



# MEDI712

## Research Frontiers in Medical Science 2

S2 Day 2016

*Department of Biomedical Sciences*

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## General Information

Unit convenor and teaching staff

Co-convenor

Prof. Mark Connor

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Contact via Email

Level 1, 75 Talavera Rd.

Consultation by appointment

Co-convenor

Dr. Danè Turner

[daneh.turner@mq.edu.au](mailto:daneh.turner@mq.edu.au)

Contact via Email

Level 1, 75 Talavera Rd.

Consultation by appointment

Credit points

4

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

Building on MEDI711, students will continue to acquire an advanced conceptual knowledge of breakthrough discoveries relevant to a range of topics within the field of medical research.

Through the mentoring of senior research-active staff, post-doctoral researchers and FMHS PhD candidates, students will gain discipline specific knowledge that will be relevant to their future research careers. Students will:

1. Attend seminars and lectures focused on ongoing research projects from the Faculty of Medicine and Health Sciences and from invited speakers from leading national and international research institutes.
2. Participate in self-directed and group tasks in which they will learn to research, read and critically review seminal research findings that have shaped contemporary thinking, and to disseminate their findings in written and oral form.

## 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:

Acquire advanced knowledge of current research in medical science

Identify and discuss complex problems and issues in medical research with intellectual independence

Synthesise and analyse information from a wide variety of sources on medical research

Develop oral and written communication skills, related to grant applications, and self-directed learning.

Identify pertinent areas of research and formulate a suitable methodology to test out a research question

Evaluate and appraise a research protocol based on quality, feasibility and significance.

## Assessment Tasks

Name	Weighting	Due
<u>Shark-Tank Grant Pitch</u>	20%	Week 5
<u>Grant Application</u>	40%	Week 9
<u>Peer Review and Rebuttal</u>	30%	Week 12
<u>Seminar Attendance</u>	10%	Week 13

### Shark-Tank Grant Pitch

Due: **Week 5**

Weighting: **20%**

Having attended two weeks of MND research talks, students will be asked to decide on a research question within the area of MND. They will then pitch their grant to an audience of research peers. This will be a 10-minute talk and 5-minute question session in a Shark-Tank style live pitch.

On successful completion you will be able to:

- Identify and discuss complex problems and issues in medical research with intellectual independence
- Develop oral and written communication skills, related to grant applications, and self-directed learning.
- Identify pertinent areas of research and formulate a suitable methodology to test out a

research question

## Grant Application

Due: **Week 9**

Weighting: **40%**

Students will submit a mock grant application, based on the MNDRIA Grant-in-aid application:

<http://www.mndaust.asn.au/Discover-our-research/grants-and-research-meetings/Apply-for-a-grant.aspx>

On successful completion you will be able to:

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- Identify and discuss complex problems and issues in medical research with intellectual independence
- Synthesise and analyse information from a wide variety of sources on medical research
- Develop oral and written communication skills, related to grant applications, and self-directed learning.
- Identify pertinent areas of research and formulate a suitable methodology to test out a research question

## Peer Review and Rebuttal

Due: **Week 12**

Weighting: **30%**

Students will provide a peer review of another's grants. Strengths, weaknesses, significance and innovation. A week later, the students will discuss and respond to the comments of the peer reviewers (staff as well as peers).

On successful completion you will be able to:

- Acquire advanced knowledge of current research in medical science
- Identify and discuss complex problems and issues in medical research with intellectual independence
- Synthesise and analyse information from a wide variety of sources on medical research
- Develop oral and written communication skills, related to grant applications, and self-directed learning.
- Evaluate and appraise a research protocol based on quality, feasibility and significance.

## Seminar Attendance

Due: **Week 13**

Weighting: **10%**

MRes students are expected to attend a minimum of 15 hours of seminars over the Semester (minimum of 1 hour of seminar per week), these can include Research Seminars hosted by Biomedical Sciences, AIHI, the Department of Health Professions or other Faculties.

On successful completion you will be able to:

- Acquire advanced knowledge of current research in medical science
- Synthesise and analyse information from a wide variety of sources on medical research

## Delivery and Resources

Throughout the semester students will be provided with references to various journal papers which they will be expected to read and reflect on. Students are also encouraged to expand their knowledge and understanding of topics presented by further reading of the current literature (using databases such as Scopus and PubMed).

## Unit Schedule

Week	Date beginning	Topic
1	Monday, 1st August	Proteomics
2	Monday, 8th August	Cardiovascular Biomechanics
3	Monday, 15th August	MND
4	Monday, 22nd August	MND
5	Monday, 29th August	MND
6	Monday, 5th September	MND
7	Monday, 12th September	Infection Control
Mid-semester break		
8	Monday, 3rd October	LABOUR DAY- PUBLIC HOLIDAY
9	Monday, 10th October	Neuroscience
10	Monday, 17th October	Neuroscience
11	Monday, 24th October	Orthopaedic Biomechanics
12	Monday, 31st October	Pharmacology
13	Monday, 7th November	PhD Student Experiences

Please note that times for Practicals/ Tutorials will be arranged with students. Current time allocations are provisional.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

**New Assessment Policy in effect from Session 2 2016** [http://mq.edu.au/policy/docs/assessment/policy\\_2016.html](http://mq.edu.au/policy/docs/assessment/policy_2016.html). For more information visit [http://students.mq.edu.au/events/2016/07/19/new\\_assessment\\_policy\\_in\\_place\\_from\\_session\\_2/](http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/)

Assessment Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public [http://www.mq.edu.au/policy/docs/complaint\\_management/procedure.html](http://www.mq.edu.au/policy/docs/complaint_management/procedure.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of 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/support/student\\_conduct/](https://students.mq.edu.au/support/student_conduct/)

## Results

Results shown in *iLearn*, 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](http://ask.mq.edu.au).

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

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Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy [http://mq.edu.au/policy/docs/grievance\\_management/policy.html](http://mq.edu.au/policy/docs/grievance_management/policy.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

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## 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](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## 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>

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](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.

## Graduate Capabilities

### PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

#### Learning outcome

- Synthesise and analyse information from a wide variety of sources on medical research

#### Assessment tasks

- Grant Application
- Peer Review and Rebuttal
- Seminar Attendance

### PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

#### Learning outcome

- Acquire advanced knowledge of current research in medical science

#### Assessment tasks

- Shark-Tank Grant Pitch
- Grant Application
- Peer Review and Rebuttal

### PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:



## Learning outcomes

- Identify and discuss complex problems and issues in medical research with intellectual independence
- Synthesise and analyse information from a wide variety of sources on medical research
- Develop oral and written communication skills, related to grant applications, and self-directed learning.
- Identify pertinent areas of research and formulate a suitable methodology to test out a research question
- Evaluate and appraise a research protocol based on quality, feasibility and significance.

## Assessment tasks

- Shark-Tank Grant Pitch
- Grant Application
- Peer Review and Rebuttal
- Seminar Attendance

## PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

## Learning outcomes

- Identify and discuss complex problems and issues in medical research with intellectual independence
- Synthesise and analyse information from a wide variety of sources on medical research
- Identify pertinent areas of research and formulate a suitable methodology to test out a research question
- Evaluate and appraise a research protocol based on quality, feasibility and significance.

## Assessment tasks

- Shark-Tank Grant Pitch
- Grant Application
- Peer Review and Rebuttal
- Seminar Attendance

## PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

### Learning outcomes

- Develop oral and written communication skills, related to grant applications, and self-directed learning.
- Identify pertinent areas of research and formulate a suitable methodology to test out a research question
- Evaluate and appraise a research protocol based on quality, feasibility and significance.

### Assessment tasks

- Shark-Tank Grant Pitch
- Grant Application
- Peer Review and Rebuttal

## PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

### Learning outcomes

- Acquire advanced knowledge of current research in medical science
- Identify and discuss complex problems and issues in medical research with intellectual independence
- Develop oral and written communication skills, related to grant applications, and self-directed learning.
- Identify pertinent areas of research and formulate a suitable methodology to test out a research question

### Assessment tasks

- Shark-Tank Grant Pitch

- Grant Application
- Peer Review and Rebuttal

## Changes from Previous Offering

This unit, similar to previous years, is an extension of MEDI711 from Semester 1. The core research topics have been modified to reflect current research within the Department of Biomedical Sciences.

## Seminar Attendance Log Book

### Seminar Attendance Log Book

Student details	
Name	
Unit	
Unit Co-ordinator	

Seminar attendance record			
Date	Presenter	Seminar Title	Supervisor Signature
1			

2			
3			
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