



HOUSTON COMMUNITY COLLEGE SOUTHWEST

CCNP 3 – Multilayer Switching ITCC 2040

Date and Time of class: _____

Class CRN: _____

Instructor's Name: _____

School Site: _____

Phone number: _____

HOUSTON COMMUNITY COLLEGE SOUTHWEST COURSE SYLLABUS

CCNP 3 – Multilayer Switching ITCC 2040

An introduction to Cisco switches and how to use Cisco switches effectively in networks. Topics include switching concepts, virtual LANs, switch architecture (hardware and software), switch configuration, management and troubleshooting.

COURSE OBJECTIVE

The Houston Community College System-Southwest (HCCS-SW) Cisco Networking Academy is a unique partnership between Houston Community College Southwest and Cisco Systems Incorporated, the world's leading supplier of hardware and software for the Internet. The academy prepares students to pursue careers in computer networking through the use of a multimedia instructional format, lectures and discussions, and significant hands-on laboratory training.

The academy also provides preparation for the student to take the BCMSN Examination, (Multilayer Switched Networks Exam). This exam is one of four needed toward attaining the Cisco Certified Network Professional (CCNP) or Cisco Certified Design Professional (CCDP) certification, although this is secondary to the academy's main purpose of providing a comprehensive overview of networking from Cisco's perspective.

GOALS

In this class you will learn to do the following:

- Select and cable the Cisco products that enable connectivity within the campus network
- Ensure network availability through redundant links and virtual default routers
- Enable multilayer switching to facilitate wire-speed data transmission
- Ensure routing reliability through the implementation of Cisco Hot Standby Router Protocol
- Implement network services to obtain membership in multicast groups
- Control network traffic by implementing a network admission policy

LEARNING OUTCOMES

Students monitor their progress through regular online assessment quizzes. At the end of the semester, the students must pass an online final exam administered by Cisco, and hands-on skills based final exam administered by HCCS-SW Networking Academy in order to continue in the next semester. Upon completion of the course, students will be able to perform multilayer switching tasks including:

- Fast Ethernet, Gigabit Ethernet, VLAN basics, types, identification, and trunking protocol
- Spanning Tree Protocol
- MLS Processes, and configuration
- multicasting protocols, routing, and tasks

PREREQUISITES

Should have a CCNA-level understanding of the following:

- Internetworking fundamentals
- Basic router configuration
- Basic switch configuration
- Basic VLAN configuration
- Spanning Tree protocol
- Inter-Switch Link configuration
- Standard ACL configuration
- Routing protocol concepts

REQUIRED TEXTBOOK

Materials are all on-line.

COURSE REQUIREMENTS AND EXPECTATIONS

This is a 80-hour instructor guided course. Student will complete hands-on, in-class assignments.

COPYRIGHTED MATERIALS

All on-line course materials including the curricula and examinations are the copyrighted property of Cisco Systems Inc. and may not be reproduced in any form without the express permission of Cisco. This includes, but is not limited to, uploading or downloading the curriculum to floppy discs, CD's, tapes, or sending it electronically to other locations or users. Failure to adhere to this rule may result in expulsion from the academy and possible legal action by Cisco Systems Inc.

ATTENDANCE

Attendance is critically important to the successful completion of the program. Students experiencing attendance problems are still required to successfully complete both the on-line examinations and the required labs. In most cases, it is not possible to arrange alternative times for attendance, labs, or make-up exams, due to full utilization of the academy classrooms and labs. Students must recognize that labs and examinations are only guaranteed to be available at the assigned times. Make-ups must be arranged with the instructor and the program director, and are not guaranteed. In cases where the student has missed a significant number of classes and failed to successfully complete the on-line

examinations, it may be necessary to register and pay for an additional semester of the course. Therefore, students are strongly encouraged to avoid absences at all costs.

STUDENT ASSESSMENT

Classroom testing materials are provided by Cisco to measure a student's progress and mastery of the academy material. Cisco mandates that students make passing scores on the semester final examinations before they will be allowed to proceed to the next semester. The instructors will make every effort to assist the students in the successful completion of the course, but it must be understood that it is the student's responsibility to properly prepare for both the class and the on-line examinations. All tests must be taken on premises at the academy.

CLASSROOM RULES AND PROCEDURES

- Students are not allowed to modify the local computers and are prohibited from uploading files or programs. Students are asked to return the computer to its original condition at the end of each class period.
- No food or drinks are allowed in the classrooms or lab. The instructors as well as the students will follow this rule. Students wishing to eat or drink should use the break area at the front of the facility.
- Due to limited classroom space and security reasons, no guests will be allowed in the classroom. Friends and prospective students may visit the facilities by scheduling an appointment with the director's office.
- It is the responsibility of the student to bring the lab manual to class each evening.

OPPORTUNITIES FOR STUDENT-FACULTY INTERACTION

Students are encouraged to ask questions and request clarification or guidance as needed during class. A question and answer period is always provided.

OPPORTUNITIES FOR CAREER EXPLORATION

Topics relevant to future employment and career exploration opportunities will be presented to the students, including certification and degree prospects.

OPPORTUNITIES FOR SUPPLEMENTAL INSTRUCTION

Students are informed of instructional aids and resources, including books, other publications, and web sites relevant to the course.

SPEAKER FORUM

At the discretion of the instructor, speakers may be invited to address the class on pertinent topics.

CELL PHONES AND PAGERS

Cell phones and pagers can be disruptive during class. Please turn these devices off or set to mute while in the classroom or student lab.

WITHDRAWAL AND REFUND POLICY

Because programs require a minimum number of students for the classes to be offered, it is essential that students understand that they are committing to a place in the program and their inclusion means that someone else may not have an opportunity to enroll. Therefore, **NO REFUNDS WILL BE GIVEN AFTER THE FIRST DAY OF THE FIRST SEMESTER ONCE CLASS HAS COMMENCED.**

DISABILITY SERVICES

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of each semester. Faculty are authorized to provide only the accommodations requested by the Disability Support Services Office. The Southwest College Disability Services Office phone number is 713-718-7909.

CONTENT

Topics in BCMSN

- Overview of a Campus Network
- Building a Campus Network
- Defining Common Workgroups
- Managing Redundant Links
- InterVLAN Routing
- Managing Network Traffic
- Configuring HSRP for Fault-Tolerant Routing
- Multicast Overview
- Configuring IP Multicast
- Controlling Access to the Campus Network

STUDENT ASSESSMENT

Upon completion of course, students will complete an on-line Cisco Systems test.