Southern Illinois University
Course: ET 437B
Title: Data and Computer Communication
Currently: Wireless Communication Systems
Semester: Spring 2016
Syllabus

Instructor: Bhargava. Katrepalli
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Office Hours: Mon & Wed 10-12 noon & 1-2 p.m.
Course Website: D2L

Prerequisite

437A

Required Course Text


Reference

Data Manuals to be provided

Course Description

This course is a study of data and computer networks. Students are introduced to communication protocols, networking technologies and the various computer networks devices/hardware. The TCP/IP is used in introducing the purpose and underlying principles of existing communication protocol standards. The course concludes with an overview of emerging communication standards and technologies. Associated labs reinforce the concepts introduced and allow students to simulate and build real systems.

Course Objectives:

To understand the fundamental principles of data and computer communication networks, and to gain an awareness of the real world applications of these principles and concepts.

Learning Outcomes

At the end of this course students should:

1. Be knowledgeable of the fundamental concepts of data and computer communication networks
2. Demonstrate an awareness of the relationship between data communication theory and its application in state of the art protocols and technologies
3. Be able to design and test simple data and computer communication networks
4. Be able to apply trouble shooting and problem solving skills in experimentation

Topics

Chapter 1: Introduction
Internet, Circuit Switching vs Packet Switching, Delays, OSI Architecture.

Chapter 2: Application Layer
Client Server and P2P Architecture, Socket Programming, HTTP, DNS

Chapter 3: Transport Layer
Basics, Principles of Reliable data transfer, TCP flow control, Congestion Control.

Chapter 4: Network Layer

Chapter 5: Data Link Layer
Switching Fabrics, MAC protocols, CSMA, Vlan.

Chapter 6: Security

Assessment (subject to change at instructor’s discretion):

1. Homework – 10%
2. Lab- 20%
3. Project- 10%
4. Test 1 - 15%
5. Test 2- 15%
6. Comprehensive Exam- 30%

Final Exam- Date & Time

Monday, May 9, 2016; 2:45-4:45p.m.

Grading

A: 90-100
B: 80-89.9
C: 70-79.9
D: 60-69.9
F: below 60

Class Policies
i) Class attendance is required and class role will be randomly taken. Attendance data will be used to determine borderline grade adjustments.

ii) In exceptional cases a make-up test will be given to a student that complies with all of the following:

1. Call (or email) instructor **BEFORE** test time to notify of problem.
2. Bring written proof to instructor.

The following situations apply for a make-up:

1. The make-up test will be of more complexity and more exhaustive than the original test missed and will include all materials up to the date of the make-up test.
2. Only one test can be missed; therefore, only one make-up test will be given.
3. The time and place of this make-up test will be announced in advance, and you must sign up with the instructor a minimum of one week in advance.

**Emergency Procedures:**

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in building on campus, available on the BERT’s website at [www.bert.siu.edu](http://www.bert.siu.edu), Department of Public Safety’s website [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and in the Emergency Response Guidelines pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.