

Syllabus

ELEC 419 – Computer Network Architecture, Spring 2010

Course	<i>ELEC 419</i> <i>Computer Network Architecture</i>	Instructor	Dr. Jason S. Skinner
Text	<i>Data and Computer Communications,</i> <i>8th Edition</i> By William Stallings, Prentice Hall 2007	Email	jason.skinner@citadel.edu
Meeting Time & Place	Section 01 – Tuesday/Thursday 9:30am – 10:45am Grimsley 322	Office	Grimsley 310 (843) 953-3352
Web Page	http://ece.citadel.edu/skinner http://blackboard.citadel.edu	Office Hours	Monday – By appointment only Tuesday – 3:00pm - 5:00pm Wednesday – 8:00am - 12:00pm Thursday – 3:00pm - 5:00pm Friday – By appointment only

PRE-REQUISITES

It is assumed that each student has passed *ELEC 311 – Digital Logic and Circuits* prior to taking this course.

COURSE DESCRIPTION

This course will cover network architectures and protocols. Included are transmission technologies, encoding/decoding schemes, packet switching, frame relay, ISDN, ATM and performance modeling techniques.

COURSE OBJECTIVE

A first course in computer communications, which introduces the problems, solutions, and limitations, associated with interconnecting computers by communication networks (LAN or WAN). The seven-layer Open Systems Interconnection (OSI) reference model serves as a framework for the course with major emphasis on the physical layer standards, data link protocols, and network and transportation layer protocols. Topics include: modems, baseband and broadband communications, HDLC, Ethernet and token ring LANs, cell and frame relay networks, bridges, routers, services of the upper layers (Session, Presentation, Application), and network security.

SCHEDULE (DATES SUBJECT TO CHANGE DUE TO CLASS PROGRESS)

SECTION 01	TOPICS	READING
01/14	Course Overview, Introduction	Ch. 1
01/19, 01/21	Protocols	Ch. 2
01/26, 01/28	Protocols and Architectures	Ch. 18
02/02	Network Analysis Software Presentations	
02/04	Network Analysis Software Presentations	
02/09	Data Transmission	Ch. 3
02/11	Transmission Media	Ch. 4
02/16	Signal Encoding Techniques	Ch. 5
02/18	Lecture Overflow, Review for Test 1	
02/23	Test 1	Ch. 1 – 5, 18
02/25	Digital Data Communication Techniques	Ch. 6
03/02	Data Link Control Protocols	Ch. 7
03/04	Multiplexing	Ch. 8
03/09	Spread Spectrum	Ch. 9
03/11	Circuit Switching and Packet Switching	Ch. 10
03/16	Asynchronous Transfer Mode	Ch. 11
03/18	Routing	Ch. 12
03/23	Lecture Overflow, Review for Test 2	
03/25	Test 2	Ch. 6 – 12
03/30	Cellular Wireless Networks	Ch. 14
04/01	Local Area Networks	Ch. 15
04/06, 04/08	No Class – Spring Break	
04/13	High Speed LANs	Ch. 16
04/15	Wireless LANs	Ch. 17
04/20, 4/22	Network Lab/Projects	
04/27	Lecture Overflow, Review for Final Exam	
04/29 8:00am	Final Exam	Ch. 1 – 12, 14 – 18

Blackboard is the online course management system used by The Citadel. Blackboard will be used to post course information (such as this syllabus), lecture slides and notes, homework and project assignments, online quizzes, corrections and answers to questions about assignments, and individual grades.

QUIZZES

There may be weekly quizzes throughout the semester. Each quiz will be timed and will be administered through the Blackboard online course management system.

PROJECTS

There may be at most three projects throughout the semester. Each project must be your own (or assigned team's) work. If teams of students are allowed, then every student must have made a significant contribution to the completed project.

TESTS

There will be two in-class tests and one final exam. The final exam will be cumulative. Assigned tests are required. Unless authorized to the contrary by Dr. Skinner, such tests take precedence over all other duties or activities. If you know you will miss an exam, you must let Dr. Skinner know as soon as possible so a make-up exam time can be arranged. Make-up exams will only be given for those students that have made a reasonable attempt to contact Dr. Skinner.

GRADING

Students will be graded on everything that is required to be turned in. All exams are scheduled well in advance. Due to the potential unfairness of make-up exams, they will only be given in extreme circumstances. Your final grade in the course will be determined as follows:

<i>Relative weights of components</i>	
Homework/Quizzes/Projects/Class Participation	30%
2 In-Class Tests	20% each
Final Exam	30%

A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = 59 or below

COURSE POLICIES

Attendance - Attendance is mandatory. Unless circumstances preclude it, it is your responsibility to notify Dr. Skinner of any schedule conflicts or excused absences that will result in your missing class. It is college policy that a grade of F may be awarded to a student if that student misses more than 20% of the course meetings (excused or unexcused). For this course, 6 classes constitute 20% of the class meetings.

Classroom Decorum - No food or drink is permitted in the classrooms of this building. Proper attire is encouraged, and ECE department policy prohibits hats, cutoffs, shorts, tank tops, and feet without socks in class.

Special needs - Students currently documented or anticipate being documented as Learning Disabled (LD), as having Attention Deficit Disorder (ADD), or with another condition for which you might need special accommodation during the semester must provide written documentation of the condition and of the accommodation needed to me within two weeks of the semester start. You may then choose, by notifying Dr. Skinner before the start of each exam or assignment, whether you will need any accommodation. Notification after the start of an exam or last minute notification on an assignment will not be accepted. Please Note: To request academic accommodations (for example, a note taker), students must also register with Academic Support/Special Services, 953-1820, located in Thompson Hall. It is the campus office responsible for reviewing documentation provided by students requesting academic accommodations, and for accommodations planning in cooperation with students and instructors, as needed and consistent with course requirements.

Cheating and Collaborative Work - According to The Citadel's policies for the preparation of work performed outside the classroom:

All papers, reports, senior essays, theses, or other written work performed outside the classroom for which a grade is received will be the individual's work and is subject to the limitations imposed by the definition of plagiarism.

According to Webster's New International Dictionary, 3rd Edition: to plagiarize is defined as "to steal and pass off as one's own the ideas or words of another" or to "present as new and original an idea or product derived from an existing source."

CHEATING IN ANY FORM WILL BE FULLY PROSECUTED.