

# CSE 422: Computer Networks

**James Mariani**

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Spring 2022

Office Hours: After class for one hour  
Office: EB Rm 3572

Class Hours: T/Th 3:00pm-4:20pm  
Class Room: Zoom or EB Rm 1145

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## Course Description

Computer network architectures and protocols.

## Course Objectives

The objective of this course is to learn the basic principles involved in the design and operation of computer networks. An exhaustive list of topics can be found in later sections of this syllabus.

## Teaching Assistants

### Jianzhi Lou

Office Hours: Tues: 4:30pm - 6:30pm, Wed: 4:00pm-6:00pm

Jianzhi's office hours will be held on Zoom. The link can be found on Piazza

Email: loujianz@msu.edu

### Riya Thakore

Office Hours: Tues: 12:30pm - 2:30pm, Thur: 12:30pm-2:30pm

Riya's office hours will be held on Zoom. The link can be found on Piazza

Email: thakorer@msu.edu

## Zoom Links

For the first three weeks of the semester (at least), all class and office hours will be held by Zoom. You can find the links to class and office hours on Piazza.

## Recommended Materials

Computer Networking, 8th Edition  
James F. Kurose, Keith Ross  
ISBN: 9780135928738

This textbook is highly recommended, but not required.

## Prerequisites

(STT 351 or ECE 280 or STT 430 or STT 441) and CSE 325

## Piazza / D2L

Link to our Piazza:

<https://piazza.com/msu/spring2022/cse422>

We will be using D2L for grading and posting documents related to the course. You should currently be added to our D2L. If you are not, let me know ASAP.

**Piazza Policy:** Questions on Piazza will be actively monitored and answered by instructors during the following times:

Mon-Thur: 9am-7pm

Fri: 9am - 4pm

During the posted times you can expect an answer within approximately 2 hours. We may answer questions during other times if available, but it will not be actively monitored outside of the posted times.

Questions regarding projects will not be answered on the project due date after 3pm. You will have at least three weeks to complete each project, so it is in your best interest to start early.

## Office Hours

The instructors will hold regular office hours by Zoom and potentially in-person (depending on the circumstances). These times can be found at the top of this document. Additional times can be scheduled by email if the regular times do not fit your schedule.

Questions regarding project grading must be directed to the TAs.

Because there are 100 students in the class this semester, we will have a strict time limit of 10 minutes per student. If there are people waiting in line you can rejoin the office hours line after your 10 minutes. We will be ending office hours at the specified time, so it is therefore in

your best interest to come early to office hours and to come well before the project due date to make sure you can get any help that you might need.

## Course Work

You can expect coding projects, writing exercises, a midterm, and a final exam for this semester.

### Coding Projects

There will be three coding projects this semester (all using Mininet and C++). These coding projects will be completed individually and will give you experience in practical computer networking.

Project specifications will be released on D2L and will be submitted using Handin. Submission instructions can be found on each specific project specification.

If the code you submit does not compile you will be given a zero for the assignment. No exceptions.

No extensions will be given for coding projects. Collaboration on coding projects or plagiarism is not allowed in any form. Anyone found to have violated MSU's Integrity of Scholarship and Grades policy will be given a zero for the course.

### Writing Exercises

For each project you will write a document describing your code, how it works, your thought process, any problems you ran into, etc. A template for this document will be uploaded to D2L.

Additionally, the writeup will contain questions regarding materials covered in class related to the projects, for example, estimating throughput and RTT of given networks, windowing mechanisms for reliable data transfer, p2p architectures, etc.

### Exams

The midterm exam will be on March 1st during the regular class period.

The final exam will be on May 5th from 5:45pm - 7:45pm in Room EB 1145 (or online depending on the circumstances).

In the case of in-person exams, any answers to an exam with unreadable handwriting will be marked as incorrect.

### Extenuating Circumstances

In extreme circumstances we will work with you to ensure you do not fall behind in class. If you have an unexpected emergency and will miss class you must email the Instructor with a written

explanation and supporting documentation of the emergency **before** the class. We will be unable to help you if you do not inform us before class time.

Detailed below in the Course Policies section of this syllabus are MSU's Grief Absence and Religious Observance Policies. Any circumstances not covered by these policies will be left to the discretion of the Instructor. As a note, trips, including interviews will not be considered an excused absence. Students must schedule other activities so as to avoid conflict.

## Grading Distribution

Your final grade will be based on the course work described above, and their weights towards your final grade are below.

54% Projects

- Project 1: 9%
- Project 2: 22.5%
- Project 3: 22.5%

6% writeups

- Project 1 writeup: 1%
- Project 2 writeup: 2.5%
- Project 3 writeup: 2.5%

15% Midterm Exam

25% Final Exam

## Grading Policy

The typical Michigan State grading scale (below) will be used. We reserve the right to curve the scale dependent on overall class scores at the end of the semester. Any curve will only ever make it easier to obtain a certain grade.

$\geq 90.00\% = 4.0$

85.00% - 89.99% = 3.5

80.00% - 84.99% = 3.0

75.00% - 79.99% = 2.5

70.00% - 74.99% = 2.0

65.00% - 69.99% = 1.5

60.00% - 64.99% = 1.0

$< 60.00\% = 0.0$

For each project you will receive a prorated amount of the points for the coding assignment based on your score on the writeup for the project. For example, if you get 90% on the project 1 writeup, that means you will receive 90% of the points you earned for the project 1 coding. For instance, if you get 45/50 for the project 1 coding and a 9/10 for the project 1 writeup your final score for the coding will be 40.5/50. The prorated coding score is calculated as follows: (raw coding score) \* (writeup score / 10).

## Course Policies

### Attendance Policy

Students are expected to attend class and participate in discussions. A student who needs to miss class, be late for class, or leave class early, due to an irresolvable conflict, must notify the instructor by email in advance. Any missed exams will not be able to be made up.

### Email Policy

We require all emails sent to class instructors to come from your official MSU email. Emails coming from any other address will not be considered.

All emails must have a subject line that starts with "[CSE 422]" to ensure they are not lost. Failure to include this in the subject of your email might result in no response or significant delay in response from instructors.

### Integrity of Scholarship

The Department of Computer Science and Engineering expects all students to adhere to MSU's policy on Integrity of Scholarship and Grades, which includes the statement, "...all academic work will be done by the student to whom it is assigned, without unauthorized aid of any kind" (Academic Programs, General Procedures and Regulations). General Student Regulation 1.00 in the student handbook (Spartan Life) also addresses this issue. The complete text of the University policy is posted under: [University Policy on the Integrity of Scholarship and Grades](#). Students who violate this policy will receive a failing grade in the course.

### Chegg and Similar Sites Policy

This course has adopted the [Chegg and Similar Sites policy](#). Submission of student work (e.g. assignments and/or exam solutions) based on those found on Chegg, Brainly, Quizlet, and other similar websites will result in an Academic Dishonesty Report (ADR) and an automatic failing grade of zero (0.0) for the course. The ADR for students personally posting questions from assignments or exams to these sites will request additional sanctions.

### Grief Absence Policy

Michigan State has a [Grief Absence Policy](#). If there are any unfortunate circumstances related to MSU's Grief Absence Policy that will lead to absences you can follow the guidelines given in the link above. After you've contacted the Associate Dean and we've received confirmation we will make accommodations within reason to help you remain in the class.

### Religious Observance Policy

Accommodations will be made for religious observances in line with MSU's [Religious Observance Policy](#). As religious observances are usually known when the semester begins you must request accommodation at the beginning of the semester.

## VISA (Verified Individualized Services and Accommodations)

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at (517) 884-RCPD or on the web at [rcpd.msu.edu](http://rcpd.msu.edu). Once a student's eligibility for an accommodation has been determined, they are issued a Verified Individual Services Accommodation (VISA) form. Please inform the Instructor at the start of the semester as soon as possible if you have a VISA form.

## Changes to this Syllabus

We reserve the right to make changes to this syllabus if the need arises. If this occurs the instructors will provide notification by email or Piazza of the changes before they are made.

## Tentative Topics

The corresponding textbook sections are in parentheses.

Overview of Computer Networks (1.1 - 1.5)

Application Layer (2.1 - 2.7)

Transport Layer (3.1 - 3.7)

Network Layer: Data Plane (4.1 - 4.3)

Network Layer: Control Plane (5.1 - 5.4, 5.6)

Link Layer and LANs (6.1 - 6.4, 6.7)

Wireless and Mobile Networks (7.1 - 7.6)

## Tentative Schedule of Major Dates

Date	Notes
January 20th	Project 1 and Project 1 Writeup Released
February 9th	Project 1 and Project 1 Writeup Due
February 17th	Project 2 and Project 2 Writeup Released
March 1st	Midterm Exam
March 23rd	Project 2 and Project 2 Writeup Due
March 31st	Project 3 and Project 3 Writeup Released
April 27th	Project 3 and Project 3 Writeup Due
May 5th	Final Exam

We reserve the right to make changes to this timeline. If any changes occur we will notify the class by email or Piazza.