Department of Computer and Information Sciences

CISC450/CPEG419 — COMPUTER NETWORKS I Spring 2020

SYLLABUS—GENERAL INFORMATION

Course:	CISC450/CPEG419: Computer Networks I (Spring 2020), Section 010, Credits: 3 Meeting time: 11:00–12:15 T/Th Meeting location: Gore Hall Room 318
Instructor:	Dr. Rui Zhang Office: Smith Hall 448 Email: `ruizhang@udel.edu` Phone: 302-831-2010 (please do not leave voice messages) Webpage: https://www.eecis.udel.edu/ ruizhang/ Office Hours: 10:00–12:00PM Wed or by appointment via email
Teaching Assistant:	Zheyuan Liu Office: TBD Email: zyliu@udel.edu Office Hours: TBD
Syllabus Change:	Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.
Prerequisite:	CISC260 or CPEG222. Programming skills (C, C++) with a clear appreciation and understanding for modular, well-documented code. Knowledge of probability and statistics. Working familiarity with Unix recommended. Understanding of finite state machines recommended.
Required Text:	James Kurose and Keith Ross, *Computer Networking: A Top-Down Approach*, Pearson; 7th edition, 2016, ISBN-13: 978-0133594140 or ISBN-10: 0133594149.
Course Description:	This is a upper-level undergraduate course covering the key concepts in the design of computer networks and network protocols.
Course Cotent:	❑ Introduction: network architectures and protocols; protocol layering; the Internet and OSI reference Models; the role of standardization in network protocols. 2.5 weeks. ❑ The Application Layer (Selected topics): basic services; qualities of service; HTTP; Domain Name System (DNS); network programming. 2 weeks. ❑ The Transport Layer: basic principles; reliable data transfer; pipelined protocols; connection management; flow and congestion control in the Transport Layer; the TCP and UDP protocols. 3 weeks. ❑ The Network Layer: service models; data plane: the IPv4 and IPv6 protocols; control plane; routing algorithms. 2.5 weeks. ❑ The Data Link Layer and Local Area Networks: Data link functions; error detection and correction; multiple access protocols; CSMA, CSMA/CD and ALOHA protocols; Ethernet; hubs, bridges, and switches. 2 weeks.
Online Material:	Course-related material will be put on Canvas, and it is your responsibility to be cognizant of this information.

SYLLABUS—CLASS POLICY

Expectations: You are expected to:

- ❏ **Attend** each class.
- ❏ **Participate** in discussion.
- ❏ **Read** all reading assignments.
- ❏ **Work** all the homework, Wireshark lab, and programming assignments.

Attendance: There is no formal policy, but if you miss a class, you are *responsible* for making up missed work.

Conduct Code: The University of Delaware Student Code of Conduct will be upheld, and any violations will be reported to the Student Conduct Administrator immediately. For additional information please visit:

http://www1.udel.edu/stuguide/19-20/code.html

Homework Assignment: ❏ There will be approximately 7 homework assignments, approximately one every two weeks.

- ❏ You can discuss homework assignments with others but are required to write up each problem solution yourself and identify your collaborator, if any.
- ❏ You are required to type homework assignments using a word processor (e.g., MS Word or Latex). Handwriting will not be accepted.
- ❏ You should be as clear and precise as possible in your write-up of solutions.
- ❏ You are required to turn in via Canvas by 11:59PM on the specified due date.
- ❏ Late homework assignment will not be graded.

Wireshark Lab Assignment: ❏ There will be approximately 9 take-home Wireshark lab assignments.

- ❏ You can discuss lab assignments with others but are required to write up each lab report yourself.
- ❏ You are required to type lab reports using a word processor (e.g., MS Word or Latex). Handwriting will not be accepted.
- ❏ You are required to turn in via Canvas by 11:59PM on the specified due date.
- ❏ Late Wireshark assignment will not be graded.

Programming Assignment: ❏ There will be two programming assignments, which will be discussed in detail at a later time.

Exam: ❏ There will be one midterm exam and one final exam.

- ◆ Midterm is tentatively scheduled for 3/26/2020.
- ◆ Final exam is scheduled for 5/20/2020 1:00PM - 3:00PM

❏ All exams are closed-books/notes.

❏ You are expected to be present for both midterms and the final exams. Make-up exam due to an absence will be given only under the following conditions:

- ◆ You have informed me of the absence at least 24 hours in advance of missing the midterm and final exams.
  — OR —
- ◆ You miss the midterm and final exams due to some situation beyond the your control (such as a serious illness, a death in the family, etc.) which is unexpected, unavoidable, and documented. The reason for each absence of this sort will be judged case by case by me and, if it is deemed valid under the above description, a make-up midterm or final exam will be given.

❏ After a graded midterm exam has been returned to you, you may wish to dispute the exam score:

- ◆ In the case of an arithmetic error in the tallying of the exam score from the individual sections of the exam, the error will be corrected.

◆ In all other cases, you may request that the exam be regraded. While I will be happy to give back points when I've made mistakes, the *entire* exam will be regraded during exam regrading, which may result in higher *or* lower scores on *each and every* section of the exam.

◆ In all cases, *all* requests for exam regrading must be made within *one week* following the date the graded exam was returned to you.

❏ The final exam will not be returned but can be checked at my office. The same regrading policy applies.

Grading: Final course grades will be based on homework assignments, lab assignments, programming assignment, midterm exams, and the final exam.

Homework Assignments 21%
Lab Assignments 16%
Programming Assignment 16%
Midterm 20%
Final Exam 25%
Course Evaluation 2%

❏ Your final grade is determined from your score s:

$$\text{grade} = \begin{cases} A, & s \geq 91, \\ A-, & 88 \leq s < 91, \\ B+, & 84 \leq s < 88, \\ B, & 81 \leq s < 84, \\ B-, & 78 \leq s < 81, \\ C+, & 75 \leq s < 78, \\ C, & 72 \leq s < 75, \\ C-, & 69 \leq s < 72, \\ D+, & 66 \leq s < 69, \\ D, & 63 \leq s < 66, \\ D-, & 60 \leq s < 63, \\ F, & s' < 60. \end{cases}$$