Welcome to COMP 7313/8313
Network Design and Performance Analysis

Prof. Santosh Kumar
Dept. of Computer Science
University of Memphis
Fall 2008
Course Information

• Office hours after each class
• Email preferred over phone
  – Will email work for you all?
• Course webpage:
  – Follow the “Teaching” link on my homepage
  – Slides will be uploaded after each class
# Grading

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<tbody>
<tr>
<td>Homework &amp; Quizzes</td>
<td>45%</td>
<td>Paper Review &amp; Presentations</td>
<td>25%</td>
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<td>Class Participation</td>
<td>5%</td>
<td>Project Report &amp; Presentation</td>
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- Team work is important in this course as is fairness in individual evaluations
Your responsibilities

• Prior reading of chapters/papers assigned before each class
• Using the web to learn more on each topic after class (use Google, etc.)
• Being present in each class not enough
  – Have to participate actively
  – Speak up if you do not understand something
Your formal responsibilities

• Form a team
  – If a team member does not contribute, try to address it in your team itself first; get me involved if needed

• Individual/team homework and paper presentations
  – To be typed in Latex; both .tex and .pdf need to be submitted in eLearn
  – In case of team assignments, write names in alphabetical order of last names

• In-class quizzes will be announced a week in advance

• Project discussed next
Project Details

• Project
  – By 9/16, submit a research problem you would like to work on
  – By 9/23, formulate your research problem (or sub-problems as optimization problems)
  – By 9/30, model your problem as a known problem or reduce it to a known problem
  – By 10/14, present your mid term progress report
  – By 12/2, present solutions with proofs
  – Final report and presentation due in the Final week
Report/Homework Submission

• All reports/homeworks have to be typed in LaTeX
  – Speak up now if you have objections or concerns
• Submit the .pdf versions
  – Will set up an electronic submission process
• Homework 0 (to get you started)
  – Type out the proof of Theorem 4.1 of our MobiCom 2007 paper (titled “Localized Barrier …”) in LaTeX
    • Find ACM/IEEE templates to use from the web
  – Due: 11:59 PM on 9/2
Questions on Course Logistics?
An Example

• How to design a campus wide wireless network?
  – Where to place the access points?
  – Should all areas be covered vs. densely populated areas?
  – What load can the system expect/sustain?
  – Should fairness be enforced?
  – Should multi-hop network be allowed/setup?
  – Should VoIP be supported?
What this course is about?

• Becoming
  – an educated systems designer
    • Ask the right design questions
  – a skilled performance analyst
    • Choose the right performance metrics
    • Be able to predict the performance of a system
  – a high quality paper reviewer
    • Be able to understand some mathematical tools
  – a high quality researcher
    • Be able to use analytical tools in research
What it is not about?

• Details of simulation tools
  – We will cover some basic principles only

• Programming
  – Such as implementing protocols

• Experiments with networking gear