MEDI2103

Alimentary System, Nutrition and Metabolism

Session 1, Weekday attendance, North Ryde 2021

Medicine, Health and Human Sciences Faculty level units

Contents

General Information	2
Learning Outcomes	2
General Assessment Information	3
Assessment Tasks	4
Delivery and Resources	6
Unit Schedule	6
Policies and Procedures	8

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.

Notice

As part of Phase 3 of our return to campus plan, most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to timetable viewer. To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

General Information

Unit convenor and teaching staff
Mirjana Strkalj
mirjana.strkalj@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
In this unit you will develop an in depth understanding of the anatomy, physiology and biochemistry of the alimentary system. You will be provided with a unique learning experience that encompasses anatomy wet laboratory sessions, simulation laboratory classes, and interactive tutorials. Gross and surface anatomy will be taught alongside gastrointestinal physiology and the major metabolic pathways (carbohydrate, protein and fatty acid metabolism). You will engage in clinical problem solving supported by relevant medical and scientific literature and discuss the ways in which scientific advances translate into clinical practice.

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:

ULO1: Describe the anatomy of the gastrointestinal system, including structural components and structural organisation of the abdominopelvic wall and viscera.
ULO2: Describe the physiology of the gastrointestinal system, including regulation of motility, secretory function and absorption.

ULO3: Describe the pathways involved in the metabolism of glucose, fatty acids and amino acids.

ULO4: Describe the hormonal mechanisms that regulate food intake and metabolism.

ULO5: Explain anatomical and physiological changes that occur in common gastrointestinal diseases.

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

General Assessment Information

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. Furthermore, lectures and seminars are key learning activities that you are expected to review throughout completion of the Bachelor of Clinical Science.

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

All assignments which are officially received after the due date, and where no extension has been granted, will incur a deduction of 5% for the first day, and 5% for each subsequent day including the actual day on which the work is received up until 10 days after the due date, after which the assignment will not be accepted. Weekends and public holidays are included. For example:

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

Assessment Tasks

Name	Weighting	Hurdle	Due
Anatomy and Physiology Test	25%	No	Week 7
Final Exam	50%	No	Scheduled per university timetable
Video Infographic	20%	No	Week 8
Online Quiz	5%	No	Week 5

Anatomy and Physiology Test

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 10 hours
Due: **Week 7**
Weighting: **25%**

In class practical test assessing integrated anatomy and physiology knowledge of the alimentary system.

On successful completion you will be able to:

- Describe the anatomy of the gastrointestinal system, including structural components and structural organisation of the abdominopelvic wall and viscera.
- Describe the physiology of the gastrointestinal system, including regulation of motility, secretory function and absorption.
- Explain anatomical and physiological changes that occur in common gastrointestinal diseases.

Final Exam

Assessment Type [1]: Examination
Indicative Time on Task [2]: 20 hours
Due: **Scheduled per university timetable**
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 anatomy of the gastrointestinal system, including structural components and structural organisation of the abdominopelvic wall and viscera.

- Describe the physiology of the gastrointestinal system, including regulation of motility, secretory function and absorption.
- Describe the pathways involved in the metabolism of glucose, fatty acids and amino acids.
- Describe the hormonal mechanisms that regulate food intake and metabolism.
- Explain anatomical and physiological changes that occur in common gastrointestinal diseases.
- Discuss case studies by organising and integrating knowledge of gastrointestinal structures and functions (as well as concepts of pathophysiology) and by critically evaluating evidence from scientific and medical literature.

Video Infographic

Assessment Type [1]: Media presentation
Indicative Time on Task [2]: 10 hours
Due: **Week 8**
Weighting: **20%**

Creation of a three minute video that provides a newly diagnosed patient with relevant medical and scientific information about the disease.

On successful completion you will be able to:

- Describe the anatomy of the gastrointestinal system, including structural components and structural organisation of the abdominopelvic wall and viscera.
- Describe the physiology of the gastrointestinal system, including regulation of motility, secretory function and absorption.
- Describe the pathways involved in the metabolism of glucose, fatty acids and amino acids.
- Describe the hormonal mechanisms that regulate food intake and metabolism.
- Explain anatomical and physiological changes that occur in common gastrointestinal diseases.
- Discuss case studies by organising and integrating knowledge of gastrointestinal structures and functions (as well as concepts of pathophysiology) and by critically evaluating evidence from scientific and medical literature.

Online Quiz

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 2 hours
Due: **Week 5**
Weighting: **5%**

Online quiz assessing integrated knowledge of anatomy and physiology (MCQ, problem solving questions)

On successful completion you will be able to:

- Describe the anatomy of the gastrointestinal system, including structural components and structural organisation of the abdominopelvic wall and viscera.
- Describe the physiology of the gastrointestinal system, including regulation of motility, secretory function and absorption.
- Describe the pathways involved in the metabolism of glucose, fatty acids and amino acids.
- Describe the hormonal mechanisms that regulate food intake and metabolism.
- Explain anatomical and physiological changes that occur in common gastrointestinal diseases.

---

[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 Writing Centre 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

Unit Readings

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

Unit Schedule

Lectures 2h per week, online available Tuesday morning

Practical classes, 1.5 h in weeks 2, 3 and 6

Tutorials, 2 h per week

Please see iLearn for details!

WEEK	LECTURES **2 hours (online)**	TUTORIALS **2h**	PRACTICALS **1.5 h**	TESTS AND EXAMS
W1	Introduction to the unit 1. Oral cavity and principles of mastication 2. Structures of the neck and anatomy of the pharynx and principles of swallowing	Oral cavity, structures of the neck, Pharynx		**Formative quiz** basic histology of the GI system
W2	3. Histology of the oral cavity and pharynx, anatomy and histology of the oesophagus Salivary glands 4. Development of the structures of the head and neck		**ANAT LAB** Oral cavity Muscles of mastication and facial expression, temporal, infratemporal and pterygopalatine fossae	**Formative quiz** Embryology of the head and neck
W3	5. General organization of the abdominal wall and cavity, peritoneum 6. Stomach and small intestine		**ANATOMY LAB** Abdominal wall, peritoneum and abdominal viscera, simulation (regions of the abdomen) surface anatomy, palpation, bowel movement	
W4	7. Accessory digestive organs (liver, gall bladder and pancreas) 8. Gastrointestinal secretion	TUTORIAL Structure and function of the accessory digestive organs Gastrointestinal secretion		**Formative quiz** Structure and function of the accessory digestive organs
W5	9. Large intestine 10. Gastrointestinal absorption	Anatomy of the large intestine and GI absorption		**Online quiz 5%** Tests topics from W1-W5
W6	11. Physiology of the smooth muscle and regulation of GI motility 12. Anatomy of the pelvis and general organisation of the pelvic viscera, rectum and anal canal		**ANATOMY LAB** Anatomy of the accessory digestive organs, large intestine, pelvis	

W7	13. Embryology of the GI 14. Gut microbiome (online)			**In class practical test 25%** Testing the topics covered from W1-W6
W8	15. Common disorders of GI 16. Pharmacology of the GI	Pharmacology of GI		**Formative quiz** Common disorders of the GI
W9	17- 18. Gut Immunity	Gut immunity		
W10	19. Micronutrients and Macronutrients 20. Carbohydrate metabolism	Complete online module		**Video assignment 20%**
W11	21. Fat metabolism 22. Protein metabolism	Complete online module		**Formative quiz** Metabolism practice quiz
W12	23. Hormonal control of food intake 24. Obesity and starvation	TBL		**Formative quiz** Hormonal control of food intake
W13	Revision week			**Final exam as per University timetable 50%**

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (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). 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) 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 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

If you are a Global MBA student contact 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/.

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.

Unit information based on version 2021.02 of the Handbook