

CSCE 416: Introduction to Computer Networks

1. Course number and name: CSCE 416: Introduction to Computer Networks
2. Credit: 3-hrs; Contact: 3 lectures of 50 minutes each or 2 lectures of 75 minutes each per week
3. Instructor: Fall 2010: Srihari Nelakuditi
 Spring 2011: Wenyuan Xu
4. Text book: James F. Kurose and Keith W. Ross, *Computer Networking: A Top-Down Approach*, 5th Edition, Addison Wesley, 2009, ISBN-10: 0136079679, ISBN-13: 9780136079675.
5. Specific course information
 - a. Catalog description: Concepts and components of computer networks and the Internet; network applications; network protocol stack.
 - b. Prerequisites: CSCE 311
 - c. Required in all curricula
6. Specific goals for the course
 - a. Specific outcomes of instruction:
 1. Describe and compare the basic technologies used in communications systems.
 2. Describe the organization of computer networks and evaluate alternative organizations.
 3. Evaluate the protocols used in computer networks.
 4. Communicate technical information in written reports.
 - b. Relation of course outcomes to Student Outcomes: CE: see page 2; CS & CIS: see page 3
7. Topics covered and approximate weight (14 weeks, 3 hours/week, 42 hours total)
 1. layered network architectures
 2. network programming interfaces (e.g., sockets)
 3. transport and data link protocols
 4. physical media
 5. local area networks
 6. network routing protocols

c.

Computer Engineering

Relation of Course Outcomes to EAC Student Outcomes*

Course Outcomes (CE)	Student Outcomes											
	(a) apply knowledge of mathematics, science, and engineering	(b) design and conduct experiments, ... interpret data	(c) design a system, component, or process to meet desired needs ...	(d) function on multidisciplinary teams	(e) identify, formulate, and solve engineering problems	(f) understand of professional and ethical responsibility	(g) communicate effectively	(h) broad education to understand the impact of engineering solutions ...	(i) a recognition of the need for, and an ability to engage in lifelong learning	(j) a knowledge of contemporary issues	(k) use the techniques, skills, and modern engineering tools ...	(CE) demonstrate knowledge of discrete mathematics [CE]
Criteria	A	B	C	d	E	f	g	h	i	j	k	CE
1. Describe and compare the basic technologies used in communications systems.	1	1	3		3	1		1	1			
2. Describe the organization of computer networks and evaluate alternative organizations.	2	1	2		3	1		1	1			1
3. Evaluate the protocols used in computer networks.	3	3	1		2	1		1	1		2	2
4. Communicate technical information in written reports.							3		2			

* 3 = major contributor, 2 = moderate contributor, 1 = minor contributor; blank if not related

d.

Computer Science & Computer Information Systems

Relation of Course Outcomes to CAC Student Outcomes*

Course Outcomes (CS & CIS)	Student Outcomes											
	All									CS		CIS
	(a) apply knowl edge of comput ing and mathe matics approp riate to the discipl ine	(b) analyz e a proble m, and identif y and define the comput ing requir ement s ...	(c) design , imple ment, and evalua te a comput er- based system, ...	(d) functi on effecti vely on teams to accom plish a comm on goal	(e) An unders tandin g of profes sional, ethical , legal, ... respon sibiliti es	(f) comm unicat e effecti vely with a range of audien ces	(g) analyz e the local and global impact of comput ing on ... societ y	(h) Recogn ition of the need for ... contin uing profes sional develop ment	(i) curren t techni ques, skills, and tools necess ary for comput ing practi ce	(j) apply mathe matical found ations, algorit hmics princi ples, and CS theory ...	(k) apply design and develop ment princi ples	(j) An unders tand proces ses that suppo rt the infor matio n system s enviro nment
Criteria	a	b	c	d	e	f	g	h	i	J	k	j
1. Describe and compare the basic technologies used in communications systems.	1	2	1				1	1		2	3	1
2. Describe the organization of computer networks and evaluate alternative organizations.	2	2	1				1	1		2	3	1
3. Evaluate the protocols used in computer networks.	3	3	3				1	1	2	3	2	
4. Communicate technical information in written reports.						3						

* 3 = major contributor, 2 = moderate contributor, 1 = minor contributor; blank if not related