



# MEDI913

## Applied Medical Science 2

S2 Day 2019

*Medicine and Health Sciences Faculty level units*

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#### **Disclaimer**

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

## General Information

Unit convenor and teaching staff

Collette Tosen

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Credit points

8

Prerequisites

MEDI910 and MEDI911 and MEDI912

Corequisites

MEDI914 and MEDI915

Co-badged status

Unit description

In this unit, students will develop a foundational understanding of several body systems and regions. Students will come to understand the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, and pharmacology) and how they relate to the normal structures and functions of the body systems as well as how the body systems are altered in common or clinically significant disease states. Students will consider how the body's inflammatory and immune responses contribute to pathology, as well as how drugs and other treatments are used to manage or prevent disease. Students will evaluate clinical case studies individually and in small groups to identify questions and learning needs, and will draw upon evidence from a range of sources (including medical scientific literature) to articulate responses to clinical scenarios.

## 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:

- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology,

histology, microbiology, immunology and pharmacology) that underpin common or clinically-significant disease states.

Capability 1. Scientist and Scholar: Explain pharmacological properties and mechanisms of standard treatments.

Capability 1. Scientist and Scholar: Explain scientific and clinical information effectively using the most appropriate scientific sources.

Capability 1. Scientist and Scholar: Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare.

Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

## General Assessment Information

Information concerning Macquarie University's assessment policy is available at [http://mq.edu.au/policy/docs/assessment/policy\\_2016.html](http://mq.edu.au/policy/docs/assessment/policy_2016.html). Detailed information regarding the assessment for the Macquarie MD is available on the iLearn Macquarie MD Year 1 Noticeboard 2019 Intake site. Further details for each assessment task will be available on iLearn.

### Grading

The written examinations will be graded numerically with a standardised mark out of 100. The numeric marks for the examinations weighted according to their contribution, will be used to calculate the overall Unit aggregate. Unit outcomes, based on the Unit aggregate, will be reported to the University using the standard Macquarie grades (High Distinction, Distinction, Credit, Pass, Fail). As most assessment tasks in the program are coarse graded, a single **standardised numerical grade** (SNG) equivalent will be reported for each University grade. The conversion of the aggregate to a single SNG are available on the iLearn Macquarie MD Year Noticeboard 2019 Intake site.

All final grades in the Macquarie MD are reviewed by the MD Program and Faculty Assessment Committees and are not the sole responsibility of the Unit Convenor.

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 a unit aggregate of 50% or better.

### Extensions for Assessment tasks

Applications for assessment task extensions must be submitted via [www.ask.mq.edu.au](http://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-consideration>

### Professional Expectations

Professionalism is a key capability embedded in the Macquarie MD. Professional Behaviour

Notifications (PBN) and Professional Behaviour Commendations (PBC) may be awarded and will be recorded in the student's portfolio. As part of developing professionalism, Macquarie MD students are expected to attend all small group interactive sessions including practical sessions and Team-based learning activities. If attendance is deemed to be of concern, the student will be referred to the Lead (Student Professionalism) for remediation, subsequent monitoring, and recording in the portfolio. All lectures, practicals and clinical colloquium sessions are scheduled in the Macquarie MD Year 1 Session 2 Timetable available on the iLearn Macquarie MD Year 1 Noticeboard 2019 Intake site.

Similarly, as part of developing professionalism, Macquarie MD students are expected to submit all work by the due date. Late submission without prior approved extension will result in a professional behaviour notification (PBN) in the portfolio.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#"><u>AT1: Midsession examination</u></a>	40%	No	Week 7
<a href="#"><u>AT2: Final session examination</u></a>	60%	No	Week 14-15

### AT1: Midsession examination

Due: **Week 7**

Weighting: **40%**

Midsession examination - written exam

On successful completion you will be able to:

- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) that underpin common or clinically-significant disease states.
- Capability 1. Scientist and Scholar: Explain pharmacological properties and mechanisms of standard treatments.
- Capability 1. Scientist and Scholar: Explain scientific and clinical information effectively using the most appropriate scientific sources.
- Capability 1. Scientist and Scholar: Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare.

- Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

## AT2: Final session examination

Due: **Week 14-15**

Weighting: **60%**

Final session examination - written exam

On successful completion you will be able to:

- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) that underpin common or clinically-significant disease states.
- Capability 1. Scientist and Scholar: Explain pharmacological properties and mechanisms of standard treatments.
- Capability 1. Scientist and Scholar: Explain scientific and clinical information effectively using the most appropriate scientific sources.
- Capability 1. Scientist and Scholar: Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare.
- Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

## Delivery and Resources

### Assumed knowledge

This unit assumes that you have a comprehensive knowledge of ***Human anatomy and physiology***.

### Textbooks

The following texts are recommended. Copies will be available online through the library and/or held in library reserve.

- *Anatomy*: Moore et al (2014). Clinically-oriented anatomy (7th Edition). Lippincott

Williams and Wilkins

- *Biochemistry*: Baynes, J and Dominiczak, M. (2014). Medical Biochemistry (4<sup>th</sup> Edition). Saunders Elsevier.
- *Embryology*: Moore, K., Persaud, T. V. N, & Torchia, Mark G. (2015). The developing human: clinically oriented embryology (10th Edition.). London: Elsevier Health Sciences.
- *Histology*: Ross and Pawlina (2015). Histology: a text and atlas: with correlated cell and molecular biology (7th Edition). Lippincott Williams and Wilkins
- *Medicine*: Colledge et al (2014). Davidson's principles and practice of medicine (22st edition). Elsevier
- *Microbiology*: Goering et al (2013). Mims' medical microbiology (5th edition). Elsevier
- *Pharmacology*: Rang et al (2015). Rang and Dale's pharmacology (8th Edition). Elsevier
- *Physiology*: Guyton & Hall (2015). Textbook of medical physiology (13th Edition). Elsevier

### **Technology and equipment**

MQ is a BYOD environment where students are encouraged to bring their personally owned devices (laptops, tablets, etc.) to class and to use these devices to access information and study.

#### *On-campus*

Teaching rooms are equipped with state of art audio-visual and ICT equipment. Students will use a range of specific equipment typically used in the assessment and management of people with a range of health conditions.

#### *Off-campus*

To study optimally when off campus you will need to have access to a reliable internet connection to retrieve unit information and engage with online resources.

### **Consultation with staff**

Staff will be available for individual consultations, please see iLearn site for information on staff availability for consultation.

### **Teaching and Learning Strategy**

This unit will have 6 hours of lectures, one 2 hour practical session and one 2 hour clinical colloquium session each week.

- The lectures will cover topics and concepts that encompass the biomedical sciences. Scientific researchers and clinical specialists will deliver lectures, and students will be given the opportunity to ask questions and work through activities during these lectures.
- Practical classes will allow students to apply practical and/or conceptual elements to help shape their understanding.

- The clinical colloquium integrates learning from across all units in Year 1, and allows students to consolidate and apply both practical and conceptual elements to help shape their understanding. Online activities and resources will be available prior to the colloquium session. It is expected that students engage with the online resources to assist in their participation in the team based learning that will occur during the colloquium session.

## iLearn

This unit's iLearn site will provide weekly resources for students, including:

- lecture notes
- practical lesson worksheets
- preparation and consolidation material
- videos
- other teaching resources
- assessment details

## 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](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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](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](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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/](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

- Capability 1. Scientist and Scholar: Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare.
- Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

#### Assessment tasks

- AT1: Midsession examination
- AT2: Final session examination

### 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 outcomes

- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) that underpin common or clinically-significant disease states.
- Capability 1. Scientist and Scholar: Explain pharmacological properties and mechanisms of standard treatments.
- Capability 1. Scientist and Scholar: Explain scientific and clinical information effectively

using the most appropriate scientific sources.

- Capability 1. Scientist and Scholar: Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare.
- Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

## Assessment tasks

- AT1: Midsession examination
- AT2: Final session examination

## 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

- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) that underpin common or clinically-significant disease states.
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- Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

## Assessment tasks

- AT1: Midsession examination
- AT2: Final session examination

## 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

- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- Capability 1. Scientist and Scholar: Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) that underpin common or clinically-significant disease states.
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- Capability 1. Scientist and Scholar: Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare.

## Assessment tasks

- AT1: Midsession examination
- AT2: Final session examination

## 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

- Capability 1. Scientist and Scholar: Explain pharmacological properties and mechanisms of standard treatments.
- Capability 1. Scientist and Scholar: Explain scientific and clinical information effectively using the most appropriate scientific sources.
- Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

## 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 outcome

- Capability 3. Engaged global citizen: Explain how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

### Assessment tasks

- AT1: Midsession examination
- AT2: Final session examination

## Changes from Previous Offering

Following feedback from staff and students the following changes have been made: Delivery order of body systems has changed to improve the student learning experience Assessment tasks have been modified to better align with unit learning outcomes