Dina Sirypangno

From: Sheldon Lou
Sent: Friday, October 20, 2006 12:43 PM
To: Dina Sirypangno
Subject: Syllabus f06.htm

Wireless Communication

CSU San Marcos
Fall 2006
MW 2:30-4:50 MH 214
Prof. Sheldon Lou
e-mail: lou@csusm.edu

1. Course Description
   The objective of the course is to provide students with the knowledge of contemporary wireless communication technologies and their implications for business. The course contains three parts.
   - The first part describes the principles of wireless communication, e.g., how radio wave is propagated, how information (voice and data) is sent and received, and how a large number of users are served.
   - The second part discusses the emerging wireless technologies, such as Wi-Fi, WiMax and Bluetooth. How do they work, how are they planned, and what are the potential benefits and costs they may bring to organizations.
   - The third part contributes to cellular phone technologies. How do they work? What are their advantages and disadvantages? What are the 3G systems? How do they impact the consumers and business? How does the industry evolve?

2. Course Text (not required)
   Kaveh Pahlavan & Prashant Krishnamurthy, “Principles of Wireless Networks”

3. Prerequisites
   Certain knowledge of business information systems.

4. Evaluation
   The course grade is made up of seven components, each weighted as follows:

   Two assignments 8% (each 4%)
   Two project 30%
   Midterm 25%
   Final examination 30%
   Class performance 7%

   Total: 100%. There will be no additional points. Therefore you need to do well in the above seven components.
   Please also note that there are severe penalties for plagiarism and other academic offenses.

10/20/2006
5. **Readings and Lectures**
   Class attendance, which will be the main component in your class performance, is crucial. Failure to attend classes will lead to reduction of final grades. You are required to spend sufficient time on the reading assignment before class.

6. **Assignments**
   There will be two assignments. Follow the instructions in preparing them. Not doing so will cost you points.
   
   (i) Assignments should be done in groups of up to four students, and each group should hand in one paper only. You should not discuss the assignments in detail with anybody but the other members of your group.
   
   (ii) Do not divide the problems of one assignment into two or three portions so that one member only needs to work on a few problems. This will certainly lead to failures in the exams. Each member should know how to solve all the problems independently.
   
   (iii) The assignments should be on 8.5 by 11 inches paper (write on one side only), stapled flat, without using paper clips or binders.
   
   (iv) The paper you hand in should be neat and legible, clearly written, and concise. Leave enough margins. Answers should be ordered (first problem first, then second, and so forth). The solutions you submit for each problem should give sufficient explanatory detail to convey clearly your understanding of the concepts involved.
   
   (v) Each assignment installment must be handed in by the beginning of class on the day it is due or by the indicated time. **Except in emergencies, late assignments will not be accepted.**

7. **Projects**
   The project requires you to apply the concepts discussed in class. Project can also be done by a team, and you may have up to four members in your team.

   **Important:** In your project report you may cite articles that you have obtained from other sources. In order to prevent your report from being perceived as a plagiarism, please use quotation marks to denote the phrases and paragraphs that are directly derived from other sources and provide references to those sources. For example, in your report you may say, “... the important invention in recent years is the so-called WiMax, promoted by Intel. ‘Intel spread money among start-ups interested in WiMax. It …’ (See [3]).” At the end of the report you should then have a list of references you have cited in the report, and the third item in the list should be the title and the location of the article in this example.

   Project reports must be handed in by the beginning of class on the day it is due or by the indicated time. **Except in emergencies, late installments will not be accepted.**

8. **Midterm and Final Examination**
   There will be a midterm and a final exam. Each one will cover all material discussed to date. In addition to your writing utensils and a pocket calculator, for midterm you may bring one 8.5 by 11 inch sheet of paper on which you have written anything you consider helpful for the examination. Both sides of the sheet may be used. Two sheets are allowed for the final exam.

9. **Questions and Discussions in Class**
   Active participation in class greatly facilitates learning, and your questions, comments and discussions in class are welcome.

10. **Web site for the course**
    There is a web site for this course at http://courses.csusm.edu/htm430ls. The web site provides you
with the syllabus, assignments, copies of transparencies used in class, and other teaching materials. You should check it frequently. You should also make copies of the transparencies and bring them to class.
## SCHEDULE (tentative)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>Readings</th>
<th>Due dates</th>
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<tbody>
<tr>
<td>1</td>
<td>8/28</td>
<td>Introduction</td>
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<tr>
<td>2</td>
<td>9/6</td>
<td>How is information sent and received without wires?</td>
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<tr>
<td>3</td>
<td>9/11</td>
<td>How is signal propagated?</td>
<td>Chapter 2: 2.2, 2.3</td>
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<td>4</td>
<td>9/18</td>
<td>Specific issues in wireless communication</td>
<td>Sec. 3.6.1, 3.6.2, Sec. 3.8, 3.10</td>
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<td>5</td>
<td>9/25</td>
<td>What is Wi-Fi?</td>
<td>Sec. 11.1, 11.2, Sec, 11.3.1, 11.3.2, Sec. 11.4</td>
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<tr>
<td>6</td>
<td>10/2</td>
<td>Wi-Fi Structures and experiment</td>
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<td>Ass. 1 due</td>
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<td>7</td>
<td>10/9</td>
<td>Wi-Fi security and Bluetooth</td>
<td>Sec. 13.1, 13.2, 13.4.1, 13.4.6</td>
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<td>8</td>
<td>10/16</td>
<td>Midterm</td>
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<td>9</td>
<td>10/23</td>
<td>WiMax</td>
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<td>Project 1 due</td>
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<td>10</td>
<td>10/30</td>
<td>Cellular technology</td>
<td>Chapter 5</td>
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<td>11</td>
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<td>GSM and TDMA technology</td>
<td>Chapter 7</td>
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<td>11/13</td>
<td>CDMA technology</td>
<td>Chapter 8</td>
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<td>13</td>
<td>11/20</td>
<td>3G and the future</td>
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<td>14</td>
<td>11/27</td>
<td>Project development, no lectures and labs.</td>
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<td>Ass. 2 due</td>
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<td>15</td>
<td>12/4</td>
<td>Presentation of the Final Project</td>
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<tr>
<td>16</td>
<td>12/11</td>
<td>Second Exam, 1:45-3:45</td>
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IMPORTANT RULES

RULE 1: No make-ups.

There will be no make-ups for midterm and final exam.

RULE 2: No free riders.

Homework assignments and projects will be group work. But, no free riders please! Every one in the group should contribute equally. Even though in general each member in a group will get the same grade as others, if a certain member did not do his/her share, the other group members could remove him/her from the group and this individual would obtain a zero grade. The instructor may also demand the group members to state their individual contributions to the project/assignment in order to determine a fair distribution of the grades.

RULE 3: Maintain class and lab attendance.

Class attendance is a vital part of the teaching and learning process. If our record showed that you had missed some lectures for no legitimate reasons, your whole grade will be deducted accordingly.

RULE 4: On time.

Homework assignments, project proposals, and reports of final projects have to be handed in on time, as specified in the course outline.