CSci 5211: Data Communications and Computer Networks

Time: Monday and Wednesday  2:30 to 3:45 pm
Location: Keller Hall Room 3-111
Fall 2015, 3 Credits
Instructor

David Hung-Chang Du
Email: du@cs.umn.edu
Office: EE/CS 4-225B (during office hours)
   Or by appointment

Phone: 612-6252560
Office Hours: Monday and Wednesday 1:30 to 2:30 pm
Teaching Assistant

Xiang Cao : xiang@cs.umn.edu

Office: Keller Hall 2-209
Phone #: 612-626-7512
Office Hours: Tuesday 10:15 to 11:15 am
Attendance Sheet

• If your name appears, please initial it
• Otherwise, write the following information
  – Name
  – Student ID
  – Registered or Waiting
  – Grading basis
  – Class/year (grad, senior, junior etc.)
  – Major (CS, CE, EE etc.)
  – Email address
Admission to the Class

• Students who have registered
  – If thinking of dropping, please decide soon

• If room available, those in the waiting list will be admitted in the following order
  – CS,CE graduate students,
  – Outside department grads, others
  – Note that 5211 is now only for graduate students

• Admitted student list will be posted on the web and get the magic number from CSE front desk
Scholastic Conduct

• See the policy in the appropriate college bulletin. Students are encouraged to discuss with classmates and to help each other learn and understand course material. However, you should not go beyond the boundaries of the individual responsibility.

• Any academic misconduct will be reported.
What is CSci 5211 about?

• Introduction to computer networks
  – Not narrowly focused networks (e.g., telephone or cable)

• Fundamental principles
  – Not survey of existing protocol standards

• Focus on network software architecture
  – Only discuss some relevant network hardware

• Designing and building network systems
  – Not queuing theory

• Computer networking research trends
Course Materials

• Main textbook

• Recommended references
Class Information

http://www-users.cselabs.umn.edu/classes/Fall-2015/csci5211/

• Lecture Notes
  – Posted on website a day before the class

• Bulletin Board
  – Participate in the discussions actively

• Announcements
  – Check the web page periodically
Course Prerequisites

• A rudimentary understanding of computer architecture, and operating systems would be helpful

• Basic probability theory may be needed to understand some performance analysis
Course Requirements and Workload

• Six to seven homework assignments including one or two programming projects (30%)
• One midterm exam (30%)
• One final exam (40%)
Policies and Guidelines

• **No late homework or project**
  – Hand in during class or drop off in 4-225B by the midnight of due date

• **Make-up exam**
  – Only for those who have legitimate reasons (e.g. conflict of finals etc.)

• **Incomplete**
  – Not granted unless proof of emergency
  – Need to fill “Agreement for Incomplete” form
## Tentative Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction to Networking</td>
<td></td>
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<tr>
<td>2</td>
<td>Physical Layer</td>
<td>Assgn1 out</td>
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<tr>
<td>3</td>
<td>Data Link Layer</td>
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<tr>
<td>4</td>
<td>MAC Sublayer/Local Area Networks</td>
<td>Assgn2 out</td>
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<tr>
<td>5</td>
<td>MAC Sublayer/Local Area Networks</td>
<td></td>
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<tr>
<td>6</td>
<td>Network Layer</td>
<td>Assgn3 out</td>
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<tr>
<td>7</td>
<td>Network Layer</td>
<td>Mid-Term exam</td>
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## Tentative Schedule (cont’d)

<table>
<thead>
<tr>
<th>Week 8</th>
<th>Network Layer in Internet</th>
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<tbody>
<tr>
<td>Week 9</td>
<td>Transport Layer</td>
<td>Assgn4 out</td>
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<tr>
<td>Week 10</td>
<td>Transport Layer</td>
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<tr>
<td>Week 11</td>
<td>Application Layer</td>
<td>Assgn5 out</td>
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<tr>
<td>Week 12</td>
<td>Network Security</td>
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<tr>
<td>Week 13</td>
<td>Network Security</td>
<td>Assgn6 out</td>
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<tr>
<td>Week 14</td>
<td>Research Topics</td>
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<tr>
<td>Week 15</td>
<td>Research Topics and Final Review</td>
<td>Assgn7 out</td>
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<tr>
<td>Week 16</td>
<td>Exam Date: Dec. 18th, 8:00 to 10:00 (Friday)</td>
<td>Final Exam</td>
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