



# MEDI202

## Renal and Alimentary 1

MED 3 2016

*Medicine and Health Sciences Faculty level units*

### Contents

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<a href="#"><u>General Information</u></a>	2
<a href="#"><u>Learning Outcomes</u></a>	3
<a href="#"><u>General Assessment Information</u></a>	3
<a href="#"><u>Assessment Tasks</u></a>	4
<a href="#"><u>Delivery and Resources</u></a>	6
<a href="#"><u>Unit Schedule</u></a>	6
<a href="#"><u>Policies and Procedures</u></a>	8
<a href="#"><u>Graduate Capabilities</u></a>	9
<a href="#"><u>Changes from Previous Offering</u></a>	14

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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

HLTH108 and PHYS149 and CBMS104 and BIOL108

### Co-badged status

### Unit description

You will build up 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. Topics covered in this unit require students to apply the 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. MEDI202 is an intense 5 weeks course with self-directed on line learning, tutorial based discussion sessions, anatomy and simulation lab practical sessions, studying histophysiology on digitalized images, self-assessment tasks and examination.

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

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

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

Demonstrate 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 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 the Macquarie University Grading Policy, which is available at: <http://www.mq.edu.au/policy/docs/grading/policy.html>

To pass this unit, students must demonstrate sufficient evidence of achievement of the learning outcomes.

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.

### 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 Disruption to Studies Policy available at [http://mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://mq.edu.au/policy/docs/disruption_studies/policy.html)

### 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	Due
<u>Mini exams</u>	60%	Weeks 2, 3, 4 and 5
<u>Practical test</u>	25%	Week 5
<u>Online Learning Activities</u>	15%	Weeks 2, 3, 4 and 5

### Mini exams

Due: **Weeks 2, 3, 4 and 5**

Weighting: **60%**

Weekly summative in class assessment.

Each mini exam is of a duration of 30 minutes. Each mini exam will consist of combination of questions and will assess content presented in lectorials, tutorials and recommended online readings.

On successful completion you will be able to:

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

### Practical test

Due: **Week 5**

Weighting: **25%**

Practical test in the anatomy laboratory

Duration of the practical test is 1 hour. The test will assess content covered in the anatomy and simulation lab practical sessions (weeks 1-4).

On successful completion you will be able to:

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

## Online Learning Activities

Due: **Weeks 2, 3, 4 and 5**

Weighting: **15%**

Online learning activities

Online learning activities are compulsory weekly assessment tasks.

On successful completion you will be able to:

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

# Delivery and Resources

## Delivery and Resources

### Classes

The following compulsory classes are scheduled for this unit:

1. 2 hour lectorial weeks 1-5
2. 1 1/2 hour anatomy laboratory session, weeks 1-4, week 5 laboratory practical test
3. 1 hour simulation lab session, weeks 1-5
4. 2x1 hour tutorial session per week, weeks 1-5
5. 7-8 hours per week self-instructional learning, set readings from the text and exercises on learning topics

**Required and Recommended Texts** Guyton and Hall Textbook of Medical Physiology, 13th Edition (2015). Saunders. ISBN: 978-1-4557-7005-2 Moore KL and Dalley AF. 2014. Clinically Oriented Anatomy 7th ed. Lippincott Williams & Wilkins. Ross MH and Pawlina W. 2006. Histology a Text and Atlas 5th ed. Lippincott Williams & Wilkins Abrahams PH, Boon J, and Spratt JD. 2009. McMinn's Clinical Atlas of Human Anatomy. 6th ed. Mosby/Saunders Elsevier.

## Unit Schedule

### MONDAY

#### Lectorial

In a 2 h lectorial, the following will be covered: an overview of the learning topics for the week ahead, interactive lecture bringing up familiar concepts learned previously applicable to the week's topic, moving forward with new concepts and in-depth learning of the anatomy and physiology of the relevant organ system.

#### **From week 2**

- ½ hour reflection on the previous week's work (students comment on areas of weaknesses and strengths)
- ½ hour in class mini exam (MCQ, GAMSAT type of questions, short answer questions)

### TUESDAY

#### Self-directed study

Students should follow recommendations given on Monday in lectorial session, prepare for the practical sessions and tutorials ahead.

## **WEDNESDAY**

### **Anatomy Lab 2 h (covers anatomy of the renal/alimentary and cardiorespiratory (CR) systems)**

In the anatomy lab, students should follow the instructions in the work book and complete all activities for the particular week. Students are encouraged to engage in a team work, identify and discuss anatomical structures, their function, nerve and blood supply.

### **Medical Imaging 1 h (covers radiological anatomy of the renal/alimentary and CR systems)**

In medical imaging tutorials, various medical images will be presented and discussed. Some relevant pathology will also be presented to students.

### **Tutorial 1**

Time to discuss difficult concepts presented in the lectorial and anatomy practical session.

Embryology will be discussed in order to reinforce student's understanding of the structure and function of the organ system studied in a particular week.

## **THURSDAY**

### **Simulation lab 1 h**

Activities in the simulation lab will focus on hands on activities such as:

Surface anatomy of the structures of the head, neck, thorax and abdomen, peripheral pulses palpation, blood pressure and electrocardiogram recording and interpretation.

## **FRIDAY**

### **Tutorial 2**

Students will engage in clinical problem solving activities and group discussions. They will apply knowledge of the anatomy and physiology of the renal/alimentary systems and show the ability to explain and justify the deviations from health to pathology.

## **Policies and Procedures**

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy [http://mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

**New Assessment Policy in effect from Session 2 2016** [http://mq.edu.au/policy/docs/assessment/policy\\_2016.html](http://mq.edu.au/policy/docs/assessment/policy_2016.html). For more information visit [http://students.mq.edu.au/events/2016/07/19/new\\_assessment\\_policy\\_in\\_place\\_from\\_session\\_2/](http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/)

Assessment Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public [http://www.mq.edu.au/policy/docs/complaint\\_management/procedure.html](http://www.mq.edu.au/policy/docs/complaint_management/procedure.html)

Disruption to Studies Policy [http://www.mq.edu.au/policy/docs/disruption\\_studies/policy.html](http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of 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/support/student\\_conduct/](https://students.mq.edu.au/support/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 outcome

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

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

### Assessment tasks

- Mini exams
- Practical test
- Online Learning Activities

## 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 structural components of the urinary and digestive systems and structural

organisation of the abdominopelvic wall and viscera.

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

## Assessment tasks

- Mini exams
- Practical test
- Online Learning Activities

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

## Assessment tasks

- Mini exams
- Practical test
- Online Learning Activities

## 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 knowledge of the structure and function of the gastrointestinal system to describe its motility and nervous regulation, secretory function and principles of gastrointestinal absorption.
- Identify structural components of the nephron to allow interpretation of its function and contribution to fluid and electrolyte homeostasis.
- Demonstrate 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 knowledge of normal renal and gastrointestinal function to analyse abnormalities present in clinical case scenarios and justify findings to peers and tutors.

## Assessment tasks

- Mini exams
- Practical test
- Online Learning Activities

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

## Assessment tasks

- Mini exams
- Practical test
- Online Learning Activities

## 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 outcome

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

## Assessment tasks

- Mini exams
- Practical test
- Online Learning Activities

## Changes from Previous Offering

N/a