

COMP 3331/9331:
Computer Networks and
Applications

Final Exam Review
T1, 2021

Exam Specifics

- **Tuesday, 24th August from 09:45 am to 12:00 noon** (Sydney time)
 - 2 hours + 10 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

```
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 Inspira 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 technical issues
 - Ask any questions you may have in the meeting chat
 - DO NOT turn on your microphone
- 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
 - There may be question(s) on computation of throughput, delay, etc. but in different context (e.g., TCP)
- Application Layer
 - 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
 - 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
 - Data Plane: everything covered in lectures is on the exam
 - Overview, IP, Addressing, NAT
 - Excluded: IPv6, 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
 - 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
 - Basics, wireless links and characteristics, IEEE 802.11 LAN
- Security
 - 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 (Inspira)
 - 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
- Don't panic and get stressed if you cannot answer a question, move on
- Sleep well the night before and grab some food/water before the exam
- Quiet and familiar/comfortable room, good Internet

Good luck and good bye

