Course Syllabus

Cisco CCNA 2: Introduction to Networks

2018-2019

Introduction

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Course Description

Cisco CCNA Routing &Switching Essentials

CCNA R&S: Introduces the architecture, structure, functions, components, and operations of routers and switches in a simple network. Students will learn how to configure routers and switches for advanced functionality. Configure and verify static routing and default route. Configure and troubleshoot basic operations of a small switched network. Configure and troubleshoot basic operations of routers in a small routed network. Configure and monitor networks using device discovery, management, and maintenance tools.

Prerequisites

Prerequisite for this course is taking CCNA introduction to the network same school year or done with an advanced level of understanding of personal computers and operating systems approved by designated Information Technology personnel.

Learning Outcomes

It is our goal in this course to train knowledgeable students who can achieve the entry-level CCNA (which requires passing multiple-choice exams), to produce empowered students who can design, install, and maintain networks, and who will be successful in the job market.

Students in this course will obtain the first level of knowledge required for these objectives. Completion of the course is the first phase of preparation for the certification exams. **Students should be prepared to invest significant additional time for intense preparation prior to taking the exams.**

Basic competency in English Language Arts is necessary for student success in this course. Written and oral communications will be key elements for completion of the course.

Skills and techniques in critical thinking, decision-making, and problem solving will be applied.

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Learning Objectives

Students who complete Introduction to Networks will be able to perform the following functions:

- Explain network technologies and how devices access local and remote networks.
- Explain Static route on IPV4 and IPV6.
- Explain Dynamic route on IPV4 and IPV6.
- Design an IPv4 and IPv6 addressing scheme to provide network connectivity for a small to medium-sized business network.
- Explain RIP protocol configuration on IPV4 and IPV6 as an example of dynamic rout, configure router RIP by build small network using simulation program.
- Understand Switch configuration, VLANS and frame forwarding.
- Describe standard Access Control List.
- Explain DHCPv4 and DHCP v6.
- Explain NAT configuration.

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Class Attendance and Participation

Class attendance and participation in class discussions are an important part of this course. Students are expected to attend classes regularly and be on time. 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 at **http://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 classroom 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.

Course Content

The instructor reserves the right to amend this syllabus as necessary.

On-Line Tests

Upon completion of each chapter in the online curriculum, students will be required to complete a chapter test.

The Comprehensive Lab final

Students will apply their knowledge of Networks, IP Addressing, and Subnetting to solve a problem in a paper LAB activity. **Attendance is mandatory.**

The Comprehensive Final

The Comprehensive Final Exam must be taken on the last day of the course. Prior to completing the exam, students must complete a course survey form online. **Attendance is mandatory.**

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 left side of the initial login screen at http://netacad.net. *The proficient use of Packet tracer is fundamental to successfully completing the CCNA curriculum.*

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 future business world environments.

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Evaluation

Students will be evaluated on their performance in the course. The final grade will be based upon the elements and weights listed here.

Description	Category	Weight
Cisco On-line Chapter Tests & Quizzes	Tests	40%
Class Participation &Packet Tracer Simulations	Class-Work	30%
Labs	Projects	30%

The final grade is determined as follows:

A	90 - 100%
B	80-89%
C	70 - 79%
D	60-69%
F	59% and below

Note: A passing grade on the final exam and completion of all the above work is required in order to progress to the next Cisco course.

General Information

Institution Policies (www.richlandcollege.edu/syllabipolicies)

Tentative Schedule - Course Outline

The class material is provided on-line and is organized into 11 chapters. This is a **tentative** schedule. Your instructor reserves the right to change the above schedule as needed to complete the material on time.

CCNA 2 2018 -2019 Tentative Timeline		
Chapters Covered	**Days**	**Dates**
1 – Course introduction	5	8/20-9/4
2 – Routing Concept	7	9/4-9/20
3 – Static Routing	7	9/24-10/10
4 – Dynamic Routing	7	10/17-11/2
5 – Switch Network	7	11/2-11/30
6 – Switch Configuration	7	12/3-12/21

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7 – VLANS	7	1/9-1/30
8 – Access Control List	10	2/1-2/28
9 – DHCP	7	3/1-3/19
10 – NAT IPV4	7	3/21-4/8
11 – Device Discovery Management	7	4/10-4/29
Cisco Online Review	3	5/1-5/7
Cisco Online Final Exam	3	5/9-5/13
Cisco Skills Final Review	3	5/15-5/23
Cisco Skills Final Exam	3	5/23-5/30

Richland College Scans Statement

What are SCANS skills?

These are the skills that employers need the most from their workers. SCANS (Secretary's Commission on Achieving Necessary Skills) are the predictors of success in the workplace.

Who defined these skills?

In 1989, the U.S. Department of Labor and Education jointly surveyed U.S. employers to find out the most important skills and competencies needed by workers. The results of that survey identified SCANS.

Richland College Students and SCANS

Richland College is committed to the preparation of our students for success in the workplace.

All Richland College courses provide learning outcomes, which result in the mastery of SCANS skills. Although each course will not include every SCANS skill, each course syllabus will identify the specific SCANS skills and competencies taught in that course. Throughout a formal program of study (Degree or Transfer Program) a student will have the opportunity to master all SCANS skills and competencies. **Skills Underlined below are the specific SCANS for Unix II ITSC 2437.

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SCANS WORKPLACE COMPETENCIES

	RESOURCES. ALLOCATING.	INTERPERSONAL SKILLS	Information	SYSTEMS	TECHNOLOGY
	1.a.1 Time	1.b.1. Working on teams	1.c.1. Acquiring & evaluating data	1.d.1. Understanding social, technological, & organizational systems	1.e.1. Selecting equipment & tools
	1.a.2. Money	1.b.2. Teaching others	1.c.2. Organizing & maintaining files	1.d.2. Monitoring & correcting performance	1.e.2. Applying technology to specific tasks
	1.a.3. Materials and facilities	1.b.3. Serving customers	1.c.3. Interpreting & communications	1.d.3. Designing and/or improving systems	1.e.2. Maintaining & troubleshooting technologies
	1.a.4. Space	1.b.4. Leading	1.c.4. Processing information with computers		
	1.a.5. Staff	1.b.5. Negotiating			
		1.b.6. Working with different cultures			

SCANS Foundation/Competencies	Courses											
Computer Information Systems, **CISCO**	ITCC 1402	ITCC 1406	ITCC 1442	ITCC 1446	ITCC 2432	ITCC 2436						
1. SCANS COMPETENCIES												
a. Resources. Allocating:												
(1) Time	X	X	X	X	X	X						
(2) Money												
(3) Materials				X	X							
(4) Space												
(5) Staff												
b. Interpersonal Skills:												
(1) Working on teams	X	X	X	X	X	X						
(2) Teaching others												
(3) Serving customers												
(4) Leading												
(5) Negotiating	X	X	X	X	X	X						
(6) Working with different cultures	X	X	X	X	X	X						
c. Information												

(1) Acquiring and evaluating data	X	X	X	X	X	X						
(2) Organizing and maintaining files	X	X	X	X	X	X						
(3) Interpreting and communication	X	X	X	X	X	X						
(4) Processing Information with computers												
d. Systems:												
(1) Understanding social, technological, & organizational systems	X	X	X	X	X	X						
(2) Monitoring & correcting performance			X	X	X	X						
(3) Designing and/or improving systems			X	X	X	X						
e. Technology:												
(1) Selecting equipment & tools			X	X	X	X						
(2) Applying technology to specific tasks	X	X	X	X	X	X						
(3) Maintaining & troubleshooting technologies		X	X	X	X	X						
2. SCANS FOUNDATIONS												
a. Basic Skills:												
(1) Reading	X	X	X	X	X	X						
(2) Writing	X	X	X	X	X	X						
(3) Arithmetic/Mathematics	X	X	X	X	X	X						
(5) Speaking	X	X	X	X	X	X						
(6) Listening	X	X	X	X	X	X						
b. Thinking Skills:												
(1)Thinking creatively	X	X	X	X	X	X						
(2)Making decisions	X	X	X	X	X	X						
(3)Solving problems	X	X	X	X	X	X						
(4)Seeing with the mind's eye	X	X	X	X	X	X						
(5) Knowing how to learn and reason	X	X	X	X	X	X						