Course Outcomes	CSC 4501

CSC 4501: Computer Networks

Credit Hours: 3 hours

Prerequisites:

CSC 4103

Prerequisites by Topics:

Process management, processor scheduling, and other fundamental topics covered in CSC 4103

Catalog Course Description:

Introduction to local, metropolitan, and wide area networks using the standard OSI reference model as a framework; introduction to the Internet protocol suite and network tools and programming; discussion of various networking technologies.

Course Outcomes:

1. To master the terminology and concepts of the OSI reference model and the TCP-IP reference model.
2. To master the concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks,
3. To be familiar with wireless networking concepts,
4. To be familiar with contemporary issues in networking technologies,
5. To be familiar with network tools and network programming

Texts and Other Course Materials

Computer Networking: A Top-Down Approach Featuring the Internet. James F. Kurose and Keith W. Ross. 3rd Edition, Addison-Wesley, 2005.

Reference: Computer Networks: A Systems Approach. Larry L. Peterson and Bruce S. Davie. 3rd Edition, Morgan Kaufmann Publishers, 2003.

Major Topics

- OSI Reference Model
- TCP/IP Reference Model
- Application Layer protocols
- Transport Layer
- Network Layer
- Link Layer and LANs
- Wireless LANs
- Multimedia Networking

Assignments/Projects/Laboratory Projects/Homework

Homework assignments will be assigned on a weekly basis. Programming assignments will be assigned every three to four weeks upon the completion of Chapter 2. Each undergraduate student will be required to complete one journal quality research paper. Graduate students who are taking CSC 4501 for graduate credit will be required to complete two journal quality papers. Students will be given six to eight weeks to complete each research paper assignment.

An example programming assignment includes the development of a Multi-threaded web server which processes multiple parallel requests and displays the contents of the HTTP version 1.0 messages that it receives.

Curriculum Category Content (estimated in semester hours)

Area	Core	Advanced	Area	Core	Advanced
Algorithms	1.0		Data Structures		
Software Design	1.5		Prog. Languages	.5	
Computer Arch.					

Relationship to Criterion 3 Outcomes

A	B	C	D	E	F	G	H	I	J	K
*		*	*	*	*	*	*	*	*	*

Math and Fundamentals:

Data Structures:

Algorithms and Software:

Students will solve various chapter problems and programming assignments in the course text that are associated with the course topics.

Students will design and develop program solutions to satisfy the requirements for the programming assignments.

Computer Organization and Architecture:

Concepts of Programming Languages:

Social and Ethical Issues:

Oral Communication (presentations)

Every students is required to make ___0_ oral presentation(s) of typically ____ minutes duration.

Written Communication:

Every student is required to submit at least __1__ journal quality research paper (not including exams, tests, quizzes, or commented programs) of typically __15_ pages.

Course Coordinator: Dr. Anitra Wilson
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