

CSC458H1 F

Computer Networking Systems

Fall 2024 Syllabus

Course Meetings

CSC458H1 F

Section	Day & Time	Delivery Mode & Location
LEC0101	Tuesday, 1:00 PM - 3:00 PM	In Person: BA 1200
	Thursday, 1:00 PM - 2:00 PM	In Person: ES B149
LEC5101	Tuesday, 6:00 PM - 9:00 PM	In Person: BA 1180

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Please check class website regularly for updates, and announcements:

<http://www.cs.toronto.edu/~yganjali/teaching/csc458-fall-2024/>

Course Contacts

Course Website: <http://www.cs.toronto.edu/~yganjali/teaching/csc458-fall-2024/>

Instructor: Prof. Yashar Ganjali

Email: ganjali7@cs.toronto.edu

Office Hours and Location: Tue. 3-4pm, and Tue. 5-6pm, BA5238

Course Overview

Computer networks with an emphasis on network systems, network programming, and applications. Networking basics: layering, routing, congestion control, and the global Internet. Network systems design and programming: Internet design, socket programming, and packet switching system fundamentals. Additional topics include network security, multimedia, software-defined networking, peer-to-peer networking, and online social networks.

This is a course on computer networking systems. Topics covered in this course include computer communication network design and implementation, packet switching systems, socket programming, network software, hardware, and protocols, network naming and addressing, congestion control schemes, software-defined networking; network security, wireless networks. The emphasis is on programming and experimental analysis of real network components. We also focus on specific

use-
cases like network systems for machine learning applications towards the end of the course.

Prerequisites: CSC209H1, CSC258H1, CSC263H1/ CSC265H1, STA247H1/ STA255H1/ STA257H1/ STA237H1/ ECO227Y1

Corequisites: None

Exclusions: CSC458H5, CSCD58H3. NOTE: Students not enrolled in the Computer Science Major or Specialist program at A&S, UTM, or UTSC, or the Data Science Specialist at A&S, are limited to a maximum of 1.5 credits in 300-/400-level CSC/ECE courses.

Credit Value: 0.5

You need to have a basic understanding of probability theory, a strong background in C, a good understanding of Python, and familiarity with the Unix operating system. If you are not sure whether you have the background to take this course, please take a look at the first programming assignment (link available at the class web page) to get an idea of the type of work, and the amount of time you will need to spend on it. If you still are not sure, send me an e-mail.

Course Materials

Textbook: "Computer Networks: A Systems Approach", (6th Edition), Peterson, Davie, 2021.

You can get a print copy of this book on Amazon. Alternatively, you can find an online version here:

<https://book.systemsapproach.org/>

Marking Scheme

Assessment	Percent	Details	Due Date
Problem Set 1	10%		2024-10-04
Problem Set 2	10%		2024-11-15
Programming Assignment 1	15%		2024-10-11
Programming Assignment 2	15%		2024-11-22
Midterm exam	20%		2024-10-15
In-Person Final Exam	30%		Final Exam Period

Late Assessment Submissions Policy

You have one free late submission of 24 hours for one of the assignments (problem set, or programming, but not both). You should e-mail the TAs before the deadline to get the free late submission. This 24 hour limit is hard, and cannot be extended. For any late submission other

than the free one, 10% of the mark will be deducted for each day late, up to 20%. Assignments will not be accepted after two days.

Policies & Statements

Course Information Sheet

Course information sheet including policies/statement can be found at:

<http://www.cs.toronto.edu/~yganjali/assets/csc458-fall-2024/H01--CSC458.pdf>