CSCI-351
Data communication and Network

Lecture 1: Logistics

(a.k.a., the most important thing that won't be on any exam)

Hello!

- Welcome to CSCI-351
  - Are you in the right classroom?
  - Okay, good.
- Who am I?
  - Professor Taejoong (Tijay) Chung
  - tjc@cs.rit.edu
  - Office Hours: Tue 2:00pm — 3:30pm (GOL-3525) and email to schedule an appointment

Anti-Social Media

- Don't friend me on Facebook

- LinkedIn: I probably won't add you, so please don't ask

Why Take This Course?

- How many of you have checked your e-mail, FB, text…

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  - In the past hour?

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- How many of you have checked your e-mail, FB, text…
  - ◻ Today?
  - ◻ In the past hour?
  - ◻ Since I started talking?

Computer networks are ubiquitous

- Networks touch every part of our daily life
  - Web search
  - Social networking
  - Watching movies
  - Ordering merchandise
  - Wasting time

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Google

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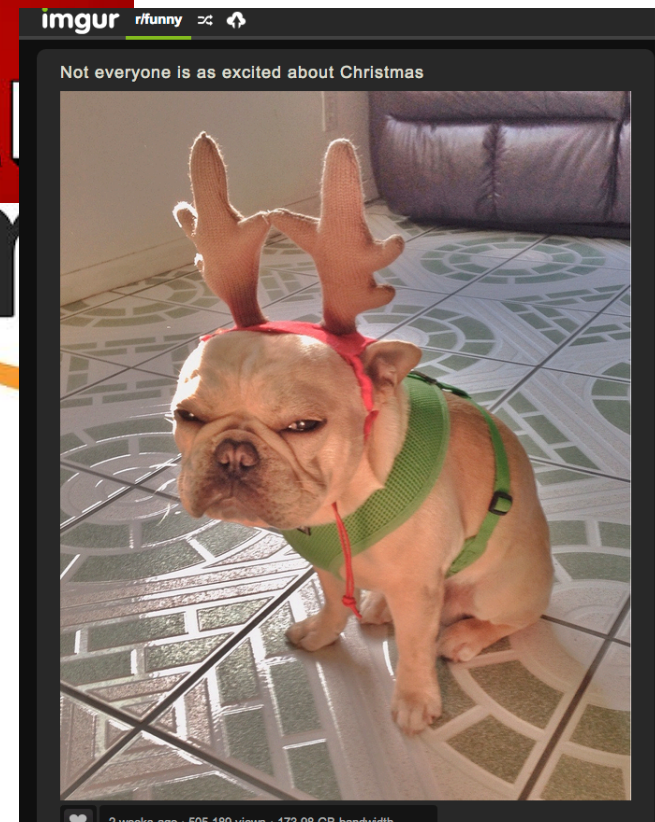 - Web search
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- Networking is one of the most critical topics in CS
  - There would be no…
    - Big Data
    - Cloud
    - Apps or Mobile Computing
  - … without networks

Goals

- Fundamental understanding about computer networks
  - All the way from bits on a wire…
  - … across the ever-evolving Internet…
  - … to a complex application
- Focus on software and protocols
  - Not hardware
  - Minimal theory
- Project-centric, hands on experience
  - Programming APIs
  - Network Simulation
  - Application-level protocols

Online Resources

- https://taejoong.github.io/courses/csci-351/

- Class forum is on Mycourses
  - Sign up today!
- When in doubt, post to Mycourses
  - Mycourse is preferable to email
  - Use #hashtags (#homework1, #lecture2, #project3, etc.)

No.	Date	Topic	Hw. Due	Proj. Due
01	08/28 Tue	Intro and Course Overview		
02	08/30 Thu	History of the Internet		
03	09/04 Tue	Networking Architecture		
04	09/06 Thu	Socket Programming		
05	09/11 Tue	Physical / Link layer 1		
06	09/13 Thu	Link Layer 2	Hw. 1	
07	09/18 Tue	Bridging and Switching		Proj. 1 Milestone
08	09/20 Thu	Internet Protocol 1		
09	09/25 Tue	Internet Protocol 2	Hw. 2	Proj. 1
10	09/27 Thu	NAT		
11	10/02 Tue	Intra-domain Routing		
12	10/04 Thu	Inter-domain Routing	Hw. 3	
–	10/09 Tue	*No class—October Break*		
–	10/11 Thu	*Midterm exam*		Proj. 2 Milestone
13	10/16 Tue	Broadcast and Multicast		
14	10/18 Thu	Transport Layer 1		Proj. 2
15	10/23 Tue	Transport Layer 2		
16	10/25 Thu	Transport Layer 3		
17	10/30 Tue	Application Layer: DNS		
18	11/01 Thu	Application Layer: HTTP	Hw. 4	
19	11/06 Tue	Client & Server and Peer-to Peer Network		Proj. 3 Milestone
20	11/08 Thu	CDN		
21	11/13 Tue	Network Security Basics		Proj. 3
22	11/15 Thu	HTTPS	Hw. 5	
23	11/20 Tue	DNSSEC		
–	11/22 Thu	*No class—Thanksgiving Holiday*		
24	11/27 Tue	TBD		
25	11/29 Thu	TBD		Proj. 4 Milestone
26	12/04 Tue	TBD		
27	12/06 Thu	Final Reviews		
–	TBA	*Final exam*		Proj. 4

Teaching Style

- I am a network researcher
  - Things make sense to me may not make sense to you
  - I'm a non-native speaker, if something doesn't make sense to you please ask me.
- Solution: ask questions!
  - Seriously, ask questions
  - Standing up here in silence is very awkward
  - I will stand here until you answer my questions
- Help me learn your names
  - Say your name before each question

Textbook

- Computer Networks: A Systems Approach
  - Peterson and Davie
  - 5th Edition
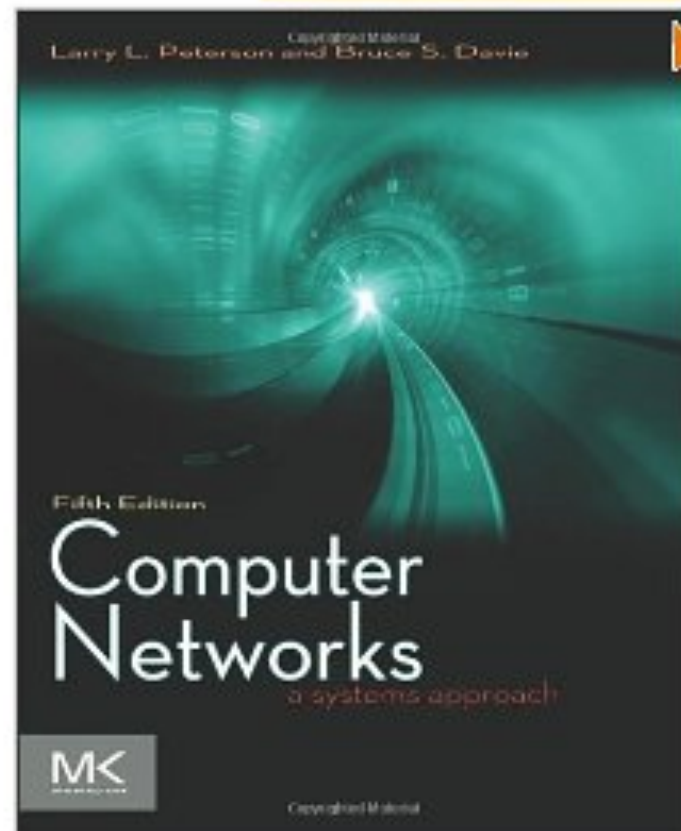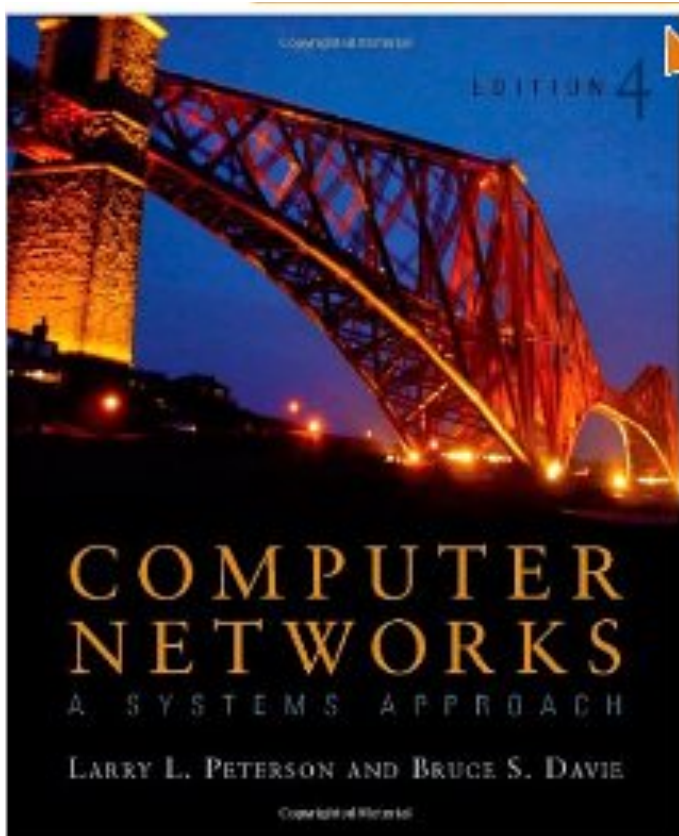
Workload

Projects (~5)	45%
Midterm	15%
Final	25%
Homeworks (~5)	15%

Projects

- This course is project-centric
  - Designed to give you real networking experience
  - Start early!
  - Seriously, start early!
- ~5 projects
  - Due at 11:59:59pm on specified date
  - **Working code is paramount**

Project Logistics

- Languages
  - You may choose the language for the other projects
    - Code must compile on the Glados (glados.cs.rit.edu)
- Project 1 will be released next week
- Project questions?
  - Post them on Mycourses!

Project Groups

- Projects will be completed in groups of two
  - Unless we have odd numbers…
  - Don't mix undergrads/grads (different requirements)
- Partner selection
  - Pick whoever you want
  - You may switch partners between projects
  - Do not complain to me about your lazy partner
    - Hey, you picked them
- Can't find a partner?
  - Post a message on Mycourse!

Late Policy

- Assignments are due at 11:59:59, **no exceptions**
  - 1 second late = 1 hour late = 1 day late
  - 10% off per day late up to 4 days

Exams

- Midterm and Final
  - 2 hours, in class
  - The final will be **cumulative**
- All exams are:
  - Closed book, closed notes, leave the laptop at home
  - No smartphone

Grade Changes

- Each student gets two challenges
  - Modeled after NFL system
  - If you ask for a regrade and you are wrong, you lose a challenge
  - When you are out of challenges, you cannot ask for regrading
- Must come to office hours with the following in writing:
  1. Specify the problem(s) you want regraded
  2. For each problem, explain why the grade is in error
- Don't sweat the small stuff
  - Regrading does not make me a happy Professor
  - If the change is <5% of the grade, don't bother
- More details will be on the website

Cheating

- Do not do it
  - Seriously, don't make me say it again
- Cheating is an automatic zero
  - Will be referred to the university for discipline and possible expulsion
- Project code must be original
  - You and your groupmates only
    - Unless we give you starter code, obviously
  - StackOverflow/Quora are not your friends
  - If you have questions about an online resource, ask us

Final Grades

- At the end of the semester, all of your grades will sum to 100 points

- Final grades are based on a simple scale:
  - A >92, A- 90-92, B+ 87-89, B 83-86, B- 80-82, …

- I do not curve grades

Questions?