

CS4390.OU1 – Computer Networks

Summer 2016

Syllabus

Contact Information

Professor: Khiem Le, Ph.D.
Office: ECSS 3.703
Office phone: 972-883-6217
Email: kvl140030@utdallas.edu (best way to reach me)
Lecture hours: Tuesdays and Thursdays, 12:30 to 2:45 PM @ECSS 2.201
Office hours: TBD

TA: TBD
Email:
Office hours:
Location:

Note: When you send me email, please always start the subject title with “CS4390”. As an example, let us say that you wanted to ask a question about the final exam. Then the subject line should be something like: “CS4390 – Final Exam.” Remember to sign your email, so I know where it is coming from. That will help me respond to you sooner.

Course Description

Computer Networks (3 semester credit hours) The design and analysis of computer networks. Topics include the ISO reference model, transmission media, medium-access protocols, LANs, data link protocols, routing, congestion control, internetworking, and connection management. Credit cannot be received for both courses, ([CE 4390](#) or [CS 4390](#) or [TE 4390](#)) and [EE 4390](#). The design and analysis of protocols for computer networking. Topics include: network protocol design and composition via layering, contention resolution in multi-access networks, routing metrics and optimal path searching, traffic management, global network protocols; dealing with heterogeneity and scalability.

Prerequisites and Corequisites

Prerequisite: [CE 3345](#) or [CS 3345](#) or [SE 3345](#) or [TE 3345](#) or equivalent. (Same as [CE 4390](#) and [TE 4390](#))

Textbook

Reference textbook: Computer Networking: A Top-Down Approach, 6th ed., *Jim F. Kurose and Keith W. Ross*, Addison Wesley, 2013. ISBN 978-0-13-285620-1

Additional course materials, such as assignments, sample programs, and other materials will be available as well. Please refer to the eLearning site at <http://elearning.utdallas.edu>.

Student Learning Objectives

1. Ability to understand the need for and structure of the OSI, TCP/IP network models
2. Ability to design and evaluate methods for the framing messages in transmission media
3. Ability to analyze and evaluate different error detection schemes
4. Ability to understand and evaluate stop-and-wait, sliding window protocols
5. Ability to understand and evaluate multiple-access protocols
6. Ability to design and evaluate routing protocols
7. Ability to design and evaluate flow control and congestion control protocols
8. Ability to understand the issues in internetwork design
9. Ability to understand the various Internet protocols (TCP/IP)
10. Ability to write networking protocols

Communication

Assignments, grades and announcements are posted on eLearning. Announcements are also emailed out to the whole class. In addition, you may also receive individual emails from me or the TA. It is your responsibility to logon to eLearning and check your UTD email to stay abreast of assignments, announcements and other information.

Grading

You will be evaluated on the following elements: tests, projects and homeworks. For each of these elements, you will get a numerical score out of 100. Then your overall numerical score will be calculated as the weighted average of the element scores, using the weights below:

Test # 1 score:	30%
Test # 2 score:	30%
Project score:	20%
Homeworks score:	20%

The overall numerical score is possibly curved and then converted to a letter score, as follows. In addition, if you are borderline, I may decide, at my discretion, to bump you up based on the following criteria:

- Class attendance and citizenship
- Improvement throughout the semester

Overall numerical score (possibly curved)	Grade
≥97	A+

≥93	A
≥90	A-
≥87	B+
≥83	B
≥80	B-
≥77	C+
≥73	C
≥70	C-
≥67	D+
≥63	D
≥60	D-
Less than 60	F

Tests

- Each test covers all the handouts + information given during lectures + homeworks + class discussions, up to the exam.
- Electronic devices (e.g. computers, laptops, cell phones, tablets) and backpacks will not be allowed at desks during tests
- Closed book, closed notes
- You are required to take the tests on the regular date. Exceptions to this policy are only made in very rare circumstances, typically due to unforeseen circumstances such as a medical or family emergency. All makeup exams are scheduled and given at the discretion of the instructor. They are only given to students who contact the instructor prior to the originally scheduled exam date/time, or for a justified emergency with documentation.

Project

- Projects are hands-on team assignments designed to help you develop deeper understanding of the material covered in class
- You may have to make an in-class presentation of your project
- More details will be provided in class and on eLearning

Homeworks

- Homeworks are designed to help you check your understanding of the material covered in class and prepare you for the tests.
- The due date will usually be about one week from the posting date. All homework assignments will be submitted to eLearning.
- The homeworks score is the average of the individual assignment scores.
- Late homework submissions will not be accepted.
- Unless explicitly told of the contrary, all submissions must be your individual work. Non observance of these rules may be considered as academic dishonesty and handled accordingly.

Checkpoints

Checkpoints are like short quizzes. During the lectures, there may be checkpoints to give you and me an instant gauge as to how well you are grasping the material. It is preferred that all checkpoint responses are electronic, where you use a personal device that can connect to the Internet and has a browser. Examples are smartphones, laptops or tablets. Checkpoints are not graded, but they are used to record attendance.

Class Attendance and Citizenship

- Class attendance
 - Students who regularly attend class tend to make significantly higher grades than those who do not.
 - Attendance can be taken at the discretion of the instructor or based on checkpoints
- Citizenship
 - Good citizenship, which is behavior demonstrating effort to learn and respect of other students' effort to learn
 - You are encouraged to participate in class discussions and ask questions, whether in class or out
 - Disruptive behavior in class is not tolerated.
 - You are expected to be on time and stay till the end of the lecture. If you ever need to leave early or come late, you must minimize disruption to the lecture.
- Class attendance and citizenship will be a consideration for possibly bumping you up if you are a borderline case.
- Some absences are automatically excused by the school and won't count against you. These include absences for sporting events (if you're a member of a UTD sports team) and other situations. If any of these apply to you, you have to contact me beforehand and we'll make arrangements for it. In addition, absences for medical reasons will be excused with documentation.

Issues about Grading

Grade Dispute: Students are required to bring up any grading issue within a week of score posting. All homework assignments and project will be graded by the TA. Therefore, if you have any questions concerning the homework or project gradings, please email the TA about it first. Please copy me on all your emails with the TA so I am aware of the situation and can make sure it is resolved. All tests will be graded by me. If you have question about your test grading, please contact me.

Schedule (may be adjusted as needed)

Test # 1: Date is June 28. If there is a change, you will be notified at least 2 weeks ahead of time
Test # 2: Date is August 4. If there is a change, you will be notified at least 2 weeks ahead of time (this is the Final exam)

Project: In-class presentations, if any, take place at regular lecture hours, towards the end of the semester.

Homeworks are assigned throughout the semester.

University's Policies and Procedures

Please go to <http://go.utdallas.edu/syllabus-policies> for information on the university's policies and procedures, which include in particular:

- Student Conduct & Discipline
- Academic Integrity
- Withdrawal from Class
- Student Grievance Procedures
- Incomplete Grade Policy
- Disability Services
- Religious Holy Days

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