Syllabus

COEN 233 Computer Networks
Department of Computer Engineering
Santa Clara University

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Course website: http://www.cse.scu.edu/~mwang2/network/
Office Hours: Saturday 5:00-5:30pm

Winter Quarter 2015

Course Description

Prerequisites
Probability (AMATH 108), Introduction to Embedded systems (COEN 20) or equivalent, optional: Abstract data Types and Data Structures (COEN 12).

Required Textbooks

Recommended Textbooks

References
11. "Fixed Broadband Wireless Access, Networks and Services", by Oliver C. Ibe, John Wiley & Sons, 2002
12. "TCP/IP Illustrated 3 Volume Set", by W. Richard Stevens, etc. Addison Wesley, 2002

Course Objectives
1. To learn advanced and cutting edge state-of-the-art knowledge and implementation in computer network.
2. To explore queuing theory or other performance techniques.
3. To read and understand research publications in the technical area of computer network, beyond that of the traditional textbook level.
4. To conduct group project and to equip for scholarly research in computer network.
5. To explore network security and other advanced topics if time permits.

**Expected Learning Outcomes**
1. Demonstrate the knowledge of physical layer, data link layer, medium access control sublayer, network layer, transport layer, and their implementation.
2. Demonstrate the knowledge of network programming and implement example client-server program.
3. Demonstrate the knowledge of network protocols and implement example protocol.
4. Demonstrate the knowledge of queuing theory or other performance techniques.
5. Demonstrate the ability to read/understand current research papers and implement example research group project in computer networks.

**Grading Policy**
Course grade is determined based on the total score (maximum 1100 points + up to 200 optional bonus points for extra work) from:
1. Mid-term and final exams of 200 points each (close book with one A4 note, no sitting together, no wireless connection.) Makeup exams (must have a very good reason) are much difficult than normal exams.
2. Two programming assignments of 200 points each (late penalty: 40 points/day.) Makeups are more difficult too. You can call Design Center at 408/554-4909 for setup account or IT support, and ssh linux.scudc.scu.edu to work remotely.
3. A group (2-3 people in a team) programming term project of 300 points (late penalty: 60 points/day.) No makeup is allowed.
4. Bonus assignments will be assigned at each week with 20 points each. Due before next lecture begin by email to me (in plain text or PDF) with title “coen233 bN” (where N can be 2, 3,…, 10) and cc to the grader. The solution for bonus assignments will be posted on my protected web page. Please read solutions of bonus assignments before asking questions. No late work accepted for bonus assignments. 75-80% of exam questions are similar to bonus assignments.
5. Class average targeted at A-.

**Table 1:** Grade-score table

<table>
<thead>
<tr>
<th>Score</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>F</th>
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<tbody>
<tr>
<td>1300</td>
<td>999</td>
<td>949</td>
<td>899</td>
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<td>749</td>
<td>699</td>
<td>649</td>
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**Course Schedule** (Saturday 1:10pm-5:00pm)

**Table 2:** Course Schedule

<table>
<thead>
<tr>
<th># week</th>
<th>Readings</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>1/10 introduction</td>
<td>submit due 1/17</td>
</tr>
<tr>
<td>2</td>
<td>1/17 physical layer</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1/24 physical layer</td>
<td>program #1 due 1/18</td>
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<tr>
<td>4</td>
<td>1/31 data link layer</td>
<td>program #2 due 2/1</td>
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<tr>
<td>5</td>
<td>2/7 data link layer</td>
<td>mid-term exam 2/7</td>
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<tr>
<td>6</td>
<td>2/14 mac sublayer</td>
<td>problem due 2/14</td>
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<tr>
<td>7</td>
<td>2/21 mac sublayer</td>
<td>group &amp; topic due 2/15</td>
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<td>8</td>
<td>2/28 network layer</td>
<td>paper presentation 2/21</td>
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<tr>
<td>9</td>
<td>3/7 network layer</td>
<td>last day to withdraw 2/20</td>
</tr>
<tr>
<td>10</td>
<td>3/14 transport layer</td>
<td>proposal due 2/28</td>
</tr>
<tr>
<td>11</td>
<td>3/21 review/evaluation</td>
<td>project defense 3/21</td>
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**Reminder**
- No cheating, and no register complaint without talking to me first.
- No incomplete. No sit-in or audit the class except formally registered.
- Read files under /home/mwang2/tips for help.
- Handouts, assignments, and solutions will be posted on the web. You should check the class web site at least once a week (and don’t forget to refresh the webpage to get the latest versions). You are responsible for printing and bring the handout to the class if you prefer printed pages.
- Office hours: Saturday 5:00pm-5:30pm.

**Honor Code**
All students taking course in the school of engineering agree, individually and collectively, they will neither give nor receive unpermitted aid in examinations or other course work that is to be used by the instructor as a basis of grading.

**Disability Accommodation Policy:**
To request academic accommodations for a disability, students must contact Disability Resources located in The Drahmann Center in Benson, room 214, (408) 554-4111; TTY (408) 554-5445. Students must provide
documentation of a disability to Disability Resources prior to receiving accommodations.