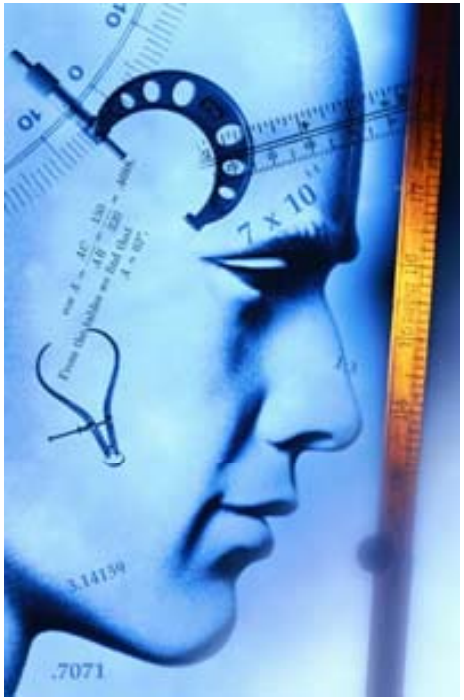
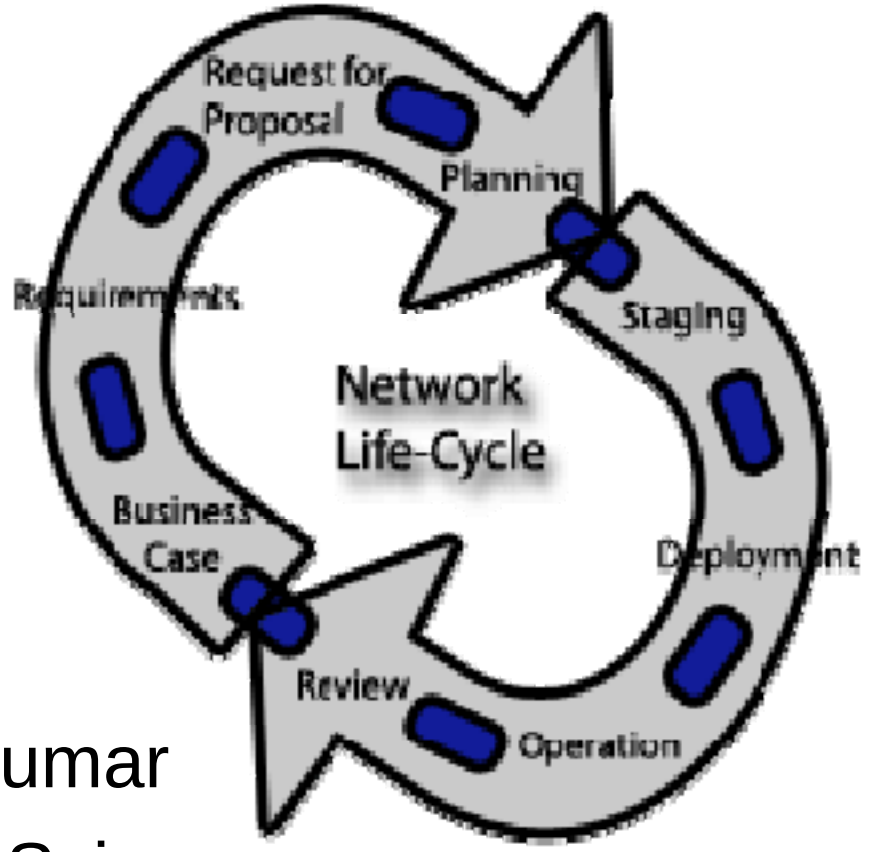
Welcome to COMP 7313/8313
Network Design and Performance Analysis





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

Homework& Quizzes	45%	Paper Review & Presentations	25%
Class Participation	5%	Project Report & Presentation	20%

- *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

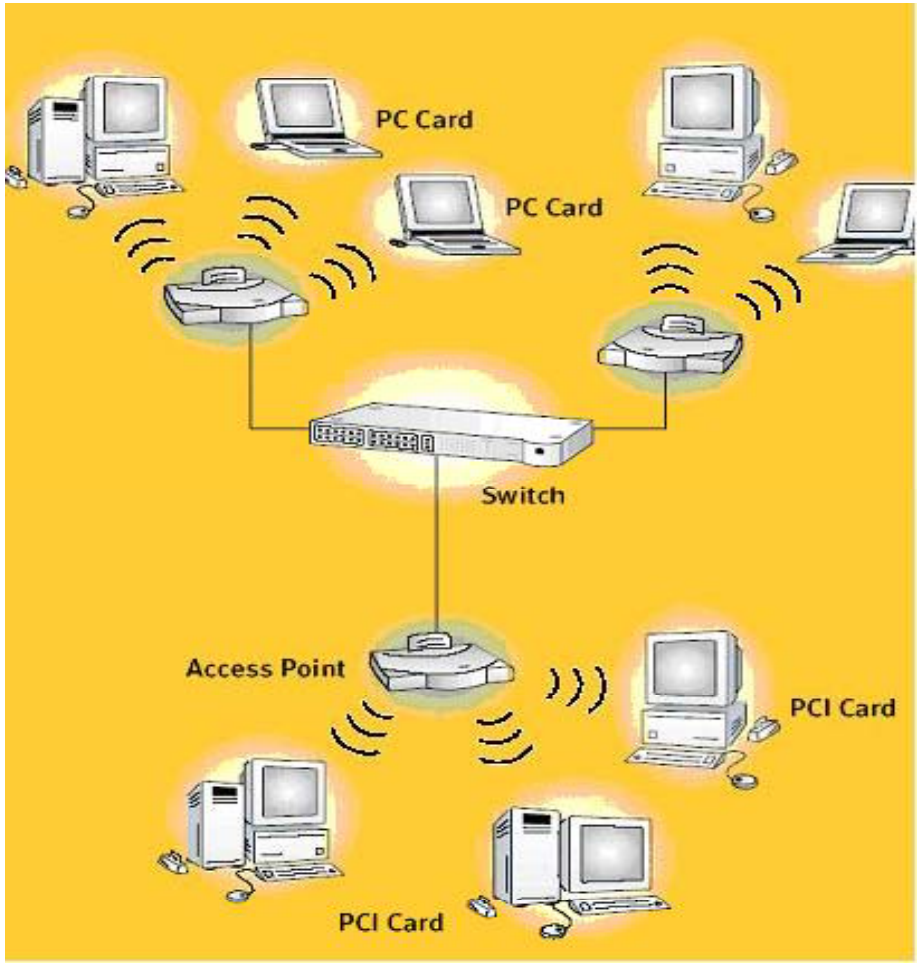
- Project
  - By 9/16, submit a research problem you would like to work on
  - By 9/23, formulate your research problem (or sub-problems as optimization problems)
  - By 9/30, model your problem as a known problem or reduce it to a known problem
  - By 10/14, present your mid term progress report
  - 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