CS 82.41A Course Outline as of Fall 2015

CATALOG INFORMATION

Dept and Nbr: CS 82.41A Title: TELECOMMUNICATIONS - 1
Full Title: Telecommunications 1
Last Reviewed: 12/6/2010

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.50	Lecture Scheduled	1.50	17.5	Lecture Scheduled	26.25
Minimum	1.50	Lab Scheduled	0	4	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	1.50		Contact Total	26.25
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 52.50 Total Student Learning Hours: 78.75

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	CIS 78.11A

Catalog Description:
This course will provide an introduction into the electronic transmission of information. The topics include telecommunications theory and history, hardware and software specifications, telephony, data exchange models, teleconferencing, telecommuting, and the Internet.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100 and Course Completion of CS 101B (or CIS 101B)

Limits on Enrollment:

Schedule of Classes Information:
Description: This course will provide an introduction into the electronic transmission of information. The topics include telecommunications theory and history, hardware and software specifications, telephony, data exchange models, teleconferencing, telecommuting, and the Internet. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100 and Course Completion of CS 101B (or

CIS 101B)
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of this course, students will be able to:
1. Outline the basic components of a computer network using both the OSI (Open Systems Interconnection) model and the Internet model.
2. Compare voice telephone systems including standard telephone lines, leased line services, and PBX (Private Branch Exchange) systems.
3. Evaluate the various transmission media commonly used in carrier systems; i.e., coaxial cable, fiber optic cable, microwave radio, as well as the carrier systems overall operating characteristics.
4. Explain the basics of data communications, including data, signals, conversions between data and signals, encoding techniques, multiplexing, and modems.
5. Delineate the integration of voice technologies with data technologies.
6. Describe the values, themes, methods, and history of telecommunications and identify realistic career objectives related to this field.
7. Perform research specific to the discipline and use appropriate citation style, if different from MLA (Modern Language Association).

Topics and Scope:

1. Telecommunication Systems
   a. History of Telecommunications
   b. Deregulation
   c. Orientation to Values, Themes, and Methods
   d. Realistic Career Objectives
2. Public Switched Telephone Network (PSTN)
   a. Public Switched Telephone Network Services
   b. Leased Lines
   c. Integrated Services Digital Network (ISDN)

   d. Digital Subscriber Line (DSL)
3. Computer Telephony Integration
   a. Telephone Network and Data
   b. Using the Telephone Network for Data Communications
   c. PBX Systems
4. Introduction to Computer Networks and Data Communications
   a. Language of Computer Networks
   b. Computer Networks (Basic Configurations)
   c. OSI Model
5. Fundamentals of Data and Signals
   a. Data and Signals
   b. Converting Data into Signals
   c. Spread Spectrum
   d. Data Codes
6. Conducted and Wireless Media
   a. Twisted Pair
   b. Coaxial
   c. Fiber Optic
   d. Wireless
7. Making Connections
   a. Modems
   b. Bandwidth Limitations
   c. Modem Alternatives
   d. Channel Service Unit (CSU)/Digital Service Unit (DSU)
   e. Cable Modems
   f. ISDN Modems
   g. DSL Modems
   h. Interfacing Computers, Modems and Other Devices
   i. Data Link Connections
8. The Internet
   a. Internet Services
   b. World Wide Web
   c. Intranets and Extranets
   d. Internet Protocols
   e. The Future of the Internet

Assignment:

1. Short written responses to end-of-chapter questions.
2. 2-3 one page reports on current events articles with links or references.
3. Group or individual projects such as logical design of a network and/or shopping for networking equipment for a business application.
4. Three to six tests and/or quizzes.
5. Weekly vocabulary review.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework, reports on articles	Writing 20 - 40%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Projects	Problem solving 20 - 40%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Exams to include multiple choice, true/false, matching items, completion	Exams 40 - 60%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation	Other Category 0 - 10%

Representative Textbooks and Materials:
Introduction to Telecommunications. 2nd Edition by Anu Gokhale - Delmar Sengage Publishers 2005