

Syllabus Fall 2025

CMP 405 - Introduction To Networks & CMP 743 - Principles of Communications Networks

Lehman College, City University of New York

Course Information

Semester	Class Section	Class Hours	Room Number
Fall 2025	OS01	Online Asynchronous	Online Asynchronous

Instructor Information

Instructor	Email	Office Number	Office Hours
Steven Fulakeza	steven.fulakeza@lehman.cuny.edu	GI-232	- Tu 3:50 pm to 5:50 pm - Tu & Th 9:30 to 10:00 pm - Su 4:30 pm to 5:30 pm Online via Appointment using this link https://calendly.com/sfulakeza/15min

CMP 405 Description: *4 hours, 4 credits*

Introduction to network protocols and algorithms. Intensive study of the most important protocols at each layer. Examination of their strengths and weaknesses. Basic algorithms for identifying primary servers, constructing forwarding and broadcasting trees, and determining routing tables. Writing a simple networking service at the I.P. layer or higher. Lab exercises include building and testing small networks. PREREQ: CMP 334 and CMP 338.

CMP 743 Description: 4 hours, 4 credits

Digital and analog communication, system architectures, and connection-oriented and connectionless service. The OSI model as a conceptual framework, and actual communication models and their protocols. Selected contemporary topics, such as communications security and the World Wide Web. PREREQ: A course in operating systems.

Course Objectives

At the end of the course, students should be able to:

1. Define and use basic concepts and terminologies for networking.
2. Describe the layers of the TCP/IP reference model and their purposes.
3. Work with classful and classless internet addressing.
4. Explain the Address Resolution Protocol.
5. Identify the elements of segments, datagrams and Ethernet frames.
6. Explain datagram fragmentation.
7. Understand internet routing and routing protocols.
8. Explain how routing protocols such as BGP, RIP, and OSPF work.
9. Explain UDP, TCP and ICMP.
10. Understand sliding window protocols.

Delivery Method

This course will be delivered online in a synchronous (real-time) format using Zoom.

Textbook: (Either one of the following)

- *Internetworking With TCP/IP, Principles, Protocols, and Architecture*, (Sixth Edition) by Douglas E. Comer. (ISBN-13: 978-0-13-608530-0, ISBN-10: 0-13-608530-X).

OR

- *Internetworking With TCP/IP, Principles, Protocols, and Architecture*, (Fifth Edition) by Douglas E. Comer. (ISBN-13: 978-0-13-187671-2, ISBN-10: 0-13-187671-6).

Grading Policy

The grading for the course will be based on:

CMP 405

- Homework: 25%
- Midterm Exam: 35%

- Final Exam: 40%

CMP 743

- Homework: 20%
- Midterm Exam: 35%
- Final Exam: 37%
- Research Paper: 8%

Exam Schedule

- Midterm Exam: TBA
- Final Exam: 12/21/2025 from 1:00 pm to 4:00 pm in Gillet Hall 333

The final exam is comprehensive. Since the final exam is comprehensive, if you do better on the final exam than the midterm exam, the final grade can replace the midterm grade. This will be done automatically when your final grade is calculated. **Please note that there are no make-up exams. Note: Missed final exam = Unofficial Withdraw (WU).**

Exams will be done in person. No notes or electronics (laptops, calculators, tablets, phones, smart watches, etc.) will be allowed during exams

Homework:

Homework is due most weeks. Homework assignments are posted on the class website and Brightspace, they reinforce concepts covered in class. Extra credit will be available for the homework.

The homework will be submitted on Brightspace. **All homework assignments must be typed and submitted as Microsoft Word documents files. No other forms of submission will be accepted.**

No late homework will be accepted.

Grading Scale for CMP 405:

Letter Grade	Ranges %
A	93 - 100
A-	90 - <93
B+	87 - <90
B	83 - <87
B-	80 - <83
C+	77 - <80

C	73 - <77
C-	70 - <73
D	60 - <70
F	< 60

Grading Scale for CMP 743:

Letter Grade	Ranges %
A	93 - 100
A-	90 - <93
B+	87 - <90
B	83 - <87
B-	80 - <83
C+	77 - <80
C	73 - <77
F	< 73

Expectations:

Students are expected to learn both the material covered in class and the material in the textbook and other assigned reading. Completing homework is an essential part of the learning experience. Students should review topics from prior courses as needed using old notes and books.

Honor Code:

You are encouraged to work together on the overall design of the homework. However, for specific homework assignments, all work must be your own. You are responsible for knowing and following Lehman's [academic integrity code](#).

Plagiarism and cheating will not be tolerated. All incidents of cheating will be reported to the Vice President of Student Affairs.

Email and Brightspace:

I will be using the Brightspace site for much of the class activities. Brightspace can be accessed through the Lehman website at www.lehman.cuny.edu. You will also need to have access to your

Brightspace account. You can contact the IT Center if you have any problems accessing your account.

I will be communicating with you on a regular basis throughout the semester using your **email address** on Brightspace. You must verify that Brightspace has your **Lehman College email address**. You must check that email address on a regular basis. **There will be no acceptable excuse for missing an email announcement.**

Technology:

- Access to personal computers with [Eclipse IDE](#), [JDK 8](#)
- [CISCO Packet Tracer](#)
- [Wireshark](#)

Packet Tracer

Packet Tracer is a network simulation tool developed by Cisco that allows users to create, configure, and troubleshoot network scenarios in a virtual environment. It is commonly used for networking education and training.

Wireshark

Wireshark is a popular network protocol analyzer that allows users to capture and inspect the data traveling back and forth on a network in real-time. It's a valuable tool for network troubleshooting, analysis, and education.

Accommodating Disabilities:

Lehman College is committed to providing access to all programs and curricula to all students. Students with disabilities who may need classroom accommodations are encouraged to register with the Office of Student Disability Services. For more info, please contact the Office of Student Disability Services, Shuster Hall, Room 238. <http://www.lehman.edu/student-disability-services> Telephone: 718-960-8441 Email: disability.services@lehman.cuny.edu.

Graduate Students Survey Research Paper - (For Graduate Students Only CMP 743):

Research Paper (12 - 15 pages double spaced in 12 fonts, Times Roman) in various contemporary research areas such as:

- Network security and also cryptography
- Micro services architecture
- Augmented and virtual reality

- Cloud networking
- Big data analytics in mobile networking
- Wearables in sensor networks
- Blockchain as a service (BaaS)
- Containerization (traditional virtualization)
- Resource allocation SDN
- 5G wireless networks
- 5G networks multicasting
- Traffic engineering
- Cloud Robotics
- Big data in mobile cloud networks
- Prevention and also in detection of network attacks
- Internet, Extranet and Darknet
- Home Area and also Metropolitan Technology
- Virtual Private Network
- Wireless Sensor Networks
- Wireless Ad hoc Network
- Vehicular Ad hoc Networks
- Network Security
- IoT

A survey paper is also known as a review paper. It is a type of academic document that provides a comprehensive and systematic overview of existing research literature in a particular field or on a specific topic. The ACM Computing Survey defines a survey paper as a paper that summarizes and organizes recent research results in a novel way that integrates and adds understanding to work in the field. A survey article assumes a general knowledge of the area; it emphasizes the classification of the existing literature, developing a perspective on the area, and evaluating trends."

The primary goal of a survey paper is to summarize, organize, and analyze the key findings, methodologies, and contributions of a collection of related research studies. A survey paper synthesizes existing knowledge to offer readers a consolidated understanding of a given subject.

- You can visit [ACM Computing Survey](#) to see examples on survey papers.
- Paper Proposal Due (**April 04, 2025 by 11:59 pm**) via email: 1 page including extended abstract with at least 5 references.
- Research Paper Due Date: **May 15, 2025, by 11:59 pm via email**
- Research Paper Presentation Date: **May 11, 2025 at the beginning of class.**

Survey Research Paper Structure:

1. Title, name, date, course number
2. Abstract: This is a brief summary that describes your entire paper. Your abstract should contain 150 - 300 words. You have to write this last.
3. Introduction: Your introduction should provide the background problem you are researching.
4. Body of the paper and discussion
5. Conclusion that summarizes the paper and describes future work for the research
6. References: ACM = Association of Computing Machinery

Some details about research paper writing and presentation will be discussed during office hours.

Recording of Remote Classes

Students who participate in this class with their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.