

# CSC 458/2209: Computer Networking Systems, Winter 2025

Department of Computer Science, University of Toronto

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**Handout # 1 – Information Sheet**

**Date:** Monday, January 6th, 2025

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## **Section L0101**

**Class Time:** Mon. 9 AM - 11 AM

**Location:** MP 137

**Tutorial:** Wed. 10 AM - 11 AM

**Location:** BA 1220

**Instructor:** Prof. Yashar Ganjali

**E-mail:** ganjali7 @ cs

**Office:** BA5238

**Office hours:** Mon. 11 AM - noon,  
Fri. 11 AM - noon, or  
by appointment

## **Section L0201**

**Class Time:** Tue. 3 PM - 5 PM

**Location:** ES B142

**Tutorial:** Thu. 3 PM - 4 PM

**Location:** ES B149

**Instructor:** Prof. Peter Marbach

**E-mail:** marbach @ cs

**Office:** BA5224

**Office hours:** Tue. 5 PM - 6 PM, or  
by appointment

## **Class Web Page**

<http://www.cs.toronto.edu/~yganjali/teaching/csc458-winter-2025/>

## **Course Description**

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**

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.

## **Teaching Assistants**

Please check class web page for information about TAs, and their office hours.

## **Bulletin Board and Class Mailing List**

Please use our class bulletin board (on Piazza) to ask questions from TAs. You can sign up to the bulletin board here:

<https://piazza.com/utoronto.ca/winter2025/csc458csc2209>

By using the bulletin board, everyone in class can read the replies, and the overall number of repeat questions is reduced. Please check the bulletin board before posting any new questions. We guarantee any question posted to the bulletin board will be responded within 48 hours.

If you have any questions that cannot be posted on the bulletin board (e.g. questions about your grades), you can e-mail TAs directly. There is no guarantee on when you will get a reply. We really want you to use the bulletin board. :-)

Please make sure to check the **announcements** folder regularly for updates regarding lectures, assignments, etc.

In addition to our bulletin board, we have a mailing list that will be used exclusively for sharing important information. We will use the email address you have used on ACORN to create this list (please make sure that is a valid email address). Please do not use this email to ask questions.

### **Exams**

There will be an in class midterm exam on February 24 (Section L0101) and February 25 (Section L0201). There is also a final exam. For date, and location of the final exam, please check the class web page. All graduate students enrolled in this course are required to complete the midterm and final exams.

### **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/>

### **Notes and Handouts**

I will use a combination of slides and blackboard (physical blackboard in the classroom). Please take notes when I am using the blackboard. The handouts will be available on class web page, so you don't need to take notes.

### **Grading**

- Assignments: 50%
  - Problem sets: 20%
  - Programming assignments: 30%
- Midterm exam: 20%
- Final exam: 30%

### **Assignments**

There will be two problem sets, both based on the textbook, and the material covered in the class.

There will also be two programming assignments. Here is a summary of the requirements for all submitted programming assignments:

- We will use a virtualized network environment (MiniNet) for programming assignments.
- Each student will get access to a virtual machine (on CDF servers) where she/he can complete the programming assignments.
- To ensure compatibility with our marking scripts, please make sure you only use the VM provided through CDF.

- All programs must be written in ANSI “C”. To make the grading uniform, we can’t except assignments in C++, Python, Java, Perl, ....
- Additional information and requirements will be specified in each assignment.

### **Late Submission 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.

### **Academic Offenses**

“Briefly, an academic offense is a bad thing done to get marks you don't deserve. Slightly more formally, an academic offense is an action by a student or course instructor that breaks the rules about academic credit at the University of Toronto.” Cheating is considered a very serious offense. Please avoid it! We are all here to teach and learn after all, and concerns about cheating make an unpleasant environment for everyone.

### **Permitted Collaboration**

The following items are encouraged and allowed at all times for all students in this class:

- Discussion of material covered during lecture, problem sessions, or in handouts
- Discussion of the requirements of an assignment
- Discussion of the use of tools or development environments
- Discussion of general approaches to solving problems
- Discussion of general techniques of coding or debugging
- Discussion between a student and a TA or instructor for the course

### **Collaboration Requiring Citation**

Two students engaging in more detailed discussions must be careful to document their collaboration. Students are required to include the names of those who provide specific assistance to properly credit their contribution, in the same manner as one would cite a reference in a research paper. The expectation is that even with a citation, the author must be able to explain the solution.

### **Examples of Collaboration That Require Citation**

- Discussing the “key” to a problem set or programming assignment. Problem set questions are often designed such that the critical concept takes careful thought and gaining that insight from someone else must therefore be documented.
- Discussing the design of a programming project. Design is a crucial aspect of the programming process and discussion can be valuable. Any design input received from others must be cited.
- Receiving assistance from another student in debugging code. While the teaching assistants are the preferred source for advice, any detailed assistance from someone else must be credited.
- Sharing advice for testing. For example, if someone provides important information on lessons learned (“my program didn't handle the case where the value was 0”) that source must be credited.
- Research from alternative sources. Researching related topics, such as through the Internet, must be documented if the solution submitted is derived from the research information.

### **Unpermitted Collaboration**

All submissions must represent original, independent work. Some examples of activities that do not represent original work include:

- Copying solutions from others. In particular, do not ask anyone to provide a copy of his or her solution or, conversely, give a solution to another student who requests it. Similarly, do not discuss algorithmic strategies to such an extent that you and your collaborator submit exactly the same solution. Use of solutions posted to websites, such as at other universities, is prohibited. Be aware that we photocopy some of the exams prior to handing them back.
- Using work from past classes. The use of another student's solution or the posted class solutions from a previous class constitutes a violation.
- Studying another student's solution. Do not read another solution submission whether in electronic or printed form, even to "check answers."
- Debugging code for someone else. When debugging code it is easy to inadvertently copy code or algorithmic solutions. It is acceptable to describe a problem and ask for advice on a way to track down the bug.

### **Use of Artificial Intelligence Tools**

As mentioned before, all submissions must represent original, and independent work. Therefore, you are not allowed to use AI to get answers to either problem sets or the programming assignments.

However, use of AI is permitted to ask general questions similar to what is described in the permitted collaboration section above. You are required to explicitly cite any use of these tools in your submission.

### **More Resources on Academic Integrity**

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters (<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019>).

If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out to me. Note that you are expected to seek out additional information on academic integrity from me or from other institutional resources. For example, to learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at <http://www.writing.utoronto.ca>. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations.

For more information, please see A&S Student Academic Integrity (<https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity>) and the University of Toronto Website on Academic Integrity (<https://www.academicintegrity.utoronto.ca>).