



FOSE8010

Leadership in Science Research and Innovation

Session 1, Weekday attendance, North Ryde 2020

Science and Engineering Faculty level units

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General Information

Unit convenor and teaching staff

Convener/Lecturer

Abidali Mohamedali

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Contact via 98508292

4WW 119

By Appointment

Credit points

10

Prerequisites

Admission to MSc or MScInnovationBioConsMgmt or MScInnovationChemBiomolecularSc or MScInnovationEnvSc or MScInnovationGeologyGeophys or MScInnovationIT or MScInnovationStat

Corequisites

Co-badged status

Unit description

This unit provides an opportunity for students to engage with leaders in STEM research and thinking, acquiring advanced conceptual knowledge of breakthrough scientific discoveries and technological advances and the leadership strategies that make them possible. This unit explores how innovative science is translated to applications in health, industry and the environment. This unit also provides students with essential learning experiences that develop the concepts and skills necessary for leadership in science and technology. Students will be required to also critically analyse new directions of scientific thought and break-through methodologies.

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: Demonstrate a well-rounded understanding of the concept of leadership in science.

ULO2: Analyse how effective leadership leads to innovation in Science.

ULO3: Apply core principles of influencing behavior and strategic thinking.

ULO4: Demonstrate and apply basic skills in conflict management, negotiation and other related soft skills to be effective leaders.

ULO5: Critically analyse new directions of scientific thought and break-through methodologies.

ULO6: Apply the concepts of leadership in science in research and innovations settings.

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](#)

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

The objective of the unit

This unit provides an opportunity for students to engage with leaders in STEM research and thinking, acquiring advanced conceptual knowledge of breakthrough scientific discoveries and technological advances and the leadership strategies that make them possible. This unit explores how Innovative science is translated to applications in health, Industry and the environment. This unit also provides students with essential learning experiences that develop the concepts and skills necessary for leadership in science and technology. Students will be required to also critically analyze new directions of scientific thought and break-through methodologies.

Textbook: Readings and reading materials to be provided on iLearn however Introduction to Leadership (2019) Nothhouse would be a useful addition.

4 Broad themes with a dedicated focus on STEM will be presented

1. Principles of leadership and Innovation
2. Strategic thinking and influencing behaviour

3. The art of negotiation and conflict resolution
4. Communication

Classes

Timetable: Please check <http://timetables.mq.edu.au/2019/> for the official timetable of the unit.

Technology Used and Required

You are expected to access the unit iLearn web site on a frequent basis and to download all necessary PDF files. To access the unit web site, if you have off-campus Internet access, simply start your web browser and proceed as above for logging in. On-campus wireless access is also available. If you do not have your own computer you may wish to access the FOSC804 web resources on campus using the computers in the Library.

To view the lecture notes and other PDF files on the website, you will require Adobe Acrobat Reader Version 9 or later to be installed on your computer. Acrobat Reader can be downloaded from the Adobe website <http://get.adobe.com/uk/reader/>. If you are using computers in the library, then Acrobat has already been installed.

We will also be using ECHO Interactive (from iLEARN) and therefore you will be **required** to bring your laptop, tablet, smartphone to the lectures.

Please note information may also be sent by email to your student email account so please look at your student email account on a frequent basis.

Unit Web Page

The web page for this unit is at Macquarie's new learning management system website: <http://ilearn.mq.edu.au>

Login and follow prompts to FOSC 804.

You are expected to access the unit web site frequently (i.e., almost daily). This site contains important information including lecture notes (that you will be expected to access in class), mid-semester exams and/or assignment.

Logging In: Type in the URL <http://ilearn.mq.edu.au> and find **FOSC804**. Your username is your Macquarie Student ID Number (MQID), which is an 8 digit number found on your student card. The password is your myMQ Student Portal password. This will be the original MQID password (2 random characters followed by your date of birth in DDMMYY format) that was sent to you on enrolment unless you have already changed your password in the myMQ Student Portal. If you experience difficulties in getting your reprint or your password, please contact the StudentIT Desk (ph: 9850 6500).

Teaching and Learning Strategy

FOSC804 is a 4-credit point half-year unit and will require an average of 9 hours of work per week (contact hours plus self-study time).

FOSC804 consists of:

- **2 hours of lectures** and
- a **2-hour tutorial class** every week.

The lecture material and tutorial complement each other and have been developed to increase your understanding of the topics so you can achieve the learning outcomes.

The purpose of tutorials will be to develop higher-level critical thinking skills in students and teach contemporary skills in leadership.

The unit coordinator's expectation is that you will:

- Attend **all interactive** lectures.
- Demonstrate reasonable competence in all exercises and attend and participate in each class/tutorial.
- Perform satisfactorily in all assessments.
- Spend an average of no less than 2 hours per week of private study in addition to direct contact.

If you prepare and attend all components of the unit and work consistently/continuously throughout the semester, you should be able to develop a strong understanding of leadership and develop strategic skills to help you achieve greater goals post-study.

You are expected to use the lecture materials in the lectures (or bring them) so you can spend most of the time listening rather than transcribing. The lectures are interactive and you will be expected to have input in polls and discussions. Do not assume notes or lectures are in any way a suitable substitute for attending lectures – lecturers from all departments put an effort into making the lectures up to date and relevant.

Learning is an active process, and as such you must engage with the material. This means downloading and reading lecture notes and case studies completing reflection exercises and participating in poll questions online.

- The mid-semester exam will be run in a tutorial class.

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

Week	Date	Topic	Speaker	Tutorial topics	Assignments due
1	26 th Feb	Introduction	Dr Abidali Mohamedali	FOSC806 PRE Internship workshop	

2	4 th March	Principles of Leadership		WTC index, debate, management vs leadership, leadership perceptions.	
3	11 th March	Leadership Models		Core Values and thinking tools	Week 2 Reflections
4	18 th March	Leadership in science innovation Managing Innovation		HBDI- Brain dominance tools Freshwater training room	Week 3 Reflections
5	25 th March	Passion and Vision Maintenance/delivery- Transformative Leadership	Prof Bruce Downton (MQVICE CHANCELLOR)	Landing a Job/internship, critical skills workshop	Case Study DUE 27th March
		Vision Creation – Thought Leadership - Seeds of Innovation			Week 4 Reflections
6	1 st April	Essential Skills in STEM leadership	Prof Roger Redell (Director CMRI)	Communication and networking tutorial	Week 5 Reflections
7	8 th April	Political Leadership in/of Science- The Future		Mid Semester Examination	Week 6 Reflections
Mid Semester Break					
8	29 th April	Conflict Resolution	Tulsi Van De Graff CEO Bravesolutions	Influencing skills, emotional intelligence	Networking Task Due 1st May
9	6 th May	Art of Negotiation		Strategic Thinking canvases	
10	13 th May	Influencing Behaviour in Science	Prof Nicki Packer (MQ MOL SCI)	Leadership gears, communication and feedback	Strategic Plan due 15th May
11	20 th May	Ethics and Ego in leadership		Leadership ethics, ethical dilemmas	
12	27 th May	Building a team	A/Prof Amin Behisti (MQ DEPT of Computing)	Listening Skills and office politics 101	
		Training/Coaching a team			

13	3 rd June	Time management/Work life balance	Dr Abidali Mohamedali	Skills for running a meeting Team building skills, avoiding groupthink.	Final Essay due 8th June
		Review and Revision			
Exam Session					

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 <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

- Addition of new workshops (landing a Job/internship critical skills workshop)
- New speakers
- Participation grade