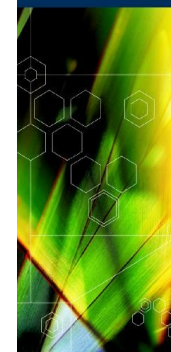


159334

Outline

2011



Welcome to 159334

Some important details about 159.334

159.334 Albany Campus Internal mode 15
credits

Paper Coordinator: Dr. Andre Barczak
Room QA2.37 on the 2nd floor of Quad A

Aim: Study Computer Network Protocols.
Use Sockets to write your own programs.
Understand concepts and principles of computer
communication



Welcome to 159334

Calendar Prescription:

A layered approach to data communications and the Internet protocols.

Programming is an important part of this course!



Welcome to 159334

Learning Outcomes:

On successful completion a student should be able to:

1. Describe key computer network concepts, architectures and protocols.
2. Relate algorithms, network services and products to each other.
3. Apply concepts and principles to network design and management using the current standards.
4. Apply fundamental network analysis tools.
5. Discuss professional and ethical issues relating to data communication systems and their application, especially concerning Internet security.
6. Apply the recent acquired knowledge to develop or apply simple network related programs.



Welcome to 159334

Website:

There is an informal website for this paper where slides and code samples are available. (IMPORTANT: this website is only available from Massey's labs).

<http://vm000224/159334>

Students will receive assignment proposals in class, they can submit assignments outside Massey's domain.

Slides are also available outside Massey's domain.

Prerequisites:

159.201 and 159.234

If you have not passed these two papers you must see the lecturer as soon as possible.



Welcome to 159334

How to calculate your final mark:

3 Assignments	40%
Final examination	60%

Timetable:

Monday	13am	Lecture	AT6
Tuesday	10am	Lecture	AT6
Wednesday	11am	Lecture	AT5



Welcome to 159334

Textbook and Other Recommended Reading, Online Resources:

Kurose, J.F. And Ross, K. W., Computer Networking: a Top Down Approach, Addison Wesley, 4th edition (2007) ISBN 0-321-49770-8. (Highly recommended)

Notes, assignment proposals, assignment submission, code examples at:

www.massey.ac.nz/~albarcza/teaching.html



Welcome to 159334

Programming Assignments (no groups allowed):

There will be **3** programming assignments.

Programs can be written in either C or C++ programming language in the computer labs or at home.

The GCC compiler and editor are available on the IIMS CD and can be installed on PCs at home.

You have to submit your assignments electronically. Follow the information on the assignment proposals. Remember to strictly follow the output instructions, as this will be important to the outcome of the assignment (marks).

Start the assignments **early**, don't leave it to the last minute!



Welcome to 159334

Deadlines and Penalties:

Assignments can be handed up to one week late and will have marks deducted (10% per day).

Assignments can only be submitted once - there will not be any remarking. Get it right first time, on time.

However, I'm always willing to listen to compiler problems etc, so if you think the marks do not reflect your submission, talk to me as soon as possible.



Welcome to 159334

Lecture Outline:

- Week 1: Introduction (definition, principles, protocols)
- Week 2: Application Layer (HTTP, FTP, SMTP, POP, DNS)
- Week 3: Application Layer (Socket programming)
- Week 4: Transport Layer (Elements of transport)
- Week 5: Transport Layer (TCP and UDP)
- Week 6: Network Layer (Addressing, Routing)
- Week 7: Network Layer (Protocols)
- Week 8: Security (Principles of cryptography)
- Week 9: Security (Authentication, Integrity, Firewalls)
- Week 10: Data Link Layer (Error Detection and Correction)
- Week 11: Data Link Layer (Hubs, Bridges, Switches)
- Week 12: Physical Layer (Data Communication Theory)

