COMP 2005 COMPUTER NETWORKING (ADVANCED)

Credit Points 10

Legacy Code 300946

Coordinator Nabil Giweli (https://directory.westernsydney.edu.au/search/name/Nabil Giweli/)

Description This subject introduces students to computer systems networking. It covers basic networking technologies, Ethernet fundamentals, ISO OSI model, routing, switching and subnetting, the Internet architecture, networking protocols including TCP/IP, important OSI layer 2 and 3 networking device fundamentals, basic network management and security issues. This subject is also the first of three units, which will prepare students for industry based networking certification (CCNA). Students in this advanced subject will be required to undertake individual assessment activities demonstrating a high level of technical and applied theoretical competency.

School Computer, Data & Math Sciences

Discipline Networks and Communications

Student Contribution Band HECS Band 2 10cp

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

Level Undergraduate Level 2 subject

Incompatible Subjects COMP 2007 - Computer Networking Fundamentals LGYA 5739 - Applied Data Communications and Networking COMP 2004 - Computer Networking

Restrictions Students must be enrolled in 3684 Bachelor of Information and Communications Technology (Advanced), 3685 Bachelor of Computing (Information Systems) Advanced, 3688 Bachelor of Information Systems Advanced or 3745 Bachelor of Information Systems Advanced/Bachelor of Business.

Assumed Knowledge

Fundamentals of computer architecture, binary and hexadecimal numbering systems, and programming principles. A working knowledge of the World Wide Web.

Learning Outcomes

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

1. Examine the fundamental concepts and protocols for computer networking and internetworking.
2. Investigate and analyse the Internet architecture.
3. Analyse the significance of the OSI and TCP/IP models, protocol stacks and their operation in computer networks.
4. Evaluate modern technologies in computer networking.
5. Investigate the functions of important OSI layer 2 and OSI layer 3 networking devices.
6. Assess the management practices and security requirements of computer networks.
7. Construct, test and troubleshoot a LAN design with introduced connectivity errors.
8. Subnet a enterprise network given design criteria.

Subject Content

Concepts of computer networking and internetworking.
Internet architecture.
An introduction to the operation of the major protocols used in computer networking.
The OSI model, TCP/IP protocol stack and IP addressing.
Understanding of the TCP/IP protocol stack and its operation in data networks.
Modern data communication and networking technologies.
Management and security requirements of computer networks.
Identification and review of networking media.
Introduction to Ethernet technologies and switching.
Basic routing fundamentals and subnetting.
Construct and evaluate network performance in simple LANs.

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	Mandatory
Practical	2 hours per week	20	N	Group	Y
Practical Exam	45 minute practical test	20	N	Individual	Y
Quiz	1 hour in class test	10	N	Individual	Y
Final Exam	2 hours	50	N	Individual	Y

Teaching Periods

Spring (2024)
Campbelltown
On-site
Subject Contact Nabil Giweli (https://directory.westernsydney.edu.au/search/name/Nabil Giweli/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2005_24-SPR_CA_1#subjects)

Penrith (Kingswood)
On-site
Subject Contact Nabil Giweli (https://directory.westernsydney.edu.au/search/name/Nabil Giweli/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2005_24-SPR_KW_1#subjects)

Parramatta - Victoria Rd
On-site
Subject Contact Nabil Giweli (https://directory.westernsydney.edu.au/search/name/Nabil Giweli/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP2005_24-SPR_PS_1#subjects)

Spring (2025)

Campbelltown

Hybrid

Subject Contact Nabil Giweli (https://directory.westernsydney.edu.au/search/name/Nabil Giweli/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2005_25-SPR_CA_3#subjects)

Penrith (Kingswood)

On-site

Subject Contact Nabil Giweli (https://directory.westernsydney.edu.au/search/name/Nabil Giweli/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP2005_25-SPR_KW_1#subjects)

Parramatta - Victoria Rd

On-site

Subject Contact Nabil Giweli (https://directory.westernsydney.edu.au/search/name/Nabil Giweli/)

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