



# MEDI202

## Renal and Alimentary 1

MED 3 2018

*Medicine and Health Sciences Faculty level units*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Unit Convenor

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Credit points

3

Prerequisites

Admission to BClinSc

Corequisites

MEDI201

Co-badged status

Unit description

You will build on the knowledge of macroscopic and microscopic structure of the urinary and digestive systems acquired in HLTH108. This unit offers an in depth, integrated study of these systems' anatomy and physiology. Mastication, deglutition and gastrointestinal motility, as well as digestion and absorption of nutrients from the tract, will be discussed. This unit will also cover the body fluid compartments, as well as urine formation in the kidneys, glomerular filtration, renal blood flow and their control mechanisms. Topics covered in this unit require students to apply their knowledge of the development, structure and function of the urinary and digestive systems to basic clinical scenarios. This unit provides a foundation for the more complex biomedical and clinical concepts, as well as integration of structure and function with the disease processes, presented in MEDI302.

## 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:

Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.

Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.

Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.

Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.

Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## 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 including marking rubrics.

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.

Students will be awarded one of these grades 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 B Clinical Science 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](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>

### Late Submission of Work

All assignments which are officially received after the due date, and where no extension has been granted by the course convenor or tutor, 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
<a href="#">AT1</a>	60%	No	Weeks 3&5
<a href="#">AT2</a>	10%	No	weeks 2&5
<a href="#">AT3</a>	30%	No	Week 5

### AT1

Due: **Weeks 3&5**

Weighting: **60%**

Mini-exams will consist of a combination of multiple-choice and short-answer style questions and will assess content covered in lectures, readings and tutorials from the preceding weeks. The duration of each mini-exam will be 60 min and they will be completed in-class. Each mini-exam will contribute to 30% of the grade awarded, for a total of 60%.

On successful completion you will be able to:

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate an understanding of the embryological development of the major structures

of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.

- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## AT2

Due: **weeks 2&5**

Weighting: **10%**

2x Online Quizzes

On successful completion you will be able to:

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.
- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## AT3

Due: **Week 5**

Weighting: **30%**

In class anatomy/simulation spot and written test. The test is scheduled for Tuesday 24th July 2018. Further details will be provided in iLearn.

On successful completion you will be able to:

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function

and contribution to fluid and electrolyte homeostasis.

- Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.

## Delivery and Resources

### Delivery and Resources

#### Classes

The following compulsory classes are scheduled for this unit:

2 h lecture, weeks 1-5

2 h anatomy wet laboratory session, weeks 1-4, week 5 practical spot test

1 h practical in the simulation lab, weeks 1-4, week 5 practical test

7-8 h per week self-instructional learning, set readings from the text and exercises on learning topics

#### Unit Readings

1. **Physiology:** Hall, J.E. & Guyton, A.C. (2006 ). *Textbook of medical physiology* (13<sup>th</sup> ed). Philadelphia, PA: Saunders, Elsevier.
2. **Anatomy:** Moore, K.L., Dalley, A.F. & Agur, A.M.R. (2014). *Clinically oriented anatomy* (7<sup>th</sup> ed). Philadelphia, PA: Lippincott Williams & Wilkins.
3. **Anatomy Atlas:** Abrahams, P.H. *et al.* (2008) *McMinn's clinical atlas of human anatomy* (6<sup>th</sup> ed). London, England: Mosby / Elsevier.
4. **Histology:** Ross, M.H., & Pawlina, W. (2011). *Histology: a text and atlas* (6<sup>th</sup> ed). Philadelphia, PA: Lippincott Williams & Wilkins.
5. **Embryology:** Moore, K., Persaud, T. V. N. (2015) *The developing human: Clinically oriented embryology* (10<sup>th</sup> ed). Philadelphia, PA: Saunders, Elsevier

## Unit Schedule

Week	Learning Topic
Week 1	Oral cavity and pharynx, mechanical and chemical digestion
Week 2	Duodenum and pancreas, liver and biliary apparatus, physiology of GIT motility and secretion
Week 3	Small and large intestine and gastrointestinal tract absorption
Week 4	An overview of the structure and function of the urinary system. The nephron as a structural unit and production of urine.

## 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 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).

## 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)

## 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

### Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

### Learning outcomes

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.



## Assessment tasks

- AT1
- AT2
- AT3

## Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

## Learning outcomes

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.
- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## Assessment tasks

- AT1
- AT2
- AT3

## Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

## Learning outcomes

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.
- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## Assessment tasks

- AT1
- AT2
- AT3

## Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

## Learning outcomes

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common

embryological abnormalities.

- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## **Assessment tasks**

- AT1
- AT2
- AT3

## **Problem Solving and Research Capability**

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

## **Learning outcomes**

- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.
- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## **Assessment tasks**

- AT1
- AT2
- AT3

## **Effective Communication**

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

## Learning outcomes

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate an understanding of the embryological development of the major structures of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.
- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## Assessment tasks

- AT1
- AT2
- AT3

## Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

## Learning outcomes

- Describe the structural components of the urinary and digestive systems and structural organisation of the abdominopelvic wall and viscera.
- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify the structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate an understanding of the embryological development of the major structures

of the digestive and urinary systems and apply that knowledge to describe common embryological abnormalities.

- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## **Assessment tasks**

- AT1
- AT2
- AT3

## **Socially and Environmentally Active and Responsible**

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

## **Learning outcomes**

- Apply the knowledge of the structure and function of the gastrointestinal systems to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Apply the knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## **Assessment tasks**

- AT1
- AT2
- AT3