ELEC 7002 ADVANCED DATA NETWORKS

Credit Points 10

Legacy Code 300173

Coordinator Ranjith Liyanapathirana (https://directory.westernsydney.edu.au/search/name/Ranjith Liyanapathirana/)

Description This subject covers all major network technologies: asynchronous transfer mode (ATM), Internet, and telephony. Essential networking topics such as protocol layering, multiple access, switching, scheduling, routing, congestion control, error and flow control, and network security are covered in detail. An engineering approach is taken to provide insight into network design.

School Eng, Design & Built Env

Discipline Electrical and Electronic Engineering and Technology, Not Elsewhere Classified.

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate program

Assumed Knowledge

Communication Systems / Digital Communication.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Explain network topologies and communication architectures
2. Explain and apply advanced level networking concepts and functions
3. Describe and analyze common protocols used in telephone networks, the Internet and ATM networks.

Subject Content

Introductory concepts: network topologies, packet switching, datagram packet switching and virtual circuits.
Queuing Theory: M/M/1 and other queues, simple applications.
ATM Switching: Service categories, protocol formats, switch fabric architectures
High-speed LANs
Internetworking
Security: private and public key encryption, authentication and digital signatures.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task
Report	No more than 15 pages	20	N	Individual
Practical	3 hours per week for 5 weeks	S/U	N	Individual
Intra-session Exam	1 hour	25	N	Individual
Final Exam	2 hours	55	N	Individual

Teaching Periods

Spring (2023)
Parramatta City - Macquarie St
On-site
Subject Contact Ranjith Liyanapathirana (https://directory.westernsydney.edu.au/search/name/Ranjith Liyanapathirana/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ELEC7002_23-SPR_PC_1#subjects)

Spring (2024)
Parramatta City - Macquarie St
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