



MEDI711

Research Frontiers in Medical Science 1

S1 Day 2019

Medicine and Health Sciences Faculty level units

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General Information

Unit convenor and teaching staff

Co-convenor

Dr Ruiwen Benjamin Heng

benjamin.heng@mq.edu.au

Consultation by appointment

Benjamin Heng

benjamin.heng@mq.edu.au

Credit points

4

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

In this unit students will acquire an advanced conceptual knowledge of breakthrough discoveries relevant to a range of topics within the field of medical research. Through mentoring by senior research-active staff and post doctoral researchers within the Faculty of Medicine and Health Sciences, 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 conduct 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:

Demonstrate a basic understanding of the ethical and practical requirements for research with humans and animals.

Acquire advanced knowledge of current research in health and medical science
Synthesise and analyse information regarding medical/health research from a wide variety of sources
Identify and discuss complex problems and issues in medical research with intellectual independence
Articulate cogent arguments in written and oral form for a variety of audiences
Develop skills in research literacy and research related information technology.

General Assessment Information

Grade descriptors and other information concerning grading are contained in Schedule 1 of the Macquarie University Assessment Policy, which is available at: <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/assessment>.

Further details for each assessment task will be available on iLearn.

All final grades in the Masters of Research are determined by a grading committee and are not the sole responsibility of the Unit Convenor.

Students will be awarded a final grade plus a Standardised Numerical Grade (SNG). The SNG is not necessarily a summation of the individual assessment components. The final grade and SNG that are awarded reflect the corresponding grade descriptor in the Grading Policy.

To pass this unit, students must demonstrate sufficient evidence of achievement of the learning outcomes, attempt all assessment tasks, meet any ungraded requirements including professionalism and achieve an SNG of 50 or better.

Student Professionalism

In the Faculty of Medicine and Health Sciences, professionalism is a key capability embedded in all our programs. As part of developing professionalism, students are expected to attend all small group interactive sessions including tutorials, as well as clinical- and laboratory-based practical sessions.

Furthermore, lectures and seminars are key learning activities that you are expected to attend throughout completion of the Masters of Research program. While audio recordings and lecture slides may be made available following these large group sessions, it is important to recognise that such resources are a study aid - and should not be considered an alternative to lecture or seminar attendance.

Students who do not maintain adequate attendance (greater than or equal to 80% of scheduled classes) may be deemed unable to meet expectations regarding professionalism and may be referred for disciplinary action (which may include exclusion from assessments and unit failure).

Similarly, as part of developing professionalism, students are expected to submit all work by the due date. Applications for **assessment task extensions** must be supported by appropriate evidence and submitted via www.ask.mq.edu.au. For further details please refer to the Special Consideration Policy available at <https://students.mq.edu.au/study/my-study-program/special-con>

sideration.

Online Training

Complete both the **RACE** (Research Animal Care and Ethics) Training Module (Module 1 only) and the **Biosafety** Training Workshop.

Students will be required to complete both the RACE and Biosafety online training, prior to Week 3 in preparation for the Ethics lecture. The courses cover the legislative and institutional requirements governing the use of animals and genetically modified organisms for research and teaching at Macquarie University, and the principles and practice of animal care and welfare.

Late Submission

All assignments which are officially received after the due date, and where no extension has been granted, will incur a deduction of 10% for the first day, and 10% for each subsequent day including the actual day on which the work is received. Weekends and public holidays are included. For example:

Due date	Received	Days late	Deduction	Raw mark	Final mark
Friday 14th	Monday 17th	3	30%	75%	45%

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Journal Club Presentation</u>	25%	No	Week 4
<u>Scientific News Article</u>	20%	No	Week 7
<u>Critical Review Essay</u>	35%	No	Week 10
<u>Seminar Attendance/Reflection</u>	20%	No	Week 14

Journal Club Presentation

Due: **Week 4**

Weighting: **25%**

Students will choose an individual article within their area of interest and present it to the class in Week 4. The student will be expected to guide and encourage active discussion about the paper rather than simply giving a talk to the group and waiting for questions.

The article must be a 'Seminal research paper', i.e. an established publication which has made a significant impact in the field of medical research, as evidenced by very high levels of citation, either by providing a novel methodological advance or a significant conceptual breakthrough.

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- Identify and discuss complex problems and issues in medical research with intellectual independence
- Articulate cogent arguments in written and oral form for a variety of audiences
- Develop skills in research literacy and research related information technology.

Scientific News Article

Due: **Week 7**

Weighting: **20%**

Students will submit a 500 word article summarising a recent publication (published in the last 3 months) in the field of medical/health research that would be of interest to a wider scientific readership. The article must be written in the style that would be seen in popular media scientific publications such as New Scientist or Cosmos.

The article is worth 20% of your total grade and will be marked against its ability to capture the attention of the reader, be understood by a general scientific audience, accurately communicate the key points of the published journal article and be within the required length.

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Critical Review Essay

Due: **Week 10**

Weighting: **35%**

Critical discussion based around a topic of study covered during the semester.

Students will submit an essay that critically reviews a key paper discussed within the context of one of the teaching topics studied during the semester. The essay will be of 2,500 words, and it will be worth 35% of your final grade.

The essay will address the question “Discuss the major breakthrough that your chosen article presents, and review the seminal research findings that led to the development of knowledge in this field of research”

The essay will therefore present a clear summary of previous literature that supported the current studies (i.e. background and historical papers) and then a critical review of the primary paper and why it is considered a major breakthrough in the field. The primary paper must be an original research article and not a review paper.

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- Develop skills in research literacy and research related information technology.

Seminar Attendance/Reflection

Due: **Week 14**

Weighting: **20%**

The Faculty runs a number of formal presentation series throughout each semester, including Friday afternoon Research Seminars in the Department of Biomedical Sciences (weekly in the Seminar Room, Level 1, 75 Talavera Rd), Grand Rounds (last Wednesday of each month from 12pm to 1pm in the Clinic Building, Ground Floor, Lecture Rooms G10/11) and other occasional special presentations.

MRes students are expected to attend a minimum of 15 seminars (health/medical related and at least 30 minutes each) over the Semester. These can include Research Seminars hosted by Biomedical Sciences, AIHI, the Department of Health Professions or other Faculties. In some cases webinars may be accepted. In addition to the log book attendance record, you must prepare a detailed critique for five of the attended seminars. If the log book is incomplete or insufficient seminars have been attended, a zero grade for this component will be recorded.

On successful completion you will be able to:

- Demonstrate a basic understanding of the ethical and practical requirements for research with humans and animals.
- Acquire advanced knowledge of current research in health and medical science
- Synthesise and analyse information regarding medical/health research from a wide variety of sources

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).

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.*)

Undergraduate 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 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

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.

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 outcomes

- Demonstrate a basic understanding of the ethical and practical requirements for research with humans and animals.
- Synthesise and analyse information regarding medical/health research from a wide

variety of sources

Assessment task

- Seminar Attendance/Reflection

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 health and medical science

Assessment task

- Seminar Attendance/Reflection

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

- Acquire advanced knowledge of current research in health and medical science
- Synthesise and analyse information regarding medical/health research from a wide variety of sources
- Identify and discuss complex problems and issues in medical research with intellectual independence
- Articulate cogent arguments in written and oral form for a variety of audiences
- Develop skills in research literacy and research related information technology.

Assessment tasks

- Journal Club Presentation
- Scientific News Article
- Critical Review Essay

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

- Acquire advanced knowledge of current research in health and medical science
- Synthesise and analyse information regarding medical/health research from a wide variety of sources
- Articulate cogent arguments in written and oral form for a variety of audiences
- Develop skills in research literacy and research related information technology.

Assessment tasks

- Scientific News Article
- Critical Review Essay

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

- Demonstrate a basic understanding of the ethical and practical requirements for research with humans and animals.
- Identify and discuss complex problems and issues in medical research with intellectual independence
- Articulate cogent arguments in written and oral form for a variety of audiences
- Develop skills in research literacy and research related information technology.

Assessment tasks

- Journal Club Presentation
- Scientific News Article

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

- Demonstrate a basic understanding of the ethical and practical requirements for research with humans and animals.
- Identify and discuss complex problems and issues in medical research with intellectual independence
- Articulate cogent arguments in written and oral form for a variety of audiences

Assessment tasks

- Journal Club Presentation
- Seminar Attendance/Reflection