

COMP 7013 NETWORK TECHNOLOGIES

Credit Points 10

Legacy Code 300695

Coordinator Ante Prodan ([https://directory.westernsydney.edu.au/search/name/Ante Prodan/](https://directory.westernsydney.edu.au/search/name/Ante%20Prodan/))

Description Computer networking is one of the fastest growing technologies of our time. The Internet interconnects billions of computers providing many new exciting opportunities and challenges. The Internet and the World Wide Web have provided the communication and infrastructure needed for global collaboration and information exchange. As a result of the rapid growth of networked systems and the diverse applications that run on them, success in many professions depends on a sound understanding of the technologies underlying these systems and applications. This unit explores these issues and provides the students with such an understanding. It covers the principles and current practices pertinent to computer networking and communications. It describes some of the important technologies and devices used in modern networks for information distribution and data sharing. The unit helps the students to understand important models, protocols and standards in networking and internetworking.

School Computer, Data & Math Sciences

Student Contribution Band HECS Band 2 10cp

Level Postgraduate Coursework Level 7 subject

Equivalent Subjects LGYA 5883 - Network Technology and Data Communications

Restrictions

Students must be enrolled in a Postgraduate program.

Assumed Knowledge

The students should be familiar with the fundamentals of computer architecture and programming principles. They should also have a working knowledge of the World Wide Web.

Learning Outcomes

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

1. Evaluate and analyse the primary concepts of networking and internetworking.
2. Evaluate the significance of the OSI and TCP/IP models and analyse the operation of their relevant protocol stacks for communications and networking.
3. Evaluate the functions of important communication devices such as, repeaters, bridges, routers, switches and gateways, create various types of network configurations and analyse their performance.
4. Analyse the operation of the major protocols used in local area and wide area networks including network security associated algorithms, applications and devices.
5. Analyse the Internet architecture and internetworking technologies, and create research reports on data communications, computer networking and internetworking technologies.

Subject Content

Overview of Networking Technologies

The Internet and TCP/IP Protocol Suite
 Network Applications and Application Level Protocols
 Local Area Networks
 Internetworking and Routing Protocols
 Fundamentals of Network Management
 Fundamentals of Network Security
 Emerging Network Technologies
 Fundamentals of Wireless Networking and Mobile Computing
 Fundamentals of Multimedia Networking
 Practical aspects of basic LAN and WAN devices

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.

Item	Length	Percent	Threshold	Individual/Group Task
Practical	15 minutes per practical	20	N	Individual
Professional Task	60 minutes	30	N	Both (Individual & Group)
Case Study Report	Approximately 3,000 words for two students	25	N	Group
Intra-Session Exam - Combination of multiple-choice and short answer	60 minutes	25	N	Individual

Teaching Periods

Summer A

Parramatta - Victoria Rd (Summer A)

Day

Subject Contact Aruna Jamdagni ([https://directory.westernsydney.edu.au/search/name/Aruna Jamdagni/](https://directory.westernsydney.edu.au/search/name/Aruna%20Jamdagni/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP7013_22-SUA_PS_D#subjects)

Autumn

Parramatta - Victoria Rd

Evening

Subject Contact Aruna Jamdagni ([https://directory.westernsydney.edu.au/search/name/Aruna Jamdagni/](https://directory.westernsydney.edu.au/search/name/Aruna%20Jamdagni/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP7013_22-AUT_PS_E#subjects)

Sydney City Campus - Term 2

Sydney City

Day

Subject Contact Antoinette Cevenini ([https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/](https://directory.westernsydney.edu.au/search/name/Antoinette%20Cevenini/)) Mahsa Razavi ([https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/](https://directory.westernsydney.edu.au/search/name/Mahsa%20Razavi/)) Mahsa Razavi ([https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/](https://directory.westernsydney.edu.au/search/name/Mahsa%20Razavi/))

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP7013_22-SC2_SC_D#subjects)

Spring

Parramatta - Victoria Rd

Evening

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View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=COMP7013_22-SPR_PS_E#subjects)