Key topics: Introduction

- Packet Switching/Circuit Switching
- Delay, Loss, Throughput
- Protocol Layering
- Excluded
  - Won't ask you to work through complex probability computations but there may be questions on basic probability
  - Physical media
  - Networks under attack: security
  - History

Key topics: Applications

- Principles
- Web/HTTP
- E-mail (SMTP only)
- DNS
- P2P, BitTorrent, DHT
- Video Streaming and CDN
- Excluded
  - HTTPS (secure HTTP)
  - HTTP/2
  - IMAP, POP
  - DNSSEC, DNS over TLS, DNS over HTTP
  - Socket Programming

Key topics: Transport Layer

- Principles
- Sockets (Multiplexing/Demultiplexing)
- UDP
- Reliable Data Transfer concepts: RDT (1.0 to 3.0), GBN, SR
- TCP: Everything that we covered
- Excluded
  - QUIC
  - Complex checksum computations (simplified calculations could be included)
  - Congestion Control: Principles and TCP Congestion Control algorithm (we leave this for this final exam)

Other Exclusions

- No programming related questions

- No questions that ask you to use the tools from the lab exercises such as traceroute, ping, dig, Wireshark, etc.

Type of Questions

- A limited number of multiple-choice questions
- A few short answer questions
  - 2-3 sentences at most
- Some questions that may require more elaborate explanations
- Show intermediate work/steps if relevant (unless told not to)
- Not a memory (or cut-paste) test, questions will examine your understanding of concepts
- Tests your critical analysis skills
- Tests whether you can apply the concepts in a (new) practical setting