



TELE3350

Communications Networks

Session 1, Weekday attendance, North Ryde 2020

School of Engineering

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General Information

Unit convenor and teaching staff

Iain Collings

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44 Waterloo Rd, room 109

appointment via email

Credit points

10

Prerequisites

COMP2250 or COMP247 or Admission to MEngNetTeleEng or MEngElecEng

Corequisites

Co-badged status

Unit description

This unit develops core knowledge and understanding in telecommunications engineering examining the technology, concepts and general principles used in modern data communication networks. The focus is on layers 1 and 2 of the OSI reference model spanning local-area, wide-area, metropolitan and access networks and includes Ethernet, wireless networks, optical networks, time-division multiplexing networks and cellular networks. The unit examines these technologies from a number of different perspectives including physical-layer communications, medium access control (MAC), link-layer, network structure, devices, modelling, performance analysis and quality of service. A practical component gives students skills in using and configuring network equipment and modelling and analysis tools.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO2: Evaluate the advantages and performance of a range of networking technologies.

ULO3: Demonstrate knowledge of a range of modelling techniques, including mathematical modelling and simulation modelling, including appropriate simulation tools, to design and analyse communication technologies and networks.

ULO4: Design, build and operate networks using switches and routers.

ULO1: Critique and compare, using acquired knowledge, different communication technologies and networks.

ULO5: Apply a systems perspective in the analysis of networks and communications systems.

ULO6: Effectively collaborate in small groups while solving networking problems.

Assessment Tasks

Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

General Assessment Information

Each of the four Tests has the following condition: If the mark is less than 50%, then the student will be given a second chance to achieve a mark of 50%, by completing extra assessment to a satisfactory standard. The extra assessment will be in the form of a take-home assignment, for which the student will need to achieve a mark of greater than 50%. If the assignment mark is not greater than 50%, then the original Test mark will stand.

Delivery and Resources

Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: https://ask.mq.edu.au/account/pub/display/unit_status

Practical sessions

There are eleven weekly laboratory sessions, starting in Week 2.

Late assignments

Late assignments will be penalised 10% per day of lateness except if a request for extension based on medical or other exception circumstances is submitted (disruption to studies) and approved.

Technology used

Library and internet search engines, word processing and presentation software, switches and

routers, Matlab software.

Laboratory Safety

No student will be permitted to enter the laboratory without proper footwear. THONGS OR SANDALS ARE NOT ACCEPTABLE. NO FOOD OR DRINK may be taken into the laboratory.

Suggested reference text book:

Computer Networking James F Kurose & Keith W Ross, 6th Edn, 2012.

Other reference book(s)

Communication Networks A Concise Introduction, by J. Walrand and S. Parekh, Morgan & Claypool Publishers, 2010.

Networking, Second edition, J. S. Beasley, Pearson, 2009.

Data Communications and Networking, 4th Edition by B. A. Forouzan, McGraw-Hill, 2007.

Data and Computer Communications, 9th ed W. Stallings, Pearson, 2012

Lecture and laboratory notes

Lecture notes, laboratory notes, assignments and resources are provided online through iLearn.

Unit Schedule

Coronavirus (COVID-19) Update

The unit schedule/topics and any references to on-campus delivery below may no longer be relevant due to COVID-19. Please consult [iLearn](#) for latest details, and check here for updated delivery information: https://ask.mq.edu.au/account/pub/display/unit_status

Refer to iLearn for unit schedule

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)

- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

The Labs have been rewritten and upgraded to use the new HP switch hardware. Assignments have been replaced with in-class tests, to provide more direct on-going feedback to students on their progress.

Changes since First Published

| Date | Description |
|------------|--|
| 26/02/2020 | I removed the contradictory statement (in General Information about Assessment) that had said the final exam was a hurdle (which it is not). The statement was a copy-and-paste error brought over from last year's offering (when the exam was a hurdle). |