Course organization
Your instructors

Adrian Perrig

Ankit Singla

Supported by a great team of knowledgable TAs!
Course Web site: keep a close eye on it!

https://ndal.ethz.ch/courses/networks.html
Grading and feedback

• Grade: 100% from exam
• **Bonus** of up to 0.25 from 2 coding projects
• 2-4 online quizzes
  - Only for feedback *(not graded)*
  - Keep track of how you are doing
Communication: we’ll use Slack

https://net-eth19.slack.com/signup
Communication: we’ll use Slack

• Register with your real name
• Ask instructors and TAs questions
• Learn from fellow classmates
• Discuss class topics, and exciting networking news and developments

But also raise questions and discuss in class!
Textbook: Kurose-Ross, 7th edition

Ok to use 5th or 6th edition, but:
- at your own risk
- we’ll only list section numbers for 7th ed
- missing one or two newer topics
Standing on the shoulders of giants ...

- Brighten Godfrey
- Jennifer Rexford
- Scott Shenker
- Laurent Vanbever
- David Wetherall

Many thanks to them all for slides, materials, and inspiration!
Exercise sessions

Tue 15-17
Group A: CAB G 56
Group B: CHN F 46

Thur 13-15
Group C: CAB G 11

Ask questions, build on learnings from lectures, practice for exams …
Classroom etiquette

• Engage fully with the class
• Don’t use phones, laptops, tablets
  - Or sit in the back rows
• Questions encouraged at all times!

Lectures are being recorded and will be available online
Plagiarism & cheating

- Zero tolerance policy
- Discussion of general approach is OK
- Do not copy / share code from anywhere
- Do not consult others’ code, solutions
- Do not post solutions publicly online
- When in doubt, ask!
Large course, up-to-date curriculum

Help fix errors, problems!
Learning goals
You will learn ...

• ... how the Internet works
• ... how to think about networking
  - abstractions, layering, indirection
  - design, implementation, measurement
• ... how to make networks
  - reliable
  - efficient
  - secure
Example concepts you will learn

Naming    Layering    Routing    Reliability    Sharing
 Naming  Layering  Routing  Reliability  Sharing

How do you address computers, services, protocols?
How do you manage complexity?
How do you go from A to B?
How do you communicate reliably using unreliable mediums?
How do you divide scarce resources among competing parties?
Two part, top-down structure

Adrian Perrig

How to move data from A to B?
How does your ISP deal with others?
Physical data transmission
Security

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Overview, abstractions, principles
How do YouTube, Facebook work?
How much data can I transmit now?
Algorithmic lens on networking
I will teach module 1, ~50% of lectures

Part 1: Overview & Principles

Part 2: Applications

Part 3: Transport

Part 4: Algorithms

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