



Course Syllabus

Course Information

CE/CS/TE 4390.001 – Computer Networks

Term :

Fall 2016

Days & Time and Location :

TTh 8:30AM-9 :45AM @ JSOM 12.206

Instructor Contact Information

Nhut Nguyen, Ph.D.

Phone: 972-883-4521

Email: nhutnn@utdallas.edu

Office hours: TTh 4:00PM – 5:00PM, also by appointment

Office: ECSS 3.607

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CE/CS/SE/TE 3345 or equivalent.

Course Description

This course is an in-depth study of computer networks. Using the Internet as a vehicle this course explores issues, concepts and techniques that are essential in building modern computer networks with emphasis on architectures, protocols and implementation issues. The main objective of this course is to gain a solid knowledge on technologies that build the infrastructure for modern networked applications such as Web browsing, social networking, multimedia streaming etc...

(3 semester hours)

Student Learning Objectives/Outcomes

After successful completion of this course, the student should be able to

- understand the need and structure of the OSI, TCP/IP network models
- design and evaluate methods for the framing messages in transmission media
- analyze and evaluate different error detection schemes
- understand and evaluate stop-and-wait, sliding window protocols
- understand and evaluate multiple-access protocols
- design and evaluate routing protocols
- design and evaluate flow control and congestion control protocols
- understand the issues in internetwork design
- understand the various Internet protocols (TCP/IP)
- specify networking protocols & carry out network programming

Required Textbooks:

"Computer Networking – a Top-Down Approach, 6th Edition", Jim F. Kurose and Keith W. Ross, Addison Wesley, 2013. ISBN 978-0-13-285620-1.

Required Course Materials:

We will be using a network simulator named *Mininet* (<http://mininet.org/>) in this course. Students must have this simulator installed on their computer to be able to complete course assignments and possibly the team project.

Suggested Course Materials

Topics to be discussed in this course include

- Foundation of networking
 - Network applications
 - Connectivity
 - Internetworking
 - End-to-end protocols
 - Multimedia
 - Network security
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Assignments & Academic Calendar

Exams: There will be three exams during the course. The last exam is comprehensive. Test material will be taken mainly from classroom lectures. Details will be announced in the class.

Assignments: There will be regularly assigned reading and homework. Reading assignments should be done before the class session.

There will be regularly assigned in-class exercises that will be used to assess student's participation.

Project: A team project to write a network application using high-level languages (e.g. Java) might be assigned.

Grading Policy

The grade each student will earn from this class will be based on a weighted score calculated by using the following table:

Exam I	10%
Exam II	15%
Exam III	30%
Assignments	15%
Project	25%
Participation	5%
	100%

Weighted Score	Grade
93.0 - 100	A
90.0 - 92.9	A-
87.0 - 89.9	B+
83.0 - 86.9	B
80.0 - 82.9	B-
77.0 - 79.9	C+
73.0 - 76.9	C
70.0 - 72.9	C-
67.0 - 69.9	D+
60.0 - 66.9	D
Below 60.0	F

Grades will be assigned according to the scale on the right:

Course & Instructor Policies

- **New attendance policy instituted by the department: *three* consecutive absences lead to one letter grade drop. *Four* consecutive absences lead to an F grade.**
- *There will be no makeup exams under normal circumstances.*
- *No late homework or assignment will be accepted!*

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

These descriptions and timelines are subject to change at the discretion of the Instructor.