

Course Information

- Course Logistics
 - Instructors:
 - Prof. Sanjoy K. Mitter (mitter@mit.edu): Off Hrs (TBA)
 - Prof. Devavrat Shah (devavrat@mit.edu): Off Hrs (TBA)
 - Course TA:
 - Mukul Agarwal (magar@mit.edu): Off Hrs (TBA)
 - Course Admin.
 - Rachel Cohen (rcohen@mit.edu)
 - Staff email-list (goes to all *four* of us)
 - sp06-6.976-staff@mit.edu

Course Information

- Lectures
 - Monday & Wednesday, 1-2:30 pm in Room 66-154
- Recitation
 - Friday, 2-3:30 pm in Room 66-154
- Most important information: course web-site
 - <http://web.mit.edu/6.976/www/>
 - All course related information and material will be available here
 - No handouts will be given in the class (to save papers), but will be available at the home-page the night-before !
- Course mailing list: 6.976-students@mit.edu
 - All important announcements will be sent on this list
 - To add yourself: send email to rcohen@mit.edu
 - With email-subject *Add to 6.976 List*

Course Information

- Grading Policy

- 4 homeworks (10% each) = 40%
- extended midterm (1st week of May) = 55%
- scribe notes (once during semester) = 5%
 - You will need to use prescribed L^AT_EX format for scribing
 - Necessary L^AT_EX files and detailed help is available at the course homepage
 - Feel free to contact us, if required

- Course Text

- None, class notes and recitations will be sufficient
- Reference books are reserved in Barker Library
- Details are available at the course homepage.

Course Information

- Course Objective
 - Teach quantitative principles of system design
Specifically, we will focus on
 - modeling
 - architecture design & control
 - performance analysis
 - Course will emphasize concepts
 - use of mathematics, but details will be omitted
 - Throughout the course, concepts taught will be supported via examples drawn from Internet.
 - This course will be followed up by an advance course on Principles of system design.

Course Information

- Focus will be on three essential components of system design
 - (1) Modeling
 - faithful mathematical description of a system behavior
 - allows one to employ mathematical tools for design & performance analysis
 - (2) Architecture, Design & Control
 - governed by desired system utility
 - methods of design and control lead to good architecture
 - (3) Performance Analysis
 - quantifies the utility of system
- Learn above in the context of Internet.

Course Information

- The following is outline of topics that will be covered in the course

I. Architecture

- Design philosophy
- Interplay: Theory & architecture
- Internet architecture

II. Internet: Routing

- Modeling, algorithms & analysis
- Broad implications

III. Internet: Congestion control

- Modeling, algorithms & analysis
- Broad implications

Course Information

IV. Internet: Security

- Issues and solutions (?)
- Broad implications

V. Miscellaneous

- Web-server scheduling
 - Modeling, algorithms & analysis
 - Broad implications
- Simulation methods, etc.