ECEN/CS 4283
Spring 2018
Syllabus

Course Title: Computer Networks
Credits: 3
Instructor: Yanmin Gong
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Class Hours: TR 12:30 -- 1:45 pm, CLB 212
Office Hours: TR, 10am -- 11:00am
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Course URL: http://nisp.okstate.edu/~gong/ecn4283/ecn4283.htm

Catalog Description:
The course covers the design, implementation and internals of modern computer networks. While all layers will be introduced, the layers below the Application Layer will be the main focus. The main effort will be spent on the design issues for Transport Layer, Network Layer, Data-Link and MAC Layer, and other related topics.

Course Objectives:
There are four objectives in this course.
- The first objective is to learn the concepts and fundamental design principles that have contributed to the global Internet's scalability and robustness.
- The second objective is to study networking technologies, application/transport/network/data-link layer protocols, congestion/flow/error control mechanisms, routing algorithms, addressing schemes, multicasting, packet scheduling, switching, internetworking, wireless access, cryptography, network security, and network programming interfaces.
- The third objective is to expose students to state-of-the-art research on a few selected subjects, including peer-to-peer networks and Internet traffic measurement.
- The fourth objective is to acquire basic skills for network programming.

Textbook:

Course Outline:
Introduction
Application Layer
Transport Layer
Network Layer
Link Layer
Wireless Networks
Network Security

Grading:
Attendance .................. 5%
Project ....................... 20%
Homework ..................... 24%
Exam 1 ......................... 21%
Exam 2 ......................... 30%

<table>
<thead>
<tr>
<th>Final Total Score (out of 100)</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>90 or above</td>
<td>A</td>
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<tr>
<td>80-89</td>
<td>B</td>
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<tr>
<td>70-79</td>
<td>C</td>
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<tr>
<td>60-69</td>
<td>D</td>
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<tr>
<td>Below 60</td>
<td>F</td>
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Exams:
There will be two exams. Each exam is two hours long. These close-book exams will count for 63% of the final grade.

The first exam will happen after the first three chapters, covering these chapters. The second exam will happen at the end of the semester, covering Chapters 4-7, and special topics on network security.

Homework Policy:

There will be 4 open-book assignments over the course of the semester. The due day of a homework assignment is a week after the homework is given. No late submissions will be accepted without the approval of the instructor. The answers will be given after due days. Each homework accounts for 6% of the final grade.

Project Policy:

There will be one team project. Each team consists of one to two students. For local students, you are expected to set up a demo time during a designated week for demo.

Attendance Policy:

Local students are required to attend the class. Sign-on sheets will be handed out in 6 randomly selected class meetings. You will receive the full 5% attendance grade if you sign on for five out of the six. Each additional missing class costs 1%.
**Prerequisites:**
You should be able to write programs in Java, C, or C++. A rudimentary understanding of computer architecture and operating systems will be helpful.

**Honesty Policy:**
All students admitted to the Oklahoma State University should have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as an OSU student and to be honest in all work submitted and exams taken in this course and all others.

**Accommodation for Students with Disabilities:**
Students with disabilities are responsible for registering with Students with Disabilities Services (SDS) in order to receive academic accommodations. Students are encouraged to notify instructors of accommodation needs at least 5 business days prior to needing the accommodation. A letter from SDS must accompany this request. See [http://sds.okstate.edu/](http://sds.okstate.edu/).

**Software Use:**
All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.