COMP90007: Internet Technologies

Egemen Tanin

Lecturer

- Egemen Tanin, Prof.
  - School at Computing and Information Systems
  - Main research interest are Databases and Mobile Systems
  - Expertise: taught Distributed Algorithms, Mobile Computing, Distributed Systems, Sensor Networks (all postgraduate level) Networks (CS undergraduate level), and now

    …Internet Technologies for the last few years..

Egemen was one of the designers and the first Coordinator of the MIT degree, till 2020, where most students in COMP90007 are from

https://people.eng.unimelb.edu.au/etanin/

Contact

- We will have recorded lectures and a weekly live Q&A session with the lecturer
- All tutorials are live zoom sessions; they start on week 2
- We also have a discussion board on LMS where general inquiries can be posted
- Private inquiries via email

Overview of Topics to be Covered

- The subject will introduce the **basics of computer networks** to students through a study of layered models of computer networks and applications.
- The first half of the subject deals with data communication protocols in the lower layers of **OSI and TCP/IP reference models**.
- The second half of the subject deals with **the upper layers of the TCP/IP reference model** through a study of several Internet applications.
- **Keywords include**: Introduction to Internet, OSI reference model layers, protocols and services, data transmission basics, interface standards, network topologies, data link protocols, routing, LANs, WANs, TCP/IP, common network applications such as email, etc…

Advise: If you are not in MIT

- Please consider your enrolment carefully
  - This is not a subject for students with IT background or a CS degree
  - We will not see much about hardware or electronic topics here
  - …
  - The subject commonly has most of its students from the MIT degree

Dealing with the Coronavirus Era Subject Delivery

- It is very sad that many students had to commence their degrees in such a setting
- The University and the staff are ready to help
- With following a few measures, we will have a productive semester:
  - All content will be available online for this semester for this subject… including recorded lectures, all assignments/projects will be online and submissions etc
  - There will be ample Q&A time with the lecturer and all tutorials will be small live sessions (note that interactions in tutorials is a must and these are places where students solve problems with the tutors)

Tentative Syllabus

Week	Topic
1	Introduction
2	Physical Layer
3	Data Link Layer
4	Medium Access Control
5	Network Layer
6	Network Layer
7	Transport Layer
8	Transport Layer
9	Application Layer
10	Application Layer
11	Security
12	Review

- Note that the teaching break week and Easter holiday info are not shown in this schedule

Tutors

- **Rahul Sharma (Head Tutor)**
- Michael Wang
- Udesh Gunarathna
- Shashikant Ilager
- Martin Reinoso
- Amila Silva
- Each tutor will set their own mode of contact and consultation method, **please meet them in your tutes next week (you should know your tute and have enrolled to it by now)**
- Each student is expected to **attend the same tute through out the semester…** for their tutor to follow the projects etc properly

Structure

- **2 lectures** on Tue+Wed per week for 12 weeks as expected
- **1 lecture on Thus** added which helps with:
  - Improving interactivity with having a dedicated live lecture in some cases
  - Reduces stress of long recordings
  - Allows for sample exam questions done interactively related to that week
  - Dedicated advanced content and Guest lectures when available
  - Dedicated live software demos when needed
  - Sometimes just catching up with topics we had to move slowly so 3 longer recordings when needed
  - Note: we will add extra Q&A sessions as the 4th timeslot per week as well
- 1 tute per week for 11 weeks: key places for **interactive problem solving**
  - Some are lab hours to measure and test things and get help on projects and gets hands on experience with some software when relevant

Assessment

- 1 Exam
  - The final exam, 60% of final mark, in the exam period
- 2 Projects
  - 1 project on hands on networking experience, 15%
  - 1 report-based on a hot networking related topic, 15%
- 2 Assignments, 5% each, **preparing you to the exams with similar questions**
- **All assessments are individual work unless said by lecturers explicitly**, no team work in this subject without lecturer approval!
- **Hurdle on assessments**, i.e., 50% per assessment
  - This means just doing the final exam well is not enough to pass

Final Exam

- **Centrally managed**
- If you have followed the subject closely during semester, this exam should be relatively easy to do
  - NOTE: reading the book in the last minute will not help as there will be just too much material to cover and to do

Resources

- Textbook:

Computer Networks, Fifth Edition By: Andrew S. Tanenbaum; David J. Wetherall, Publisher: Prentice Hall

Canvas LMS

- This is the key portal where things will be announced, such as lecture slides, assignments, announcements etc.
- Has a discussion board to post questions to everyone
- Contact your student representatives (TBA)
- Link to lecture capture and more…

- LETS VISIT THE PORTAL ONCE NOW…

FAQ

- Will I have to program extensively in this subject: **NO BUT YOU NEED TO KNOW 1 PROGRAMMING LANGUAGE TO COMPREHEND SOME CONCEPTS**
- What if I have some background in networking already: **CONSIDER APPLYING FOR CREDIT NOW**
- Will there be teamwork: **NOT UNLESS SPECIFICALLY ANNOUNCED**
- What would the final exam be like: **NOTHING SURPRISING IF YOU ATTENDED THE SUBJECT WITH A GENUINE EFFORT ON ALL FRONTS**
- What is examinable in the exams: **EVERYTHING, YOU WILL KNOW HOW MUCH YOU NEED TO KNOW ABOUT EACH BIT ONCE YOU ATTEND THE LECTURES/TUTES**
- Can I live with an earlier version of the book: **4th EDITION COULD BE OK BUT THERE ARE ONLINE VERSIONS TOO SO PLEASE CHECK BEFORE BUYING OLD AND ALSO MAKE SURE YOU STUDY THE RIGHT SECTIONS**