COMP 3331/9331: Computer Networks and Applications

Final Exam Review

T3, 2021

Exam Specifics

- **Monday, 6th December from 13:45 to 16:00 noon** (Sydney time)
  - 2 hours + 15 minutes reading time
- Marks: **40 marks** (towards your final mark)
- Answer ALL questions, marks for each question will be noted
- **Hurdle:** must score at **least 40% (16 marks)** on the exam to pass the course

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lab = marks for lab exercises (scaled to 20)
assign = marks for the programming assignment (out of 20 marks)
midTerm = mark for the mid-term exam (out of 20 marks)
finalExamScaled = scaled mark for the final exam (out of 40 marks)
mark = lab + assign + midTerm + finalExamScaled
grade = HD|DN|CR|PS if mark >= 50 && finalExamScaled >= 16
      = FL          if mark < 50
      = UF          finalExamScaled < 16
```

- Online Inspera Exam – same platform as mid-term exam
- Open book, notes. You may use calculators
- You may join the Zoom Meeting if you have questions or need clarifications about the exam
  - Ask any questions you may have in the meeting chat
  - DO NOT turn on your microphone
- For technical issues, reach out to the Exams Support Team - info on Moodle
- Further details: Final Exam Page on Website

Exam Specifics

- Open book, but by attempting this exam, you AGREE to the following statement:

  "I declare that all of the work submitted for this exam is my own work, completed without assistance from anyone else."

- Please make sure that you are aware of the UNSW policies and expectations for student academic integrity: https://student.unsw.edu.au/conduct

- Special Consideration and Supplementary Exam
  - Make sure you read carefully the updated special consideration rules regarding on-line exams available from the official UNSW site: https://student.unsw.edu.au/special-consideration
  - A supplementary exam can only be offered if you have a valid special consideration application (be aware of the Fit-to-Sit policy of UNSW).

- Equitable Learning Services (ELS)
  - Students with these requirements will receive information with specifics about their exam arrangements

What is and what isn't on exam

- No direct question on any content covered in the Introduction slide set (Week 1 and 2)

  - There may be question(s) on computation of throughput, delay, etc. but in different context (e.g., TCP)

- Application Layer (Week 2 and 3)

  - No direct questions on basics, HTTP, DNS, E-mail – the exception being that you may be asked a question that examines the synthesis of these protocols (see A Day in the Life of a Web Request in the Link Layer slide sets)

  - P2P, BitTorrent, DHT – Completely excluded

What is and what isn't on exam

- Transport Layer (Week 4 and 5)
  - Everything covered in lectures is on the exam
    - Sockets (multiplexing/demultiplexing), UDP, Reliable Data Transfer Principles, TCP, Congestion Control
  - Excluded: Complex checksum computations
- Network Layer (Week 7 and 8)
  - Data Plane: everything covered in lectures is on the exam
    - Overview, IP, Addressing, NAT, IPv6, Tunneling
    - Excluded: What's inside a router, SDN
  - Control Plane: everything covered in lectures is on the exam
    - Overview, link-state routing, distance vector routing, ICMP
    - Excluded: hierarchical routing, specific routing protocols (BGP, OSPF, RIP)

What is and what isn't on exam

- Link Layer (Week 9)
  - Everything covered in lectures is on the exam
    - Overview, Error correction detection, multiple access protocols, switched LAN, MAC addressing, ARP, Ethernet, Switches
    - Excluded: VLAN, MPLS, Data Centre Networking
- Synthesis of protocol layers (see – A Day in the Life of a Web Request in Week 9 Slides)
- Wireless Networks (Week 10)
  - Basics, wireless links and characteristics, IEEE 802.11 LAN
- Security (Week 10)
  - Basics, Symmetric and Asymmetric Cryptography, Message Integrity, Authentication, Securing email

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 (possibly multi-part) that may require more elaborate explanations
- Show intermediate work/steps if relevant
- 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 context
- In many ways like the mid-term exam

Preparation

- How to prepare?
  - Read and thoroughly understand all content
    - You shouldn't be reading a concept for the first time during the exam !!
  - **Practice, Practice, Practice**
  - Go through all the homework questions, quizzes, etc.
    - DO NOT simply read the solutions, attempt to solve them before looking at solutions
  - Practice Final Exam is posted on Final Exam Page
    - Familiarizes you with the exam environment (Inspera)
    - Familiarizes you with the type of questions
    - Take it under similar conditions as when you sit for the actual exam
    - You can ONLY attempt it once

Exam Day

- IMPORTANT: DOWNLOAD EVERYTHING THAT YOU NEED FROM WEBCMS3 TO YOUR COMPUTER
  - To avoid server overload
- Sleep well the night before and grab some food/water before the exam
- Quiet and familiar/comfortable room, good Internet
- Don't panic and get stressed if you cannot answer a question, move on

Good luck and good bye