COMP 7311: Advanced Computer Networks (3 cr) – Fall 2023
University of Memphis
MW 12:40PM – 2:05PM

Instructor:
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Office Hours: By appointment

TAs: Navid Mohammad Imran (nimran@memphis.edu)

Catalog Course Description: Internet architecture and layering; intra-domain and inter-domain routing protocols; congestion control; network QoS; peer-to-peer networks; overlay networks; wireless and sensor networks.

Required Textbook(s): No textbook required.

Course Policy:

Attendence: It is crucial that you attend class regularly. You are responsible for all material covered during lectures.

Exams: Exams must be taken on the hour they are scheduled. In the event, if you cannot attend the class to take the exam due to some emergency or some unavoidable situation (such as serious illness, death in the family, participation in university sports, religious observations, and so on) you must notify me as soon as possible before the exam and also you must validate your absence by providing me a document (e.g., with a letter from your doctor).

Paper Presentation: A presentation schedule will be determined by the instructor (in an alphabetical order of last name). **Students are not allowed to change the presentation schedule**. **If a student fails to present a paper on the scheduled date, they will automatically receive a zero.** A total of 200 points are allocated to presentation itself. During the student's presentation, the instructor will ask five questions related to the paper. To receive full marks, the student is expected to answer these questions correctly, with each question carrying a weight of 20 points. After presentation, all students will do an in-class activity, usually a Kahoot game, where they will be asked ten questions about the paper presented on that day.

A student's presentation must include the following minimum content. Additional details may be incorporated at the student's discretion, provided the presentation does not exceed the 30-minute time limit.

- Introduction (1 slide)
  - What is the problem?
  - Why is the problem important?
  - What is the key idea to solve the problem?
  - Why is the problem hard? (i.e., what are the challenges addressed in the paper)
- Related Work (1 slides)
  - Discuss two related papers including the main idea and limitation compared to the paper you are presenting.
- Proposed Approach/Ideas (5+ slides)
  - Overview (before presenting the details, show us the big picture of the proposed idea).
  - And then, the details.
- Experimental Results (2~3 slides)
  - No need to present all results.
  - Choose two to three graphs/tables that represent the key results.
- Conclusion (1 slide)

Chitchatting: Students are **strictly prohibited from engaging in chitchat during class** under any circumstances. Should a student receive a warning from the instructor for such behavior, a penalty of ten points will automatically be deducted from their total score.

Plagiarism/Cheating Policy: Plagiarism or cheating behavior in any form is unethical and detrimental to proper education and will not be tolerated. All work submitted by a student (projects, programming assignments, lab assignments, quizzes, tests, etc.) is expected to be a student's own work. The plagiarism is incurred when any part ofanybody else's work is passed as your own (no proper credit is listed to the sources in your own work) so the reader is led to believe it is therefore your own effort. Students are allowed and encouraged to discuss with each other and look up resources in the literature (including the internet) on their assignments, but appropriate references must be included for the materials consulted, and appropriate citations made when the material is taken verbatim. If plagiarism or cheating occurs, the student will receive a failing grade on the assignment and (at the instructor's discretion) a failing grade in the course. The course instructor may also decide to forward the incident to the University Judicial Affairs Office for further disciplinary action. For further information on U of M code of student conduct and academic discipline procedures, please refer to: http://www.people.memphis.edu/~jaffairs/

Expected Performance Criteria:

Paper Presentations	300
In-class Activity	300
Midterm 1	100
Midterm 2	100
Final Exam	200
Total Points	1,000

A+: >= 97.5%, A: >= 92.5%, A-: >= 90%
B+: >= 85%, B: >= 82.5%, B-: >= 80%
C+: >= 75%, C: >= 72.5%, C- : >= 70%
D+: >= 65%, D: >= 62.5%
F: < 62.5%.

Tentative Course Schedule:

DATE (BY DAY OR WEEK)	TOPIC
Week 1	Introduction
Week 2	Basic Networking Concepts
Week 3	Basic Networking Concepts
Week 4	MAC Protocols
Week 5	MAC Protocols
Week 6	**Midterm 1**
Week 7	Routing Protocols
Week 8	Routing Protocols
Week 9	Wireless Networks
Week 10	Vehicular Networks
Week 10	**Midterm 2**

Week 11	ML for Networks
Week 12	ML for Networks
Week 13	Security
Week 14	Security
	Final