SOUTHWESTERN ILLINOIS COLLEGE
COURSE SYLLABUS

Cisco Routing and Switching
CISC-152-061
Fall, 2016

GENERAL INFORMATION

Instructor: Charles Hannon
Class time: 5:30 pm 10:00 pm
Credit hours: 4
Class Location: Room 335
Phone: 618-931-0600 ext. 7363
Toll Free: (866) 942-SWIC (7942)
Office Hours: MW 12:30 pm 1:30 pm TH 2:00 pm 3:00 pm
Office: Room 334A
E-mail: Charles.hannon@swic.edu
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COURSE DESCRIPTION

Cisco Routing and Switching is the second of four courses leading to the Cisco Certified Network Associate (CCNA) certification.

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.

Students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks.

PREREQUISITE

CISC 151 with a grade of C or better.

COURSE OBJECTIVES

Upon successful completion of this course, students will be able to:

- Describe basic switching concepts and the operation of Cisco switches
- Describe enhanced switching technologies such as VLANs, VLAN Trunking Protocol (VTP), Rapid Spanning Tree Protocol (RSTP), Per VLAN Spanning Tree Protocol (PVSTP), and 802.1q
- Configure and troubleshoot basic operations of a small switched network
- Describe the purpose, nature, and operations of a router, routing tables, and the route lookup process
- Configure and verify static routing and default routing

- Describe how VLANs create logically separate networks and how routing occurs between them
- Describe dynamic routing protocols, distance vector routing protocols, and link-state routing protocols
- Configure and troubleshoot basic operations of routers in a small routed network using Routing Information Protocol (RIPv1 and RIPv2) and Open Shortest Path First (OSPF) protocol
- Configure and troubleshoot VLANs and inter-VLAN routing
- Describe the purpose and types of access control lists (ACLs)
- Configure, monitor, and troubleshoot ACLs for IPv4 and IPv6
- Describe the operations and benefits of Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) for IPv4 and IPv6
- Describe the operations and benefits of Network Address Translation (NAT)
- Configure and troubleshoot NAT operations

METHODS OF PRESENTATION:

Lecture, Discussion, Computer Aided Instruction, Demonstrations, Hands-On Labs. Individual presentations will be given on a related, approved, topic.

TEXTBOOKS AND MATERIALS

Required:

Cisco Networking Academies Curriculum.
Cisco Systems Inc. 2013 (on-line)

Routing and Switching Essentials Lab Manual.
Cisco Press 2013.ISBN 13: 978-1-58713-320-6

Optional:

Routing and Switching Essentials, CCNA Companion Guide.
Cisco Press 2013.ISBN 13: 978-1-58713-318-3

While viewing the curriculum in the classroom please use the curriculum loaded on the classroom server. Curriculum is viewable outside of the classroom from two different sites listed below:

Preferred: http://cisco.swic.edu/cisco -- Login information issued in class.
Backup: http://www.netacad.com/-- Login information is user defined.

GRADING PROCEDURE

A=

94+% average on all Chapter exams
7 Engineering Journal entries
Reflection Journal
Oral presentation
>85% Final Online exam
<3 absences

7 ePortfolios or 7 Skills Integration Challenge PTA

B =

87+% average on all Chapter exams
7 Engineering Journal entries
Reflection Journal
Oral presentation
>75% Final exam
<4 absences
7 ePortfolios or 7 Skills Integration Challenge PTA

C =

70+% average on all Chapter exams
7 Engineering Journal entries
Reflection Journal
Oral presentation
>50% Final exam
<5 absences
7 ePortfolios or 7 Skills Integration Challenge PTA

GRADING SCALE

A = 94%+
B= 84%+
C=60%+

ATTENDANCE POLICY

College Policy: Students are expected to be present for all assigned classes, lectures or laboratory sessions. In the event of an absence, a student must show the instructor that the absence has been for a good cause. If a student is absent more times during the semester that the number of times the class meets per week, the student may be dropped from the course at the discretion of the instructor. When a student is dropped by an instructor with an effective date before the midterm date of the class, a W will be recorded. When a student is dropped for non-attendance by an instructor with an effective date after the midterm date, the instructor will have the prerogative to assign a grade of F or WF. **Please note: Instructors can assign a W (Withdrawn) or WF (Withdrawn Failing) grade before the published last date to withdraw from a class.**

WITHDRAWAL

College Policy: It is the students responsibility to withdraw from classes when not in attendance. Failure to properly withdraw could result in a failing grade. **Please note: Instructors can assign a W (Withdrawn) or WF (Withdrawn Failing) grade before the published last date to withdraw from a class.**

Students may drop a course from their Student Center in eSTORM or by completing an official Drop/Add/Section Change form at the Office of Enrollment Services.

ACADEMIC RIGOR STATEMENT

This is an academically rigorous college course. Your success in this course will require a significant investment of time outside of the class. According to the Administrative Rules of the Illinois Community College Board (section 1501.309), it is assumed that the student will invest two hours of outside study time for each hour of classroom lecture time and one hour of outside study time for each two hour laboratory session.

TARDINESS, LATE FOR CLASS

Tardiness may be dealt with as a nuisance activity as addressed in the Student Conduct Code; individual instructors may establish additional penalties for tardiness.

HOMEWORK ASSIGNMENTS, FAILURE TO FOLLOW INSTRUCTIONS

In order to receive full credit, assignments must be turned in on time; individual instructors may establish additional penalties for late assignments.

FAILURE TO TAKE TEST

Students should not expect to make up a test that is missed; individual instructors will determine the penalty for missed tests. If a student misses a final exam, a 0 (zero) may be assigned for the final exam.

PHONES AND OTHER ELECTRONIC DEVICES IN CLASSROOM

All phones and other electronic devices should be turned off prior to entering the classroom. Failure to follow this policy will be considered a student disruption under the Student Conduct Code.

AUDIO & VIDEO RECORDING

All audio and video recording is strictly prohibited without advance notice to instructor.

UNAUTHORIZED COMPUTER USE IN CLASSROOM

Unauthorized computer use, including accessing the Internet and checking email during class, can be considered a disruption under the Student Conduct Code.

CHEATING/ACADEMIC DISHONESTY

Students are expected to comply with the academic integrity policy stated in the Student Conduct Code of Southwestern Illinois College. Academic misconduct can include, but is not limited to, cheating, plagiarism and forgery; failure or refusal to follow clinical practice standards; and soliciting, aiding, abetting, concealing, or attempting such acts. Violations of this code may result in one of the following being imposed: **Disciplinary Reprimand, Probation, Social Probation, Suspension,**

Expulsion, Failing Grade or Withdrawal from course. Additional information may be found in the Academic Regulations section of the college catalog.

Cheating: Includes, but is not limited to, working on a class assignment with others, including student tutors, when the instructor has not said that such collaboration is permitted. (While it is permissible to have general discussions about course work, unless your instructor tells you otherwise, any work you hand in must be a result of your individual effort and not the result of collaboration or plagiarism.)

Plagiarism: Failing to enclose in quotation marks, failing to cite a source, or incorporating anotherï¿½s work into your own work. **This includes information copied from the Internet.**

DISABILITY & ACCESS CENTER

Students with disabilities who believe that they may need accommodations in the class are encouraged to contact the Disability & Access Center at 618-222-5368 or 618-234-3347 (TDD) as soon as possible to ensure that such accommodations are implemented in a timely fashion.

STUDENT LEARNING OUTCOMES

The assessment of student learning is an integral part of the educational experience at Southwestern Illinois College. To this end, the faculty continually assess student learning to improve student success. Occasionally you will be requested to participate in college-wide and discipline specific assessment activities. Please take these assessments seriously. The data that is collected will provide valuable information to faculty and will be used to improve student learning at SWIC.

POLICY FOR INCLEMENT WEATHER CONDITIONS

During times of inclement weather, Southwestern Illinois College has three options for dealing with the situation: cancel classes and cease all business, exercise the delayed-start option, or keep the college open. If the college chooses to use the delayed-start option rather than close, the college will open at 10 a.m. The decision to cancel classes or exercise the delayed-start option will be posted on the home page of Southwesterns Web site (SWIC.edu) as well as broadcast on FOX 2 (KTVI), KMOV-TV Channel 4, KSDK-TV Channel 5, and radio stations KMOX-AM 1120 and WIL-FM 92.3.

Students can also sign up for**SWIC Alert is an emergency alert system intended to notify students and employees by e-mail or text message of campus closures for weather and other emergencies.**

STUDENT EMAIL ACCESS

All SWIC students have been assigned a student e-mail account. This e-mail account is an official means of college communication and students are expected to check

their account on a regular basis. To access this account, please visit http://estorm.swic.edu.

TOPICAL OUTLINE

WEEK	Chapter and TOPIC	ASSIGNMENTS
1	Chapter 1: Intro to Switching Networks	LABS: 2.1.1.6
2	Chapter 2: Basic Switching Concepts and Configuration Chapter 3: VLANS	LABS: 2.2.4.11, LABS: 3.2.2.5, 3.2.4.9, 3.3.2.2,
3	Chapter 4: Routing Concepts Chapter 5: Inter-Vlan Routing	LABS: 4.1.4.6, 4.1.4.7 LABS: 5.1.2.4, 5.1.3.7,
4	Chapter 6: Static Routing Chapter 7: Routing Dynamically	LABS 6.2.2.5, 6.2.4.5, 6.3.3.7, 6.4.2.5, 6.5.2.5 LABS: 7.3.2.4
5	Chapter 8: Single-Area OSPF	LABS: 8.2.4.5, 8.3.3.6

	Chapter 9: Access Control Lists	LABS: 9.2.2.7, 9.2.3.4, 9.3.2.13, 9.4.2.7, 9.5.2.7
6	Chapter 10: DHCP Chapter 11: NAT IPv4	LABS: 10.1.2.4, 10.1.2.5, 10.1.4.4, 10.2.3.5, 10.2.4.4 LABS: 11.2.2.6, 11.2.3.7, 11.3.1.5,
7	Hands-On Finals	Engineering Journals draft
8	Oral Presentations Makeup Tests Online Final Comprehensive Test	All e-Portfolios and Engineering Journals due

Revised 8/21/16