

# CPSC 4550 Computer Networks

## Fall 2012, Section 0

Course: CPSC4550, Section 0, CRN 42534  
Title: Computer Networks  
Class Schedule: Classroom-Internet, Time-Internet  
Credit: 3  
Faculty: Dr. Li Yang Office: EMCS 314 A  
E-mail: [Li-Yang@utc.edu](mailto:Li-Yang@utc.edu) Phone: 425-4392  
Office Hours: M/T/W 9:00 am-12:00pm and W 1:00-2:00pm

### Course Description

This class will cover the theory, design, engineering, and installation of networks to connect digital computers. The course will prepare students to plan and implement a network. Also includes peer-to-peer networks, the client-server model, network operating systems, and an introduction to wide-area networks. The network and implementation tools may vary to meet current development trends. *Prerequisites: CPSC 2800 and 3700 with grades of C or better.*

### The Course Objectives

- \* Understand the principles and concepts on computer networks.
- \* Understand general-purpose computer networks.
- \* Master the computer network applications.
- \* Master the knowledge on designing and building a complete system.

### Background:

- C, C++ (or Java) programming
- Computer network concept
- Operating system calls

### Text Book

*Computer Networking – A Top-Down Approach Featuring the Internet*, by James F. Kurose and Keith W. Ross, ISBN-10: 0132856204 or ISBN-13: 978-0132856201. 6th Edition. Publisher is Addison Wesley.

### IA resources

Please check this link from the UTC InfoSec center for additional resources for your course work and paper: <http://www.utc.edu/center-information-security-assurance/resources.php>.

### Course URL and Access

Access the course using your UTC-ID and password at: <http://utconline.utc.edu/>. The server that hosts the class materials has scheduled maintenance from 3:45 am - 4:15 am.

The system may go down during this period. Be patient if you can't access the class during these times and just try back later. Please do not plan on catching up, posting materials, etc during these times. If you have forgotten your UTC password or ID there is a "forgot my password" button at logon that might help. I do not have access to either of these pieces of information. Please do not contact me for this information. If you need additional help, call the UTC help line at 423-425-4000.

## **Assignment Criteria**

On-line course work is to be completed by the individual student without collaboration. Each assignment will be due by midnight Eastern Standard Time on the assigned date. Late assignments will be accepted up to one week after the assigned date with a penalty. Late comments on discussion questions will not be accepted. Plagiarized assignments will receive a grade of zero.

## **Assignments**

The assignments include homework and projects.

- \* They are graded on correctness.
- \* They must be turned in on due days in class. No late homework will be accepted.
- \* For each assignment, the student must leave a copy in the drop box of the blackboard system.

Assignments will be accepted up to **ONE** week following the due date. There will be a 20% reduction on the grade for late work. Consistent late work will result in larger deductions. Late discussions in the forum are **NOT** acceptable. Instructions for each assignment are supplied on UTC Online. A schedule for assignments can be found on UTC Online under the Assignment tab. You are expected to be aware of the assignments and their due date. Do not expect an email to tell you when assignments are due.

## **Exams**

There are 2 exams. One is the midterm exam and the other is the final comprehensive exam.

## **Makeup Tests**

Makeup tests will be not be given. You will have a period of time in which your test will be available to you on UTC online. It is your responsibility to assure that you take the test within the given time period.

## **E-Mail Communication**

You will receive a number of e-mail messages from me throughout the semester. If there are any changes to the course syllabus or alerts that you will need these will come in these emails. I will not send your assignments every week. These are listed on UTC Online under the assignment tab. I will only use your UTC email account so be sure you check it on a routine basis, every day is preferable.

## Attendance Policy

Even though you are not attending a class in the traditional sense, you are expected to show involvement in the class through active involvement in the discussion forums and timely submittal of assignments.

## Grading:

30% Projects or home works

30% Mid-term exam – covering text and content of class lectures. Examination make up will be on Reading Day.

40% Final comprehensive exam – covering text and content of class lectures

90+ = A; 80-89 = B; 70-79 = C; 60-69 = D; below 60 = F

## Course Outline

Tentative Lecture Schedules

Week 1: Computer Networks and Internet

Week 2: Application Layer including HTTP, FTP, SMTP, P2P and Socket Programming.

Week 3: Application Layer including HTTP, FTP, SMTP, P2P and Socket Programming.

Week 4: Transport Layer including UDP, TCP and principles of congestion control.

Week 5: Transport Layer including UDP, TCP and principles of congestion control.

Week 6: The Network Layer including Router, IP, Routing Algorithms and Routing in the Internet.

Week 7: The Network Layer including Router, IP, Routing Algorithms and Routing in the Internet.

Week 8: Link Layer and Local Area Network including Error-detection and correction, multiple access protocols, link-layer addressing, Ethernet and switches.

Week 8: Midterm exam.

Week 9: Wireless and Mobile Networks including CDMA, cellular Internet Access, Mobile IP and Mobility management.

Week 10: Wireless and Mobile Networks including CDMA, cellular Internet Access, Mobile IP and Mobility management.

Week 11: Multimedia Networking including applications, Streaming stored audio and video, making the best of the best –effort service.

Week 12: Multimedia Networking including applications, Streaming stored audio and video, making the best of the best –effort service.

Week 13: Security in Computer Networks.

Week 14: Presentations

**ADA STATEMENT:** Attention: If you are a student with a disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) and think that you might need special assistance or a special accommodation in this class or any other class, call the Disability Resource Center (DRC) at 425-4006 or come by the office, 102 Frist Hall.

If you find that personal problems, career indecision, study and time management difficulties, etc. are adversely affecting your successful progress at UTC, please contact

the Counseling and Career Planning Center at 425-4438 or  
<http://www.utc.edu/Administration/CounselingAndCareerPlanning/>.

## **Counseling and Career Planning**

If you find that personal problems, career indecision, study and time management difficulties, etc. are adversely affecting your successful progress at UTC, please contact the Counseling and Career Planning Center at 425-4438.

## **UTC's Honor Code**

The UTC *Student Handbook* describes the Honor Code (pages 7 - 9), which includes the following examples of violations related to computer usage: (UTC Student Handbook page 7 paragraph B.2)

1. Making use of unauthorized assistance during an examination or in preparing a graded assignment
2. Plagiarism
3. Making unacknowledged use of another's computer program
4. Unauthorized use, or misuse, of the University's computing facilities such as:
  - Logging on to an account without the knowledge and permission of the owner
  - changing, deleting, and adding to the programs, files and data without authorization of the owner
  - Theft of program data and machine resources
  - attempts to thwart security of any computer system
  - attempts to disrupt the normal operations of any computer system

Any suspected Honor Code violation in this course will be forwarded to the Honor Court for action, and an F will be assigned for the course grade. All graded work in this course is subject to the Honor Code, including examinations, programming exercises, and any written work prepared for the course.

## **Email Announcement**

To enhance student services, the University will use your UTC email address (firstname-lastname@utc.edu) for communications. (See <http://onenet.utc.edu> for your exact address.) Please check your UTC email on a regular basis. If you have problems with accessing your email account, contact the Help Desk at 423/425-4000.

## **Important Dates**

Class begins	August 20
Last Day to Withdraw without a W	September 2
Labor Day holiday	September 3
Midterm grade notifications	October 1 - October 5
Last Day to Withdraw	October 21 with a W
Fall Break	October 22-23
Thanksgiving Holiday	November 21-25

Last Day of Classes  
Final Exam

November 30  
December 3-7