

El Paso Community College

Syllabus

Part II

Official Course Description

SUBJECT AREA	<u>Information Technology Systems</u>
COURSE RUBRIC AND NUMBER	<u>ITCC 1301</u>
COURSE TITLE	<u>Cisco Exploration 1-Network Fundamentals</u>
COURSE CREDIT HOURS	<u>3 3 :</u> Credits Lec Lab

I. Catalog Description

Provides a course introducing the architecture, structure, functions, components, and models of the internet. Describes the use of OSI and TCP layered models to examine the nature and roles of protocols and services at the applications, network, data link, and physical layers. Covers the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations. Builds simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. **(3.1)**

II. Course Objectives

Upon satisfactory completion of this course, the student will be able to:

- A. Explain the importance of data networks and the Internet in supporting business communications (phone, text, email, chat, wikis, web 2.0 tools, etc) and other everyday activities.
- B. Explain how communication works in data networks and the Internet.
- C. Recognize the devices and services that are used to support communications across an Internetwork.
- D. Use network protocol models to explain the layers of communications in data networks.
- E. Explain the role of protocols in data networks.
- F. Describe the importance of addressing and naming schemes at various layers of data networks.
- G. Describe the protocols and services provided by the application layer in the OSI and TCP/IP models and describe how this layer operates in various networks.
- H. Analyze the operations and features of transport layer protocols and services.
- I. Analyze the operations and feature of network layer protocols and services and explain the fundamental concepts of routing.
- J. Design, calculate, and apply subnet masks and addresses to fulfill given requirements.
- K. Describe the operation of protocols at the OSI data link layer and explain how they support communications.
- L. Explain the role of physical layer protocols and services in supporting communications across data networks.
- M. Explain fundamental Ethernet concepts such as media, services, and operation.
- N. Employ basic cabling and network designs to connect and troubleshoot devices in accordance with stated objectives.
- O. Build a simple Ethernet network using routers and switches. Use Cisco command-line interface (CLI) commands to perform basic router and switch configuration and verification.

- P. Analyze the operations and features of common application layer protocols such as HTTP, Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), Simple Mail Transfer Protocol (SMTP), Telnet, and FTP.
- Q. Utilize common network utilities to verify small network operations and analyze data traffic.
- R. Connect the network to the Internet.
- S. Investigate current technologies and convergence in networking and mobile solutions.
- T. Identify job certifications and associated skills.
- U. Identify potential security hazards and investigate methods to diagnose, resolve, document and report security issues.

III. THECB Learning Outcomes (WECM)

1. Identify and describe internet architecture, structure, functions, components, and models.
2. Describe the use of OSI and TCP layered models.
3. Identify and describe the nature and roles of protocols and services at the application, network, data link, and physical layers.
4. Describe principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations.
5. Build simple LAN topologies by applying basic principles of cabling, device configuration, and IP subnetting.

IV. Evaluation

- **There are 11 on line exams that will contribute 5% to the final grade.**
- **There will be Labs assigned that will contribute 20 % to the final grade.**
- **There is an on line final exam that will contribute 45% to the final grade.**
- **There will be a skills test that will contribute 30% to the final grade.**

Percentage	Letter Grade
90 – 100	A
80 – 89.99	B
70 – 79.99	C
60 – 69.99	D
0 – 59.99	F

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.