Course Outline of Record Report
10/13/2021

CSCIC241 : Introduction to Telecommunications

General Information

Author:	-
Course Code (CB01) :	CSCIC241
Course Title (CB02) :	Introduction to Telecommunications
Department:	Business Information Technolog
Proposal Start:	Fall 2013
TOP Code (CB03) :	(0702.00) Computer Information Systems
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	Yes
Course Control Number (CB00) :	CCC000159451
Curriculum Committee Approval Date:	10/31/2014
Board of Trustees Approval Date:	12/18/2014
External Review Approval Date:	02/09/2015
Course Description:	This course is designed to familiarize the student with the techniques, applications and control of modern data communications networks. The course provides the student with a working knowledge of the types of communications systems and their strengths and weaknesses in solving various information network problems.
Submission Type:	New Course
Author:	No value

Faculty Minimum Qualifications

Master Discipline Preferred:	• Computer Science
Alternate Master Discipline Preferred:	No value
Bachelors or Associates Discipline Preferred:	• Computer Information Systems (Computer network installation, microcomputer technology, computer applications)
Additional Bachelors or Associates Discipline Preferred:	No value

Course Development Options

Basic Skills Status (CB08)	**Course Special Class Status (CB13)**	**Grade Options**
Course is not a basic skills course.	Course is not a special class.	• Letter Grade Methods • Satisfactory Progress
☐ Allow Students to Gain Credit by Exam/Challenge	**Allowed Number of Retakes** 0	**Course Prior To College Level (CB21)** Not applicable.

Rationale For Credit By Exam/Challenge	**Retake Policy Description**	☑ Allow Students To Audit Course
No value	Type:|Non-Repeatable Credit	

Course Support Course Status (CB26)

No value

Associated Programs

☐ Course is part of a program (CB24)

Associated Program	**Award Type**	**Active**
No value	No value	

Transferability & Gen. Ed. Options

Course General Education Status (CB25)

No value

Transferability	**Transferability Status**
Transferable to CSU only	Approved

Units and Hours:

Summary

Minimum Credit Units (CB07)	3
Maximum Credit Units (CB06)	3
Total Course In-Class (Contact) Hours	90
Total Course Out-of-Class Hours	72
Total Student Learning Hours	162
Faculty Load	0

Credit / Non-Credit Options

Course Credit Status (CB04)	**Course Non Credit Category (CB22)**	**Non-Credit Characteristic**
Credit - Degree Applicable	Credit Course.	No Value

Course Classification Status (CB11)	**Funding Agency Category (CB23)**	☐ Cooperative Work Experience Education Status (CB10)
Credit Course.	Not Applicable.	

☐ Variable Credit Course

Weekly Student Hours

	In Class	Out of Classs
Lecture Hours	2	4
Laboratory Hours	3	0
Activity Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	0
Course In-Class (Contact) Hours	
Lecture	0
Laboratory	0
Activity	0
Total	90
Course Out-of-Class Hours	
Lecture	0
Laboratory	0
Activity	0
Total	72

Time Commitment Notes for Students

No value

Faculty Load

Extra Duties: 0

Faculty Load: 0

Units and Hours: - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Prerequisite

CSCIC101 - Introduction to Computer Information Systems

Students need to be able to identify hardware components of a computer system, understand the basics of operating systems and application software, install software, understand what memory is, how to zip and unzip files, how to save and find files and understand the basics of network topology. This material is covered in the CSCI C101 course.

AND

Advisory

CSCIC143 - Computer Network Fundamentals

Students need a basic understanding of networking terminology, network structure to transfer that knowledge to network system design and analysis. This material is covered in the CSCI C143 course.

AND

Advisory

CSCIC146 - Introduction to Information Systems Security

Students need a basic understanding of networking terminology, network structure to transfer that knowledge to network system design and analysis. This material is covered in the CSCI C143 course.

Entrance Skills

Entrance Skills	Description
No value	No value

Limitations on Enrollment

Limitations on Enrollment	Description
No value	No value

Specifications

Methods of Instruction

Methods of Instruction	Other
Rationale	Other Methods: A. Classroom lecture and demonstration of algorithmic problem solving methods.Other Methods: A. Classroom lecture and demonstration of algorithmic problem solving methods.B. Laboratory application of programming concepts including the analy

Methods of Instruction	Written work
Rationale	No value

Methods of Instruction	Project-based learning
Rationale	No value

Methods of Instruction	Presentations (by students)
Rationale	No value

Methods of Instruction	Lecture
Rationale	No value

Methods of Instruction	Laboratory
Rationale	No value

Methods of Instruction	Instruction through examination or quizzing
Rationale	No value

Methods of Instruction	Demonstration
Rationale	No value

Methods of Instruction	Discussion
Rationale	No value

Assignments

A. Chapter reading
B. Weekly lab assignments (Example: Configure a local area network for a small office, might include configurations for various small office types such as personal services-hair and nail salon or barber shop, automotive shops, medical or dental offices, or small retail stores).
C. Research on topics presented in the chapter (Example: Design the network interface between the office and the main network of the parent corporation).
D. Assigned questions, answered based on chapter reading, their research, and the answers of other students (Example: Discuss the advantages of VOIP both technologically and economically over traditional telephony methods).
E. Periodic updates to their semester project (Example: Semester projects may include configuring a WAN, include size, topology, interface, and protocol).

Methods of Evaluation	Rationale
Homework	Lab assignments demonstrating student's ability. - Example: design a basic telecommunication system using appropriate hardware and networking protocols.
Homework	Writing assignments. - Essay evaluating students' comprehension of emerging technologies
Tests	Objective tests/quizzes demonstrating student's knowledge. - Test evaluating fundamental telecommunication concepts and protocols.

Equipment

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
	White, Curt M.. (2013) Data Communications and Computer Networks: A Business User's Approach, 7th, Cengage Learning			

Other Instructional Materials

Description	Software: Gliffy. Gliffy, 2014 ed. -Online Diagramming Application. No cost for the first 5 diagrams
Author	
Citation	Introduction to Telecommunications

Materials Fee

No

Learning Outcomes and Objectives

Course Objectives

No value

CSLOs

Discuss the history of the telecommunications industry and the technical components necessary for a telecommunications network to function, and critique several areas related to new communications systems, equipment, and networks.

Expected SLO Performance: 70.0

Analyze how communications systems use common methods and protocols to prepare, package, transport, and interpret messages traveling across the medium.

Expected SLO Performance: 70.0

Differentiate the three principle areas in communications: how voice information is switched across the network, how data information is routed across the network, and how signaling protocols are used to direct and navigate the information signals.

Expected SLO Performance: 70.0

Explain the Open System Interconnection (OSI) model and describe how the network handles switching and routing devices.

Expected SLO Performance: 70.0

Compare and contrast the three primary service providers in telecommunications; the telephone company, the cable television provider, and the wireless providers and evaluate various types of communications applications sold to end subscribers by the different service providers.

Expected SLO Performance: 70.0

Outline

Course Outline

A. High-Level Overview
1. The basics &mdash: Sound; Electrical Signal; Electromagnetic Spectrum
2. The Telephone and the Telephone Line
3. Connecting the Dots &mdash: Transporting Information across the Superhighway

B. Networking Fundamentals
1. Manipulating Information for Transmission
2. OSI Model &mdash: Relationship to Networking
3. Layer 3/4 Networking/Transport Protocols
4. Layer 2 Networking Protocols
5. Layer 1 Networking Protocols

C. Digital Switching and Routing
1. Digital Circuit Switch
2. Signaling
3. Distributed Switching Architecture &mdash: Voice Over IP
4. IP Routing Fundamentals

D. Telecommunications Networks
1. Transmission Medium
2. OSP &mdash: Outside Plant Infrastructure
3. Core Network
4. Metropolitan Network
5. Access Network &: LAN

E. Communication Service Providers &mdash: PSTN; CATV; Cellular
1. PSTN Central Office
2. PSTN Network Topology
3. Customer Premises
4. CATV Cable Television as a Telecommunications Service Provider
5. CATV Network Topology
6. The Cellular/PCS Telephone Network
7. Wireless Broadband Providers

F. Telecommunications Applications
1. Residential Services
2. Business Services
3. The Internet

G. Emerging Technologies
1. Emerging Technologies

Lab Outline

A. Configure a local area network for a small office For example: configure LAN for a medical or dental office.
B. Install power sources; servers; routers; switches; user workstations; hubs; printers; mainframes; and any other necessary and supporting equipment.
C. Install equipment to connect two or more networks. For example; design the network interface between the office and the main network of the parent corporation
D. Use appropriate cable types and configurations for efficient/effective communications. For example; configure straight-thru and crossover cables for proper network connectivity
E. Create wireless access points. Determine where wireless access points are necessary. For example; telephone connectivity to the network from off-site location.
F. Specify the network operating system and utility software.

Delivery Methods and Distance Education

Delivery Method: Please list all that apply -Face to face -Online (purely online no face-to-face contact) -Online with some required face-to-face meetings ("Hybrid") -Online course with on ground testing -iTV – Interactive video = Face to face course with significant required activities in a distance modality -Other

Face 2 Face
Online
Hybrid
Interactive

Rigor Statement: Assignments and evaluations should be of the same rigor as those used in the on-ground course. If they are not the same as those noted in the COR on the Methods of Evaluation and out-of-class assignments pages, indicate what the differences are and why they are being used. For instance, if labs, field trips, or site visits are required in the face to face section of this course, how will these requirements be met with the same rigor in the Distance Education section?

All assignments in distance education courses (online, hybrid and iTV) of CSCI C241 are of the same rigor as those in the on-ground course, except that students in purely online sections will submit all of their assignments virtually. Instructor evaluatio

Effective Student-Instructor Contact: Good practice requires both asynchronous and synchronous contact for effective contact. List the methods expected of all instructors teaching the course. -Learning Management System -Discussion Forums -Moodle Message -Other Contact -Chat/Instant Messaging -E-mail -Face-to-face meeting(s) -Newsgroup/Discussion Board -Proctored Exam -Telephone -iTV - Interactive Video -Other (specify)

contact_moodle_forums
contact_moodle_message
contact_chat
contact_email
contact_discussion
contact_itv

Software and Equipment: What additional software or hardware, if any, is required for this course purely because of its delivery mode? How is technical support to be provided?

Gliffy online diagramming application for the semester project. This is a free application for students for up to 5 diagrams. There is online technical support through the company.

Accessibility: Section 508 of the Rehabilitation Act requires access to the Federal government's electronic and information technology. The law covers all types of electronic and information technology in the Federal sector and is not limited to assistive technologies used by people with disabilities. It applies to all Federal agencies when they develop, procure, maintain, or use such technology. Federal agencies must ensure that this technology is accessible to employees and the public to the extent it does not pose an "undue burden". I am using -iTV—Interactive Video only -Learning management system -Publisher course with learning management system interface.

s508_itv
s508_moodle
s508_publisher

Class Size: Good practice is that section size should be no greater in distance ed modes than in regular face-to-face versions of the course. Will the recommended section size be lower than in on-ground sections? If so, explain why.

No Value