



MEDI2102

Renal, Reproductive and Endocrine Systems

Session 2, Special circumstances 2021

Medicine, Health and Human Sciences Faculty level units

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Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).

Visit the [MQ COVID-19 information page](#) for more detail.

General Information

Unit convenor and teaching staff

Lucinda McRobb

lucinda.mcrobb@mq.edu.au

Cara Hildreth

cara.hildreth@mq.edu.au

Credit points

10

Prerequisites

Admission to BClinSc and (HLTH108 or ANAT1001) and (MEDI209 or MEDI219 or MEDI2200)

Corequisites

Co-badged status

Unit description

This unit builds up knowledge acquired in the foundation and systems units in the Bachelor of Clinical Science. You will extend your knowledge of the anatomy and physiology of the urinary system by focusing on renal blood flow, glomerular filtration, urine production and importance of kidneys in homeostasis of various body fluid compartments. You will study how various hormones interact with target cell receptors in regulating and modifying organ and cellular functions within the human body. You will discuss hormonal mechanisms and their regulatory activities on the structure and function of reproductive organs during puberty, reproductive stages and aging in humans. You will investigate how genetics and hormones interact with environmental and social influences to affect systems development and lifecycle outcomes. Key learning activities will include lectures, tutorial classes, and group presentations.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://students.mq.edu.au/important-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Describe the structural components of the genitourinary systems, endocrine glands and structural organisation of the abdomino-pelvic wall and viscera.

ULO2: Identify the structural components of the nephron and interpret its function and contribution to fluid and electrolyte balance.

ULO3: Demonstrate an understanding of the embryological development of the major structures of the genitourinary and endocrine systems and apply that knowledge to describe common embryological abnormalities.

ULO4: Describe the mechanisms of hormonal control, action and feedback to explain how hypersecretion or hyposecretion of hormones leads to symptoms and signs of endocrine disorders.

ULO5: Explain how genetic, hormonal, environmental and socioeconomic factors may interact to influence phenotypic development throughout the lifecycle.

ULO6: Discuss case studies by organising and integrating knowledge of genitourinary and endocrine glands structures and functions (as well as concepts of pathophysiology) and by critically evaluating evidence from scientific and medical literature.

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 Bachelor of Clinical Science are determined by a grading committee 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 an SNG of 50 or better.

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Student Professionalism

In the Faculty of Medicine, Health and Human Sciences, professionalism is a key capability embedded in all our courses. 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 Bachelor of Clinical Science. 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 are required to **attend a minimum of 80% of all small group interactive sessions**. Students that do not meet this requirement 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-consideration>.

Late Submission

Late submissions will receive a 5% per day penalty including weekends and public holidays. If you submit the assessment task 10 days or more beyond the due date, without an approved extension, you will be awarded a maximum of 50% of the overall assessment marks.

For example:

| Due date | Received | Days late | Deduction | Raw mark | Final mark |
|-------------|-------------|-----------|-----------|----------|------------|
| Friday 14th | Monday 17th | 3 | 15% | 75% | 60% |

Formative Assessment tasks

Team-based learning (TBL) sessions

Due: **Run in weekly tutorial sessions** Weighting: **0% (formative)**

A series of TBL sessions will be run in the tutorial sessions across the semester. Students will be assigned to work in small teams to apply their learning to exam-style multiple choice questions and to solve simple clinical cases studies. These are ongoing formative exercises. Students will have the opportunity to assess their own individual learning through these sessions.

On successful completion you will be able to:

- Describe the structural components of the genitourinary systems, endocrine glands and structural organisation of the abdomino-pelvic wall and viscera.
- Identify the structural components of the nephron and interpret its function and contribution to fluid and electrolyte balance.
- Demonstrate an understanding of the embryological development of the major structures of the genitourinary and endocrine systems and apply that knowledge to describe common embryological abnormalities.
- Describe the mechanisms of hormonal control, action and feedback to explain how hypersecretion or hyposecretion of hormones leads to symptoms and signs of endocrine disorders.
- Explain how genetic, hormonal, environmental and socioeconomic factors may interact to

influence phenotypic development throughout the lifecycle.

· Discuss case studies by organising and integrating knowledge of genitourinary and endocrine glands structures and functions (as well as concepts of pathophysiology) and by critically evaluating evidence from scientific and medical literature.

Assessment Tasks

| Name | Weighting | Hurdle | Due |
|------------------------------------|-----------|--------|--|
| Final Exam | 50% | No | University examination period |
| Group Presentation | 20% | No | Week 9/10 |
| Flow chart | 30% | No | Reproductive flow chart (week 7), Renal flow chart (week 13) |

Final Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 20 hours

Due: **University examination period**

Weighting: **50%**

Formal written exam using a combination of question types assessing content delivered across the session. This task is completed under examination conditions during the University examination period.

On successful completion you will be able to:

- Describe the structural components of the genitourinary systems, endocrine glands and structural organisation of the abdomino-pelvic wall and viscera.
- Identify the structural components of the nephron and interpret its function and contribution to fluid and electrolyte balance.
- Demonstrate an understanding of the embryological development of the major structures of the genitourinary and endocrine systems and apply that knowledge to describe common embryological abnormalities.
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endocrine glands structures and functions (as well as concepts of pathophysiology) and by critically evaluating evidence from scientific and medical literature.

Group Presentation

Assessment Type ¹: Presentation

Indicative Time on Task ²: 10 hours

Due: **Week 9/10**

Weighting: **20%**

A short presentation that relates to the structure, development and/or function of the genitourinary and/or endocrine systems

On successful completion you will be able to:

- Describe the structural components of the genitourinary systems, endocrine glands and structural organisation of the abdomino-pelvic wall and viscera.
- Identify the structural components of the nephron and interpret its function and contribution to fluid and electrolyte balance.
- Demonstrate an understanding of the embryological development of the major structures of the genitourinary and endocrine systems and apply that knowledge to describe common embryological abnormalities.
- Describe the mechanisms of hormonal control, action and feedback to explain how hypersecretion or hyposecretion of hormones leads to symptoms and signs of endocrine disorders.

Flow chart

Assessment Type ¹: Problem set

Indicative Time on Task ²: 10 hours

Due: **Reproductive flow chart (week 7), Renal flow chart (week 13)**

Weighting: **30%**

Produce a flow chart of an urinary and reproductive system condition that integrates knowledge of endocrine system.

On successful completion you will be able to:

- Describe the structural components of the genitourinary systems, endocrine glands and structural organisation of the abdomino-pelvic wall and viscera.
- Identify the structural components of the nephron and interpret its function and contribution to fluid and electrolyte balance.
- Demonstrate an understanding of the embryological development of the major structures of the genitourinary and endocrine systems and apply that knowledge to describe

common embryological abnormalities.

- Describe the mechanisms of hormonal control, action and feedback to explain how hypersecretion or hyopsecretion of hormones leads to symptoms and signs of endocrine disorders.
- Explain how genetic, hormonal, environmental and socioeconomic factors may interact to influence phenotypic development throughout the lifecycle.
- Discuss case studies by organising and integrating knowledge of genitourinary and endocrine glands structures and functions (as well as concepts of pathophysiology) and by critically evaluating evidence from scientific and medical literature.

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Learning Skills Unit](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Technology Used

Active participation in the learning activities throughout the unit will require students to have access to a tablet, laptop or similar device. Students who do not own their own laptop computer may borrow one from the university library.

Recommended Readings

There is no prescribed text for this Unit, however it is strongly recommended that you access the Unit readings listed in iLearn available via the university library website.

Recommended texts (available at the library with limited online access)

1: *Guyton and Hall Textbook of Medical Physiology (13th Edition)*, John E Hall, ISBN: 9781455770052

2: *Human Physiology: An Integrated Approach (8th Edition)*, Dee Unglaub Silverthorn, ISBN: 9781292259628

3: *Clinically Oriented Anatomy (7th Edition)*, Moore, Agur and Dalley ISBN 9781451119459

Unit Schedule

| Week | Lecture topics | Assessment | Tutorial Activity |
|------|----------------|------------|-------------------|
|------|----------------|------------|-------------------|

Unit guide MEDI2102 Renal, Reproductive and Endocrine Systems

| | | | |
|--------|--|--|--|
| 1 | <ul style="list-style-type: none"> Hormone biology and cell signalling Hormone axes and feedback loops | | ALL classes - Online introductory session for unit (ZOOM) |
| 2 | <ul style="list-style-type: none"> The thyroid and parathyroid | | Team-based learning |
| 3 | <ul style="list-style-type: none"> The adrenal glands: beyond fight or flight The pancreas as an endocrine organ: insulin signalling and diabetes | | Team-based learning |
| 4 | <ul style="list-style-type: none"> The male reproductive system (endocrinology and physiology) The female reproductive system (endocrinology and physiology) | | Team-based learning |
| 5 | <ul style="list-style-type: none"> Endocrinology and systems development Embryology of the reproductive system | | Group presentation introduction and research |
| 6 | <ul style="list-style-type: none"> Anatomy of the male reproductive system | | Team-based learning |
| 7 | <ul style="list-style-type: none"> Anatomy of the female reproductive system | AT1a – Reproductive flow chart | Team-based learning |
| RECESS | | | |
| 8 | <ul style="list-style-type: none"> Pregnancy, parturition and lactation Infertility | | Team-based learning |
| 9 | <ul style="list-style-type: none"> Anatomy of the urinary system Functional anatomy of the nephron | AT2 Group presentation (submission) | Complete group presentation (no formal tutorial) |
| 10 | <ul style="list-style-type: none"> Glomerular filtration Tubular reabsorption and secretion | AT2 group presentation (individual assessment) | In class AT2 individual assessment/ Team-based learning session |
| 11 | <ul style="list-style-type: none"> Fluid and electrolyte balance Acid-base balance | | Team-based learning |
| 12 | <ul style="list-style-type: none"> Alterations of the kidneys function Pharmacology and the kidneys | | Team-based learning |
| 13 | | AT1b – Renal flow chart | Online revision |

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). 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](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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 Enquiry Service

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

Equity 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.

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.