

Fall 2020

## CS 656-101: Internet and Higher Layer Protocols

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## Fall 2020 CS 656 Internet and Protocols

**Instructor** Prof Kumar Mani (Contact details and office hours: [LINK](#))

### Description (From Catalog)

The course introduces the protocols and standards of the TCP/IP suite that govern the functioning of the Internet. The material covered in class is a top-down approach on introduction, discussion, and analysis of protocols from the data-link layer to the application layer. Alternative protocols to the TCP/IP suite and new protocols adopted by this suite are discussed. Numerical examples related to network planning and protocol functioning are analyzed.

### Pre-requisites

For non-tech background students CS 506/bridge OR instructor permission is required. This section requires programming in C or Java.

### Grading

50% 3-6 group projects

50% Exams, which may be 25-25 Mid-Final OR 10-20-20 Quiz-Mid-Final

(In Fall 2020 your exam may be proctored by ProctorU or Respondus or equivalent.)

### Schedule:

Note: schedule may be fine-tuned with additional topics of interest

Week 1,2: Introduction and HTTP

Week 3,4: Internet Protocols SMTP, IMAP, DNS etc.

Week 5,6: Project, Reliable Data Transport

Week 7: Midterm

Week 8,9: Routing, Load balancing, IP level issues

Week 10,11: Special topics (Wireless / Multimedia / Facebook)

Week 12,13: Project 2, Link layer

Week 14,15: Link / Physical layer, project presentations, full stack overview.

### Text and Software

Computer Networking, 7 Ed, by Kurose and Ross, ISBN 9780133594140

Slides: [http://gaia.cs.umass.edu/kurose\\_ross/ppt.htm](http://gaia.cs.umass.edu/kurose_ross/ppt.htm)

AFS ID and Wireshark / TCP tools are required. Details provided in class.

### Honor Code

The NJIT Academic Integrity Policy (aka University Policy on Academic Integrity / UAIP) as updated on the Provost web site ([LINK HERE](#)) will be enforced strictly. Cheating on exams and plagiarism on assignments attracts the highest penalty. Note, UAIP update 2020 requires the instructor to notify the Dean of Students office about any violations.