COMP90007: Internet Technologies

Egemen Tanin

Lecturer

- Egemen Tanin
  - Professor at School at Computing and Information Systems
  - Main research interest is Databases, Spatial Data, GIS
  - Have taught: Distributed Algorithms, Mobile Computing, Distributed Systems, Sensor Networks (all postgraduate level), Networks (CS undergraduate level)
  - **Coordinator of the MIT degree**
  - Had one start up on P2P systems in early 2010s
  - More info at **https://people.eng.unimelb.edu.au/etanin/**

Contact

- General inquiries right after the lectures (15mins x 3 per week)
- Private inquiries via email
  - **etanin@unimelb.edu.au**
- Location: DMD Building room 6.02 (by sending an email before dropping by for private inquiries)

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.

- Topics covered include: Introduction to Internet, OSI reference model layers, protocols and services, data transmission basics, interface standards, network topologies, data link protocols, message routing, LANs, WANs, TCP/IP suite, detailed study of common network applications…

Weekly Syllabus

Week	Chapter Covered	Topic
1	1	Introduction
2	2	Physical Layer
3	3	Data Link Layer
4	4	Medium Access Control
5	5	Network Layer
6	6	Transport Layer
7	7	Application Layer
8	7	Application Layer
9	8	Network Mgmt.
10	8	Security
11	N/A	Applications
12	N/A	Review

Tutors

- **Rahul Sharma (Head Tutor)**
- Michael Wang
- Yiran Ruan
- Sameendra Samarawickrama
- Donghan Yang

- Each tutor will set their own mode of contact and consultation method, **please meet them in your tutes next week**
- Each student is expected to **attend the same tute through out the semester** for their tutor to follow the projects etc properly

Structure

- **2 main lectures** per week for 12 weeks
- **1 extra lecture on Fridays** added to the subject recently for:
  - Solving sample exams
  - Advanced content
  - Guest lecturers from industry
  - Software demos etc to be used in projects…
- 1 tute/lab per week for 12 weeks
  - Tutes are the key place to solve questions interactively
  - Labs to measure and test things and get help for projects

Assessment

- 2 Exams
  - 1 midterm exam, (to be announced when venue is confirmed), 5%
  - 1 final exam, 60% of final mark, in the exam period
- 2 Projects
  - 1 project on hands on networking experience/measurements, 10%
  - 1 written report on a hot networking related topic, 15%
- 2 Assignments, 10% of total mark, **preparing you to exams as well**
- **All assessments are individual work**, no team work in this subject!
- **Hurdle on assessments**, i.e., 50% per assessment except the midterm
  - This means just doing the final exam well is not enough to pass the subject

Projects

- 2 Projects
  - **Project 1 is on measuring network performance**. There will be a separate lecture related to this soon. Then the project will be announced. This project will cover the first half of the semester in terms of your practical work and will be due right around the time of the teaching break.
  - **Project 2 is about researching an emerging topic** in networking. Topics to be decided in tandem with the subject staff. This will cover the second half of the semester. Outcome will be a written report.

Midsemester Test

- A 45 minute test, **during class time**, location to be confirmed
- Will cover first half of the semester
- A good chance to test yourself and learn about types of **questions you may get in the final** in a realistic exam setting
- Will be held right before the teaching break, the **lecture hour will be announced when we confirm the exam venue**

Assignments

- 2 assignments
- Question based
- Similar to tutorial questions (done on your own time though)
- **Good preparation for exams**
- They will be due around week 4 and 8-9 respectively
- First one will be announced very soon

Final Exam

- **Centrally timetabled**
- If you have followed the subject closely during semester, this exam should be relatively easy to do
  - Else reading the book in the last minute will not help as there will be just too much material to cover and to do
- Questions are similar to other assessments that you will work on during the semester

Resources

- Textbook:

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

(this book is pretty much the classical book of networking, every IT professional should have one imho)

- Software: Labs already have the software we will use in the subject and in your first project. The labs are open to public… more on the key softwares on Lecture 3 of this week, i.e., Friday.

LMS

http://www.lms.unimelb.edu.au/

- 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
- Link to handbook
- Link to academic integrity websites
- Link to lecture capture and more…

FAQ

- Will I have to program extensively in this subject: **NO**
- What if I have some background in networking already: **CONSIDER APPLYING FOR CREDIT NOW**
- Will there be team projects: **NOT IN THIS SUBJECT**
- 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 LISTEN TO THE LECTURES/TUTES**
- Can I live with an earlier version of the book: **ONE EDITION EARLIER COULD BE OK BUT THERE ARE ONLINE RESOURCES SO PLEASE CHECK LMS BEFORE BUYING THINGS**

QUESTIONS???