COMP90007:
Internet Technologies

Egemen Tanin & Ling Luo

Lecturers

▶ Egemen Tanin & Ling Luo

- ▶ From School at Computing and Information Systems
- ▶ Main research interest are Databases, Data Mining
- ▶ Expertise: we have taught--Distributed Algorithms, Mobile Computing, Distributed Systems, Sensor Networks (all postgraduate level), Networks (CS undergraduate level)..

Egemen is also the Coordinator of the MIT degree

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

For Ling contact etc info available from:
https://cis.unimelb.edu.au/people/ling-luo

Contact

▶ Questions asked during lecture are the best

▶ General inquiries right after the lectures (15mins x 3 per week) are also fine

▶ We also have a discussion board on LMS where general inquiries can be posted

▶ Private inquiries via email first

▶ Drop by only after appointment unless it is urgent

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, …

Tentative Weekly 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 Laye
11	Security
12	Review

- First week of Oct is 1 week break
- Ling covers the first 6 weeks
- Egemen the last 6 weeks
- Tutes start on week 2
- Midterm is somewhere in the middle
  - will be announced once logistics are confirmed...

Tutors

▶ **Rahul Sharma (Head Tutor)**

▶ Michael Wang

▶ Yiran Ruan

▶ Chengyan Lu

▶ 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 to attend/enrol 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 main lectures** per week for 12 weeks
- **1 extra lecture on Weds** added to the subject recently for:
  - Solving sample exams
  - Advanced content
  - Guest lecturers from industry
  - Software demos etc to be used in projects
  - Sometimes just catching up for topics we move slowly on
- 1 tute/lab per week for 11 weeks
  - Tutes are the key place to solve questions interactively
  - Some are labs to measure and test things and get help for projects and gets handson experience

Assessment

- 2 Exams
  - 1 midterm exam, 5%
  - 1 final exam, 60% of final mark, in the exam period
- 2 Projects
  - 1 project on hands on networking experience, 10%
  - 1 report-based on a hot networking related topic, 15%
- 2 Assignments, 10% of total mark, **preparing you to the exams as well**
- **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 except the midterm
  - This means just doing the final exam well is not enough to pass

Projects

- ▶ 2 Projects
  - ▶ **Project 1 is on network experience using software in our labs**. There will be a separate lecture related to this soon. 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 investigating a topic and writing a report** in networking. Topics to be decided in tandem with the subject staff. This will cover the second half of the semester.

Midsemester Test

- ▶ A 45 minute test, **during class time**, location to be confirmed
- ▶ Will cover first half of the semester's content
- ▶ A good chance to test yourself under pressure, and learn about types of **questions you may get in the final** in a realistic exam setting

Assignments

- ▶ 2 assignments, 1 per each half of the semester
- ▶ Question based, similar to tute questions but done in your own time and to be handed out for marking
- ▶ <u>Good preparation for exams</u>

Final Exam

- ▶ <u>Centrally timetabled</u>
- ▶ 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

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

▶ Software: Labs already have the software we will use in the subject and in your project work. The labs are open to public...

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: <u>NO BUT YOU NEED TO KNOW 1 PROGRAMMING LANGUAGE TO COMPREHEND SOME CONCEPTS</u>

▶ What if I have some background in networking already: <u>CONSIDER APPLYING FOR CREDIT NOW</u>

▶ Will there be teamwork: <u>NOT UNLESS SPECIFICALLY ANNOUNCED</u>

▶ What would the final exam be like: <u>NOTHING SURPRISING IF YOU ATTENDED THE SUBJECT WITH A GENUINE EFFORT ON ALL FRONTS</u>

▶ What is examinable in the exams: <u>EVERYTHING, YOU WILL KNOW HOW MUCH YOU NEED TO KNOW ABOUT EACH BIT ONCE YOU ATTEND THE LECTURES/TUTES</u>

▶ Can I live with an earlier version of the book: <u>ONE EDITION EARLIER COULD BE OK BUT THERE ARE ONLINE RESOURCES TOO SO PLEASE CHECK BEFORE BUYING OLD VERSIONS</u>

QUESTIONS???