MEDI913

Applied Medical Science 2

S2 Day 2018

Medicine and Health Sciences Faculty level units

Contents

General Information

Unit convenor and teaching staff
Unit Convenor
Christine Chiu
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By appointment

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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 including the cardiovascular, respiratory, renal, nervous, and musculoskeletal systems. 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 these systems as well as how these 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:

Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health

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 in the disciplines of respiratory, cardiology, renal and urology, neurology and cancer and oncology

Explain pharmacological properties and mechanisms of standard treatments, in the disciplines of respiratory, cardiology, renal and urology, neurology, and cancer and oncology

Explain scientific and clinical information effectively to peers and tutors using the most appropriate scientific sources

Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare

Explains how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

Participate effectively in classes and peer teams, by seeking feedback on own performances and reflecting on the feedback to generate strategies that improve individual and team performance.

General Assessment Information

Information concerning Macquarie University's assessment policy is available at 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 Noticeboard 2018 Intake site. Further details for each assessment task will be available on iLearn.

Grading

In this unit two types of grading will be used. The written examinations will be graded numerically with a standardised mark out of 100, while the team reflection task will be coarse graded. Coarse grades (P+, P, P-, F) will be assigned to the focused and generic MD Capability Aspects, as well as, overall task performance. The numeric marks for the examinations and overall coarse grade for the assessment task, 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. Both the numeric equivalents for the coarse grades used in the calculation of the unit aggregate and the conversion of the aggregate to a single SNG are available on the iLearn Macquarie MD Year Noticeboard 2018

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. 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. As part of developing professionalism, Macquarie MD students are expected to attend all small group interactive sessions including tutorials, clinical and laboratory practical sessions, and Team Based Learning activities. If attendance is deemed to be of concern, this 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 Noticeboard 2018 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 professionalism breach notification in the portfolio.

Assessment Tasks

Name	Weighting	Hurdle	Due
Assessment Task 1 (AT1)	20%	No	Week 7
Assessment Task 2 (AT2)	20%	No	Week 12
Assessment Task 3 (AT3)	60%	No	Week 14

Assessment Task 1 (AT1)

Due: **Week 7**
Weighting: **20%**

Written examation

On successful completion you will be able to:

- Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and

pharmacology) to explain optimal health
- 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 in the disciplines of respiratory, cardiology, renal and urology, neurology and cancer and oncology
- Explain pharmacological properties and mechanisms of standard treatments, in the disciplines of respiratory, cardiology, renal and urology, neurology, and cancer and oncology
- Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare
- Explains how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

Assessment Task 2 (AT2)

Due: **Week 12**
Weighting: **20%**

Written reflection

On successful completion you will be able to:
- Explain scientific and clinical information effectively to peers and tutors using the most appropriate scientific sources
- Participate effectively in classes and peer teams, by seeking feedback on own performances and reflecting on the feedback to generate strategies that improve individual and team performance.

Assessment Task 3 (AT3)

Due: **Week 14**
Weighting: **60%**

Written examination

On successful completion you will be able to:
- Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- 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 in the disciplines of respiratory, cardiology, renal and urology, neurology and cancer and oncology

- Explain pharmacological properties and mechanisms of standard treatments, in the disciplines of respiratory, cardiology, renal and urology, neurology, and cancer and oncology
- Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare
- Explains 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 anatomy and basic physiology.

Textbooks and Readings

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 (4th 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

Neuroanatomy: Fitzgerald, M.J.T. (2016) Clinical Neuroanatomy and Neuroscience (7th Edition). Elsevier

Neuroanatomy: Snell, R.S. (2010) Clinical Neuroanatomy. (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

Pathology: Kumar et al (2014). Robbins and Cotran pathologic basis of disease (9th 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 including iPads, internet connection and multiple LCD screens. 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 at times to submit assessment tasks via iLearn.

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 class and one 2 hour clinical colloquium session each week.

- The lectures will cover topics and concepts that encompass the biomedical sciences related to the respiratory system, cardiology, renal and urology, neurology, and cancer and oncology. 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 complement the course material and allow students to consolidate and apply both practical and 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 plans and 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). 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). 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).

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 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.

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

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 competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare
- Explains how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

- Participate effectively in classes and peer teams, by seeking feedback on own performances and reflecting on the feedback to generate strategies that improve individual and team performance.

Assessment tasks

- Assessment Task 1 (AT1)
- Assessment Task 2 (AT2)
- Assessment Task 3 (AT3)

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

- Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- 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 in the disciplines of respiratory, cardiology, renal and urology, neurology and cancer and oncology
- Explain pharmacological properties and mechanisms of standard treatments, in the disciplines of respiratory, cardiology, renal and urology, neurology, and cancer and oncology
- Explain scientific and clinical information effectively to peers and tutors using the most appropriate scientific sources
- Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare
- Explains how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.

Assessment tasks

- Assessment Task 1 (AT1)
- Assessment Task 2 (AT2)
- Assessment Task 3 (AT3)

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

- Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- 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 in the disciplines of respiratory, cardiology, renal and urology, neurology and cancer and oncology
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- Explains how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.
- Participate effectively in classes and peer teams, by seeking feedback on own performances and reflecting on the feedback to generate strategies that improve individual and team performance.

Assessment tasks

- Assessment Task 1 (AT1)
- Assessment Task 2 (AT2)
- Assessment Task 3 (AT3)

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

- Apply knowledge of the biomedical sciences (anatomy, physiology, biochemistry, genetics, cell biology, pathology, embryology, histology, microbiology, immunology and pharmacology) to explain optimal health
- 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 in the disciplines of respiratory, cardiology, renal and urology, neurology and cancer and oncology
- Explain pharmacological properties and mechanisms of standard treatments, in the disciplines of respiratory, cardiology, renal and urology, neurology, and cancer and oncology
- Demonstrate competency in formulating relevant clinical questions about diagnosis, prognosis and treatment of conditions for which people seek healthcare

Assessment tasks

- Assessment Task 1 (AT1)
- Assessment Task 3 (AT3)

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

- Explain pharmacological properties and mechanisms of standard treatments, in the disciplines of respiratory, cardiology, renal and urology, neurology, and cancer and oncology
- Explain scientific and clinical information effectively to peers and tutors using the most appropriate scientific sources
- Explains how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.
- Participate effectively in classes and peer teams, by seeking feedback on own performances and reflecting on the feedback to generate strategies that improve

individual and team performance.

Assessment tasks

- Assessment Task 1 (AT1)
- Assessment Task 2 (AT2)
- Assessment Task 3 (AT3)

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

- Explains how psychological, social and cultural issues affect the health of individuals and populations and how these might be mediated, while respecting diversity.
- Participate effectively in classes and peer teams, by seeking feedback on own performances and reflecting on the feedback to generate strategies that improve individual and team performance.

Assessment tasks

- Assessment Task 1 (AT1)
- Assessment Task 2 (AT2)
- Assessment Task 3 (AT3)