

Lesson 09: Exam 2 Review

CS 356 Computer Networks

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In-person Paper Exam

- Exam 2: Apr 20 Thur 6-8:30 PM @ CPE 2.218
- Exam 2 Makeup: Apr 19 Wed 6-8:30 PM @ GDC 1.406
- No class on Thurs Apr 20 at 9:30 AM or 11:00 AM
- 2 double-sided cheat sheets allowed
 - Handwritten or typed
 - Must be your own note (don't share with others)
- **NOT allowed to work with others**
- **Peer review will be done during the exam**
 - Make sure Canvas discussion group reflects your actual discussion group

Topics: cumulative

- **Kurose Ch 1 – Ch 6, Ch 8**
 - 40% of Exam 1 material
 - 50% of post Exam 1
 - 10% design/project questions
- **Chap 1: Introduction**
 - Layering and protocol
 - Design principles
 - Performance and delays: Processing, queuing, transmission delay, throughput, etc.
- **Chap 2: Application layer**
 - End-to-End design principle
 - HTTP
 - DNS

Topics

- **Chap 3: Transport layer**
 - Stateless vs stateful, connection-less vs connection oriented
 - UDP
 - RDT design
 - TCP/TCP CC
- **Chap 4: Network Layer Control Plane**
 - Intra-AS routing, OSPF
 - Inter-AS routing, BGP
 - SDN

Topics

- **Chap 5: Link Layer**
 - MAC addressing
 - ARP
 - Ethernet
 - Switch
- **Network security: Tor**
 - How Tor works
 - Traffic correlation attack/censorship against Tor
 - symmetric encryption, asymmetric encryption (PKI)
 - Digital certificate, digital signature
 - TLS handshake
- **Project, lab, hands-on related**

How to prep

- Lecture slides
- In-class Exercise, EXs
- Read textbook for broader context
 - May skip sections/topics that we didn't cover during lecture
- Additional practice questions in Kurose website (piazza post @101)
- Think about WHY behind WHAT
 - Protocol design choices
 - Pros and cons about different approaches, etc