



TELE4087

Mobile Networks

Session 1, Weekday attendance, North Ryde 2020

School of Engineering

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General Information

Unit convenor and teaching staff

Unit Convener

Robert Abbas

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Contact via 98501558

44 Waterloo Rd , Room124

Mondays 3-4 pm

Stephen Hanly

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Credit points

10

Prerequisites

(TELE3350 or ELEC345) or Admission to MEngNetTeleEng or MEngElecEng

Corequisites

Co-badged status

Unit description

This unit explores mobile communications-cellular principals and fundamentals for cellular network technology including 4G and 4.9G (LTE Advanced). Topics include pathloss and shadowing, small-scale fading, multiple access techniques, the air interface model , network architectures, RAN & EPC, MME, EPS, network design and cell planning , network management and operations, multilayered and multi RAT, and interference management, Inter-RAT handover between different layers and technologies (horizontal and vertical handover). Network management and operations is covered from the point of view of both theory and practice with respect to real current networks.

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:

ULO1: Analyse heterogeneous mobile systems, including solving path loss cell planning problems, and calculating link budget and handover margins.

ULO2: Undertake performance analysis of Multiple access communication schemes

ULO3: Integrate advanced concepts to manage interference in heterogeneous mobile systems.

ULO4: Competently apply knowledge and practical skills in evaluating advanced LTE features and requirements.

ULO5: Exhibit and apply skills in self-motivation and self-directed learning, and produce professional quality work to meet a given deadline, all vital skills for professional engineering practice

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

Assessment tasks

	Type	Assessment title	Description	
	Summary	Engagement	Unit engagement in class, Interactive discussion, workshop participation	
	Project	Group project based learning	Projects on 4G, LTE advanced mobile networks, Features, Uses cases. Time spent on assessment is indicative and does not include non-scheduled teaching time spent working in groups.	
	Examination	Inclass Exam 1 W6	In class exam	
	Examination	In class Exam 2 W12	in class exam	

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

Lectures, workshops, few labs, Brain storming & Interactive classes

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](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>).

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 <https://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.