

Welcome to CMPSCI 653

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Course Goals

Advanced, fundamental networking principles

- ❑ foundational material: long half life
- ❑ mix of theory and practice
- ❑ a *second* course: i.e., assumes a first course

Course Topics

- ❑ *review*: packet-, circuit-switching primer
- ❑ *common themes*: signaling, indirection, virtualization, multiplexing, randomization, scalability, optimization
- ❑ *network architecture*: the big picture, synthesis
- ❑ *network algorithmics*: scheduling, classification, address lookup, traffic engineering
- ❑ *network control*: congestion control, TCP
- ❑ *wireless networking*: physical layer and how it affects networking (Dr. Suddu Vasudevan)
- ❑ *network measurement/management*

Course mechanics

- ❑ class www site: www-net.cs.umass.edu/cs653
- ❑ class email list (see www site)
- ❑ TA: George Konidaris (see www site)
- ❑ times: MW 9:05 -10:20, some Fridays
- ❑ textbook: none
 - papers, all posted on www site
- ❑ prereq: previous course in networking
 - some knowledge of probability, optimization theory
- ❑ workload:
 - 5 homeworks
 - 1 midterm, 1 final