

UNI CS 3470, Section 1 (Fall 2019)

Networking

Course Syllabus (Version 1.0)

Lecture: MWF 1:00pm-1:50pm ITTC 328

Contact Information

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Office hours: MWF 10-11am, Tues 1-4pm, and by appointment.
Class website: UNI eLearning

Objectives

- Understand the structure and organization of computer networks; including the division into network layers, role of each layer, and relationships between the layers.
- Understand the basic concepts of application layer protocol design; including client/server models, peer to peer models, and network naming.
- Understand transport layer concepts and protocol design; including connection oriented and connection-less models, techniques to provide reliable data delivery, and algorithms for congestion control and flow control.
- Understand network layer concepts and protocol design; including virtual circuit and datagram network designs, datagram forwarding, routing algorithms, and network interconnections.
- Understand the basic concepts of link layer properties; including error-detection and correction techniques, multiple access protocols, point to point protocols, and characteristics of link layer media (including wireless links).
- Break down the components of network packets so as to identify their individual components and their relationship to other network packets.

Course Material

- Lecture notes (posted on the class Web site)
- UNI eLearning website for all other materials
- Required textbooks:
 - Peterson & Davie, *Computer Networks, A Systems Approach*, 5th Edition (ISBN 9780123850591)

Tentative Course Schedule

The following schedule is subject to change and is for general planning purposes only.

Dates	Topic
8/26 – 9/13	Foundations of Networks (Chapter 1), SMTP and HTTP examples (Chapter 9)
9/16 – 9/30	Physical and Data Link Layers (Chapter 2)
10/2	Exam #1
10/4 – 11/6	Network Layer, Routing, IPv4 and IPv6 (Chapters 3-4)
11/8	Exam #2
11/11 – 11/22	Transport Layer, TCP, and UDP (Chapters 5-6)
12/2 – 12/9	Interactive Packet Sniffing Workshop
12/17	Final Exam

Class Grading

The following coursework components contribute to your final grade, and to the degree shown:

Activity	Quantity	Points
Mini Projects	1@100pts, 3 @ 75pts, 1@ 25pts	350
Homeworks	8@25pts	200
Regular Tests	2@125pts	250
Final	1@200pts	200

Homework assignments consist of short-answer questions, essays, or problems. The purpose of these assignments is to prepare you for exams. Anytime you need to write out more than a sentence or so, please **type out your homework**. If I can't read your homework, I'll give you one warning and allow you two days to make it readable. If it happens twice, the unreadable homework will receive a grade of 0.

There will be five challenging projects due during this course.

On exams, some of the questions asked will be based on lecture materials, assignments, and projects; some of the questions will test your ability to apply various principles learned in the class.

The final exam will be comprehensive.

The grading scale is as follows:

100 – 92	A	69.9 – 68	D+
91.9 – 90	A-	67.9 – 62	D
89.9 – 88	B+	61.9 – 60	D-
87.9 – 82	B	59.9 – 0	F
81.9 – 80	B-		
79.9 – 78	C+		
77.9 – 72	C		
71.9 – 70	C-		

If you do not pass the final exam, you will not pass the class (regardless what you earned on the rest of the class.)

Late Submission Policy

Late project solutions will incur a 10-point deduction each day the project is late. Project solutions received after two days from the original due date will receive 0 points. For example, a project solution submitted anytime on the Monday after the original due date of Friday will receive 0 points.

Homework solutions cannot be late, as we go over the answers in class.

Computer Accounts

You will need CatID credentials to access the eLearning website. Make sure you are checking your UNI emails. Important class announcements will be sent frequently from the eLearning interface to your UNI email account.

Your Responsibilities

- Understand the lecture slides and reading assignments
- Attend office hours for extra help, as needed
- Uphold academic honesty in completing your assignments, projects, and exams
- Turn in your projects on time
- Check the class Web page and your email account regularly

Course Policies

Attendance: The University requires attendance in all classes. Absences may be excused with appropriate documentation. You should make up for any materials missed due to absences.

Missed exams: A missed exam will be recorded as a grade of zero. We will follow the university rules regarding all missed exams.

Scholastic Conduct: Since cheating definitions and academic ethics policies are often written for other types of classes, you might tend to wonder how those translate to a computer science course. You may be surprised to hear there are many ways to write a program to solve a specific problem. This is very similar to how there are many different ways to write an essay addressing a particular topic. In this course, I will be using plagiarism-detection software to detect similarities that are very unlikely to occur if students were working alone.

Additionally, you need to cite your source if you seek and use help found on the Internet (much like citing a source in an essay course). To do this, you need to put the URL and a brief description of the help you found in a comment directly above the affected block of code or in the homework assignment. However, if you do use code from the Internet, I reserve the right to ask you how it works line-by-line. If you cannot explain it to me, I will not give you credit for that part of the assignment. In other words, *if you use help or code found on the Internet, you must cite it **and** fully understand it.* It is usually better to try to figure things out on your own than to use something you don't understand.

In this class, homework assignments and projects must be done on your own as your own individual work. However, this does not mean that you cannot ask for help. Here are some general guidelines for keeping out of trouble.

If you are seeking help from a classmate:

- DO NOT ask to see their code/answer or look at their code/answer.
- DO explain your thought process and where you are stuck in words.
- DO draw diagrams on the board.

If you are helping another classmate:

- DO NOT show them your code/answer.
- DO NOT directly modify their code/answer.
- DO try to help them in words, similar examples from lectures and labs, and diagrams.

If I suspect a case of plagiarism or cheating, I will notify the student via email and allow the student to come in and explain what happened. If I determine that plagiarism or cheating has taken place, the following possible sanctions will occur (in accordance with UNI Academics Ethics Policies found at <http://www.uni.edu/policies/301>). The following list does not list all possible academic ethics violations, and it is your responsibility to be familiar with the full list (again, <http://www.uni.edu/policies/301>).

Policy Violation	Examples	Possible Sanctions
Level One	<ul style="list-style-type: none"> • Working with another student on a homework assignment, lab, project, or other assigned work when the instructor has not explicitly authorized collaborative work. • Failure to properly cite once in a paper, programming assignment, or project. 	<ul style="list-style-type: none"> • Written warning in email. • Giving no credit for the assignment; course grade determined in the usual manner. • Reprimanding the student in writing in the form of a letter (permanent record, not visible to others).
Level Two	<ul style="list-style-type: none"> • Failure to properly cite more than once in a paper, programming assignment, or project. • Copying on an examination. • Giving unauthorized assistance to someone during an exam. 	<ul style="list-style-type: none"> • No credit for the assignment; course grade determined in the usual manner. • No credit for the assignment; reduction in course grade. • Reprimanding the student in writing in the form of a letter (permanent record, is visible to others).
Level Three	<ul style="list-style-type: none"> • Using prohibited materials during an exam. • Acquiring or distributing exam questions from an unauthorized source. • Acquiring or distributing an exam answer key from an unauthorized source • Plagiarism on a large class project or assignment that affects a major or essential portion of work done to meet course requirements or else assisting others to do the same. 	<ul style="list-style-type: none"> • Disciplinary failure for the course. (This will appear on the student's transcript.) • Reprimanding the student in writing in the form of a letter (permanent record, is visible to others).
Level Four	<ul style="list-style-type: none"> • Taking an exam for someone else or having someone else take an exam for you. • Repeated lower level violations such as fourth Level One, third Level Two or second Level Three violation. 	<ul style="list-style-type: none"> • Permanent expulsion from the University and a notation of "academic disciplinary separation" on the student's transcript. • Reprimanding the student in writing in the form of a letter (permanent record, is visible to others).

Remember: Discussing assignments is good. Copying code or answers is not.

Incompletes: Incompletes are awarded only in very rare instances when an unforeseeable event causes a student who has completed all the coursework to date to be unable to complete a small portion of the work in the last week or two of the semester (typically the final project or exam). Incompletes will not be awarded for foreseeable events including a heavy course load or a poorer-than- expected performance. Verifiable documentation must be provided for the incomplete to be granted.

Accessibility: Please address any special needs or special accommodations with me at the beginning of the semester or as soon as you become aware of your needs. Those seeking accommodations based on disabilities should contact Student Accessibility Services (SAS). Please feel free to contact the SAS staff at accessibilityservices@uni.edu or at (319) 273-2677 (for deaf or hard of hearing, use Relay 711). SAS is located in ITTC 007.