



Purpose: It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.

Course Title – Introduction to Networks (CISCO 1)

Course Prefix and Number – ITCC 1475

Department – Computer Science

Division – Technology & Business

Course Type: (check one)

- Academic General Education Course (from ACGM – but not in WCJC Core)
- Academic WCJC Core Course
- WECM course (This course is a Special Topics or Unique Needs Course: Y or N)

Semester Credit Hours #: Lecture Hours #: Lab/Other Hours #: 4:3:3

Equated Pay hours for course – 4.5

Course Catalog Description - Introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of either course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. This course assumes computer literacy

| List Lab/ Other Hours |
|--------------------------|
| Lab Hours 3 |
| Clinical Hours 0 |
| Practicum Hours 0 |
| Other (list) 0 |

Typically offered spring and fall semesters

Prerequisites/Co-requisites –

Prepared by: Donna Schilling

Date: 07-19-2015

Reviewed by Department Head: Donna Schilling

Date: 07-19-2015

Accuracy verified by Division Chair: David Kucera

Date: 8/12/15

Approved by Dean or Vice President of Instruction: Leigh Ann Collins

Date: 3-4-16

I. Topical Outline – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

- Exploring the Network
- Configuring a Network Operating System
- Network Protocols and Communications
- Network Access
- Ethernet
- Network Layer
- Transport Layer
- IP Addressing
- Subnetting IP Networks
- Application Layer
- It's a Network

II. Course Learning Outcomes

This course incorporates the National Workforce Center for Emerging Technologies Programming/Software Engineering skill standards recognized by the Texas Skill Standards Board.

| Learning Outcomes | Methods of Assessment |
|--|--|
| <p>Upon successful completion of this course, students will:</p> <ol style="list-style-type: none"> 1. Understand and describe the devices and services used to support communications in data networks and the Internet. 2. Understand and describe the role of protocol layers in data networks. 3. Understand and describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments. 4. Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks. 5. Explain fundamental Ethernet concepts such as media, services, and operations. 6. Build a simple Ethernet network using routers and switches. 7. Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations. 8. Utilize common network utilities to verify small network operations and analyze data traffic. | <p>All outcomes will be assessed by one or more of the following:</p> <ul style="list-style-type: none"> Individual Projects Tests and Quizzes Lab Assignments Final Exam Skills Exam |

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

- CCNA Portable Command Guide Third Edition by Empson ISBN-9781587204302 eBook: 9780133381368
- USB Flash Drive
- High-speed Internet Connection

IV. Suggested Course Maximum - 18

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.

Computer for each student, Cisco routers, switches, wireless routers, fiber cable tester, Ethernet cable testers

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course

Course Requirements

| | |
|---------------------------|--------|
| Comprehensive Skills Exam | 20-25% |
| Comprehensive Final Exam | 20-25% |
| Labs/Homework | 25-30% |
| Chapter Tests | 20-25% |
| Attendance/Participation | 0-15% |

Grading System –

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

VII. Curriculum Checklist

- **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

- **Academic WCJC Core Course**
Attach the Core Curriculum Checklist, including the following:

- Basic Intellectual Competencies
- Perspectives
- Exemplary Educational Objectives

- **WECM Courses**

If needed, revise the Program SCANS Matrix & Competencies Checklist.