test/exam. **Note: If student notifies instructor about problems because of technical issues after the due date or on the last day of the semester, the student will NOT be allowed to make-up the assignment. No exceptions!** Assignments must be turned in on or before the assigned due date and may not be accepted late. ALL assignments are due according to the lesson plan. The due dates are posted beside each assignment on the lesson plan.

ACADEMIC DISHONESTY POLICY: The STC Academic Dishonesty Policy states *All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline.* The policy can also be found in the *STC Catalog and Student Handbook.*

Procedure for Academic Misconduct

The procedure for dealing with academic misconduct and dishonesty is as follows:

--First Offense--

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

--Second Offense--

Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the

student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

--Third Offense--

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

Your instructor is more than willing to assist you with any help you might need; it merely requires you to make the extra effort to come by for help during your instructor's office hours. This is your responsibility. Many times, computer professionals deal with private/personal information; in-class behaviors give some insight into a student's professional ethics in the workplace, or lack thereof. Cheating is never an option; dishonesty cannot and will not be tolerated. If you are involved in an academic dishonesty incident, expect a private conference with your instructor and the Dean of Business Technologies and Human Services.

STATEMENT OF NON-DISCRIMINATION

Southeastern Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, disabled veteran, veteran of Vietnam Era or citizenship status, (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

GRIEVANCE PROCEDURES: Grievance procedures can be found in the Catalog and Handbook located on STC's website.

ACCESS TO TECHNOLOGY: Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the [mySTC portal](#) or by clicking the Current Students link on the STC website at www.southeasterntech.edu.

GRADING POLICY		GRADING SCALE		
Comprehensive Final	25%	A	Excellent	90-100
Hands-on/Skills Exam	20%	B	Good	80-89
Chapter Tests/Quizzes	25%	C	Satisfactory	70-79
Labs	10%	D*	Poor	60-69
Packet Tracers	15%	F*	Failing	0-59
Practice Exams	5%	*Grade of D or below results in student repeating		
	100%			

TCSG GUARANTEE/WARRANTY STATEMENT: *The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.*

**CIST 2452 – Cisco Routing and Switching Essentials
FALL Semester 2016 Lesson Schedule (Fiscal Year 2017)**

Date	Chap / Less	Content	Assignments & Tests Due	Competency Area
<p>You should have purchased the companion guide for this course. The curriculum can and should be accessed thru the Cisco NetSpace CMS as well. The online curriculum includes all interactive learning activities and provides an additional way to help you learn the course material. You will complete your chapter quizzes, exams and comprehensive final using the Cisco Network Academy NetSpace website. You should have received an email stating your addition/registration for this course. Once you get logged in, I encourage you to download and install the Packet Tracer –Student software version 6.3. This is an excellent program that you will need to complete assignments as well as learn the concepts covered in this course. Contact your instructor if you have any questions.</p>				
Week 1 (Assignments due Aug 23)				
Tue Aug 16		Class Introduction – Syllabi, Outline, Work Ethics, Rules, and Regulations Coverage	Verify NetSpace login. Discuss Packet Tracer. Review Web curriculum. Review Course Introduction (NetSpace) Read Chapter 1 (Use NetSpace)	1 A,C
Lab		No Lab tonight!		
Thu Aug 18			Test Drive Packet Tracer.	
Week 2 (Assignments due Aug 30)				
Tue Aug 23	1	Introduction to Switched Networks	Lecture and Discussion.	1 A,C
Lab			Test Drive Packet Tracer. Do Chapter 1 Packet Tracer Activities on NetSpace Packet Tracer – Skills Integration Challenge	1 A,C
Thu Aug 25			Take Chapter 1 Exam on NetSpace. Read Chapter 2 (Use NetSpace and book)	
Week 3 (Assignments due Sep 5)				
Tue Aug 30	2	Basic Switching Concepts and Configuration	Lecture and Discussion.	1 A,C
Lab			Complete Hands-on Labs for Chapter 2 in Networking Lab. Lab - Basic Switch Configuration Lab - Configuring Switch Security Features	1 A,C
Thu Sep 1			Do Chapter 2 Packet Tracer Activities on NetSpace Packet Tracer - Configuring SSH Packet Tracer - Configuring Switch Port Security Packet Tracer - Troubleshooting Switch Port Security *Packet Tracer - Skills Integration Challenge Take Chapter 2 Exam on NetSpace. Take Chapter 2 Practice Skills Assessment Read Chapter 3. (Use NetSpace and book)	

Week 4 (Assignments due Sep 13)

Tue Sep 6	3	VLANs	Lecture and Discussion.	1 A,C
Lab			Complete Hands-on Labs for Chapter 3 in Networking Lab. Lab - Configuring VLANs and Trunking Lab - Troubleshooting VLAN Configurations Lab - Implementing VLAN Security	1 A,C
Thu Sep 8			Do Chapter 3 Packet Tracer Activities on NetSpace Packet Tracer - Who Hears the Broadcast? Packet Tracer - Investigating a VLAN Implementation Packet Tracer - Configuring VLANs Packet Tracer - Configuring Trunks Packet Tracer - Troubleshooting a VLAN Implementation - Scenario 1 Packet Tracer - Troubleshooting a VLAN Implementation - Scenario 2 *Packet Tracer - Skills Integration Challenge Take Chapter 3 Exam on NetSpace Read Chapter 4 (Use NetSpace and book)	1 A,C

Week 5 (Assignments due Sep 20)

Tue Sep 13	4	Routing Concepts	Lecture and Discussion	2 A,C
Lab			Complete Hands-on Labs for Chapter 4 in Networking Lab. Lab - Mapping the Internet Lab - Configuring Basic Router Settings with IOS CLI Lab - Configuring Basic Router Settings with CCP	2 A,C
Thu Sep 15			Do Chapter 4 Packet Tracer Activities on NetSpace Packet Tracer - Using Traceroute to Discover the Network Packet Tracer - Documenting the Network *Packet Tracer - Configuring IPv4 and IPv6 Interfaces Packet Tracer - Configuring and Verifying a Small Network Packet Tracer - Investigating Directly Connected Routes Take Chapter 4 Exam on NetSpace Take NB ITN Practice Skills Assessment Read Chapter 5 (Use NetSpace and book)	2 A,C

Week 6 (Assignments due Sep 27)

Tue Sep 20	5	Inter-VLAN Routing	Lecture and Discussion	3 A,C
Lab			Work on Hands-on Labs for Chapter 5 in Networking Lab. Lab - Configuring Per-Interface Inter-VLAN Routing Lab - Configuring 801.2Q Trunk-Based Inter-VLAN Routing Lab - Troubleshooting Inter-VLAN Routing	3 A,C
Thu Sep 22			Do Chapter 5 Packet Tracer Activities on NetSpace Packet Tracer - Configuring Router-on-a-Stick Inter-VLAN Routing Packet Tracer - Troubleshooting Inter-VLAN Routing *Packet Tracer - Skills Integration Challenge Take Chapter 5 Exam on NetSpace Read Chapter 6 (Use web curriculum if possible)	3 A,C

Week 7 (Assignments due Oct 4)

Tue Sep 27	6	Static Routing	Lecture and Discussion	1,5 A,C
Lab			Work on Hands-on Labs for Chapter 6 in Networking Lab. Lab - Configuring IPv4 Static and Default Routes Lab - Configuring IPv6 Static and Default Routes Lab - Designing and Implementing Addressing with VLSM	1,5 A,C
Thu Sep 29			Work on Chapter 6 Packet Tracer Activities on NetSpace *Packet Tracer - Configuring IPv4 Static and Default Routes *Packet Tracer - Configuring IPv6 Static and Default Routes Packet Tracer - Designing and Implementing a VLSM Addressing Scheme Packet Tracer - Configuring IPv4 Route Summarization - Scenario 1 Packet Tracer - Configuring IPv4 Route Summarization - Scenario 2	1,5 A,C

Week 8 (Assignments due Oct 11)

Tue Oct 4	6	Static Routing – continued	Lecture and Discussion.	4 A,C
Lab			Complete Hands-on Labs for Chapter 6 in Networking Lab. Lab - Calculating Summary Routes with IPv4 and IPv6 Lab - Troubleshooting Static Routes	4 A,C
Thu Oct 6		Semester Midterm	Do Chapter 6 Packet Tracer Activities on NetSpace Packet Tracer - Configuring IPv6 Route Summarization Packet Tracer - Configuring a Floating Static Route Packet Tracer - Troubleshooting Static Routes Packet Tracer - Troubleshooting VLSM and Route Summarization *Packet Tracer Skills Integration Challenge Take Chapter 6 Exam on NetSpace Take Chapter 6 Practice Skills Assessment-PT Read Chapter 7 (Use web curriculum if possible)	4 A,C

Week 9 (Assignments due Oct 18)

Tue Oct 11	7	Routing Dynamically	Lecture and Discussion	4 A,C
Lab			Complete Hands-on Labs for Chapter 7 in Networking Lab. Lab - Configuring RIPv2	4 A,C
Thu Oct 13			Do Chapter 7 Packet Tracer Activities on NetSpace Packet Tracer - Investigating Convergence Packet Tracer - Comparing RIP and EIGRP Path Selection Packet Tracer - Configuring RIPv2 Packet Tracer - Configuring RIPv2 Take Chapter 7 Exam on NetSpace Read Chapter 8 (Use web curriculum if possible)	4 A,C

Week 10 (Assignments due Oct 25)

Tue Oct 18	8	Single-Area OSPF	Lecture and Discussion	4,5 A,C
Lab			Complete Hands-on Labs for Chapter 8 in Networking Lab. Lab - Configuring Basic Single-Area OSPFv2 Lab - Configuring Basic Single-Area OSPFv3	4,5 A,C
Thu Oct 20		65% point in course!! Last day to Drop/Withdraw from this class and get "W"!!!!	Do Chapter 8 Packet Tracer Activities on NetSpace Packet Tracer - Configuring OSPFv2 in a Single-area Packet Tracer - Configuring Basic OSPFv3 *Packet Tracer - Skills Integration Challenge Take Chapter 8 Exam on NetSpace Read Chapter 9 (Use web curriculum if possible)	4,5 A,C

Week 11 (Assignments due Nov 1)

Tue Oct 25	9	Access Control Lists	Lecture and Discussion	4 A,C
Lab			Work on Hands-on Labs for Chapter 9 in Networking Lab. Lab - Configuring and Verifying Standard ACLs Lab - Configuring and Verifying VTY Restrictions Lab - Configuring and Verifying Extended ACLs	4 A,C
Thu Oct 27			Do Chapter 9 Packet Tracer Activities on NetSpace Packet Tracer - ACL Demonstration Packet Tracer - Configuring Standard ACLs Packet Tracer - Configuring an ACL on VTY Lines Packet Tracer - Configuring Extended ACLs - Scenario 1 Packet Tracer - Configuring Extended ACLs - Scenario 2 Packet Tracer - Configuring Extended ACLs - Scenario 3	4 A,C

Week 12 (Assignments due Nov 8)				
Tue Nov 1	9	Access Control Lists - continued	Lecture and Discussion	4 A,C
Lab			Complete Hands-on Labs for Chapter 9 in Networking Lab. Lab - Configuring and Verifying Standard ACLs Lab - Configuring and Verifying VTY Restrictions Lab - Configuring and Verifying Extended ACLs Lab - Troubleshooting ACL Configuration and Placement Lab - Configuring and Verifying IPv6 ACLs	4 A,C
Thu Nov 3			Complete 9 Packet Tracer Activities on NetSpace Packet Tracer - Troubleshooting ACLs *Packet Tracer - Skills Integration Challenge Packet Tracer - Configuring IPv6 ACLs Take Chapter 9 Exam on NetSpace Read Chapter 10 (Use web curriculum if possible)	4 A,C
Week 13 (Assignments due Nov 15)				
Tue Nov 8	10	DHCP	Lecture and Discussion	7 A,C
Lab		Must sign-up for Hands-on Final time slot!!!	Complete Hands-on Labs for Chapter 10 in Networking Lab. Lab - Configuring Basic DHCPv4 on a Router Lab - Configuring Basic DHCPv4 on a Switch Lab - Troubleshooting DHCPv4 Lab - Configuring Stateless and Stateful DHCPv6 Lab - Troubleshooting DHCPv6	7 A,C
Thu Nov 10		Sign up for Hands-on Final this week!!!!!!	Do Chapter 10 Packet Tracer Activities on NetSpace Packet Tracer - Configuring DHCPv4 Using Cisco IOS *Packet Tracer Skills Integration Challenge Take Chapter 10 Exam on NetSpace Read Chapter 11 (Use web curriculum if possible)	7 A,C

Week 14 (Assignments due Nov 22)				
Tue Nov 15	11	Network Address Translation	Lecture and Discussion	7 A,C
Lab			Work on Hands-on Labs for Chapter 11 in Networking Lab. Lab - Configuring Dynamic and Static NAT Lab - Configuring Port Address Translation (PAT) Lab - Troubleshooting NAT Configurations	7 A,C
Thu Nov 17			Do Chapter 11 Packet Tracer Activities on NetSpace Packet Tracer - Investigating NAT Operation Packet Tracer - Configuring Static NAT Packet Tracer - Configuring Dynamic NAT Packet Tracer - Implementing Static and Dynamic NAT Packet Tracer - Configuring Port Forwarding on a Wireless Router Packet Tracer - Verifying and Troubleshooting NAT Configurations *Packet Tracer - Skills Integration Challenge Take Chapter 11 Exam on NetSpace Take RSE Practice Skills Assessment-PT	7 A,C
Week 15 (Assignments due Nov 29)				
Tue Nov 22			Complete PT Practice Skills Exam	1-7 A,C
Lab			Complete CCENT Practice Cert Exam	1-7 A,C
Thu Nov 24		Holiday		
Week 16 (Assignments due Dec 1)				
Tue Nov 29			Review for Final Exam Complete Hands-on Final	1-7 A,C
Lab			Review for Final Exam	
Thu Dec 1		Comprehensive Final in Classroom – No books!!!	Take Comprehensive Final Exam in Room 812.	1-7 A,C

Competency Areas:

1. Switched Networks
2. Routing Concepts
3. Routing in a Switched Network
4. Static and Dynamic Routing
5. Single-Area OSPF
6. Access Control Lists
7. IP Services (DHCP and NAT)

***General Core Competency Areas:**

- A. The ability to utilize standard written English.
- B. The ability to solve practical mathematical problems.
- C. The ability to read, analyze, and interpret information.