HLTH108

Anatomical Sciences 1: Introduction

S2 External 2014

Chiropractic

Contents

General Information

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By appointment

Credit points
3

Prerequisites

Corequisites

Co-badged status

Unit description
This is an introductory unit which presents the basic concepts of anatomical sciences: gross anatomy, histology and embryology. All systems of the human body are introduced and described at the microscopic and macroscopic levels. The unit also focuses on clinical anatomy and surface anatomy. Anatomical models and medical imagery (MRI, X-ray films, CT-scans) are used in the practical sessions and tutorials.

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:

Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.

Describe different levels of structural organisation of the human body.

Name and identify the four basic tissues and describe the major characteristics of each.

Describe the major developmental events that occur during the embryonic and fetal periods.

Describe and identify the microscopic and macroscopic anatomy of all systems of the human body and explain their function and integration: Integumentary, Skeletal, Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.

Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

General Assessment Information

Examination(s)

The University Examination period in for Second Half Year 2014 is from Monday 17th November to Friday 5th December 2014.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for *Disruption to Studies*. Information about is available at Policy Central: http://www.mq.edu.au/policy/

If a Supplementary Examination is granted as a result of your application, the examination will be scheduled after the conclusion of the official examination period.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester, that is, the final day of the official examination period.

Grades

Achievement of grades will be based on the following criteria:

High Distinction (85-100): provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application.

Distinction (75-84): provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience.

Credit (65-74): provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; plus communication of ideas fluently and clearly in terms of the conventions of the discipline.

Pass (50-64): provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; and communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes.

Fail (<50): does not provide evidence of attainment of all learning outcomes.

There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; and incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline.

Assessment Tasks

Name	Weighting	Due
Quiz	20%	Weeks 2, 4, 6, 8, 10 and 12.
Practical test 1	20%	Week 7
Practical test 2	20%	Week 13
Final Examination	40%	University Examination Period

Quiz

Due: **Weeks 2, 4, 6, 8, 10 and 12.**
Weighting: **20%**

Six on-line quizzes related to selected learning outcomes.

On successful completion you will be able to:

- Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.
- Describe different levels of structural organisation of the human body.
- Name and identify the four basic tissues and describe the major characteristics of each.
- Describe the major developmental events that occur during the embryonic and fetal periods.
- Describe and identify the microscopic and macroscopic anatomy of all systems of the human body and explain their function and integration: Integumentary, Skeletal,

Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.
- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Practical test 1

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

Practical test (related to models and histology slides used during the practicals and tutorials). Test one will cover weeks 1-6.

On successful completion you will be able to:

- Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.
- Describe different levels of structural organisation of the human body.
- Name and identify the four basic tissues and describe the major characteristics of each.
- Describe the major developmental events that occur during the embryonic and fetal periods.
- Describe and identify the microscopic and macroscopic anatomy of all systems of the human body and explain their function and integration: Integumentary, Skeletal, Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.
- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Practical test 2

Due: **Week 13**
Weighting: **20%**

Practical test (related to models and histology slides used during the practicals and tutorials). Test two will cover weeks 7-13.

On successful completion you will be able to:

- Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.
- Describe different levels of structural organisation of the human body.
- Name and identify the four basic tissues and describe the major characteristics of each.
- Describe the major developmental events that occur during the embryonic and fetal

periods.
- Describe and identify the microscopic and macroscopic anatomy of all systems of the human body and explain their function and integration: Integumentary, Skeletal, Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.
- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Final Examination

Due: **University Examination Period**
Weighting: **40%**

This will cover the content of the entire semester. Questions will include multiple choice questions, short answer questions and short essay questions. The final exam covers weeks 1-13.

On successful completion you will be able to:

- Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.
- Describe different levels of structural organisation of the human body.
- Name and identify the four basic tissues and describe the major characteristics of each.
- Describe the major developmental events that occur during the embryonic and fetal periods.
- Describe and identify the microscopic and macroscopic anatomy of all systems of the human body and explain their function and integration: Integumentary, Skeletal, Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.
- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Delivery and Resources

Classes

Delivery modes

This unit is characterised by a moderate degree of flexibility. It incorporates a variety

of learning tools and media. It will comprise:

1. Three 1-hour lectures per week, weeks 1-13.

2. Two practical session over the weekends in weeks 7 and 13. These include laboratory work

with histology slides and gross anatomy models as well as classroom discussion on selected topics. A minimum of 80% attendance at practical classes is required in order to complete this unit.

Required and Recommended Texts and/or Materials

Core:

Tortora GJ and Nielsen MT. 2012. Principles of Human Anatomy. 12th ed. Wiley.

HLTH108 Anatomical Sciences 1 Workbook - available at Co-op Shop bookshop. Macquarie University Printery.

Anatomy and Physiology Online - available through the Macquarie University Library.

Recommended:

More detailed anatomy textbooks:

Drake RL, Vogl AW and Mitchell AWM. 2009. Gray's Anatomy for Students. 2nd ed. Elsevier.

Moore KL and Dalley AF. 2006. Clinically Oriented Anatomy 5th ed. Lippincott Williams & Wilkins.

Atlases:

Abrahams PH, Boon J, and Spratt JD. 2009. McMinn's Clinical Atlas of Human Anatomy. 6th ed. Mosby/Saunder Elsevier.

Rohen JW, Yokochi C and Lütjen-Drecoll E 2006. Color Atlas of Anatomy: A Photographic Study of the Human Body. 6th ed. Lippincott Williams & Wilkins.

Histology:

Young B, Lowe JS, Stevens A, Heath JW. 2007. Wheater's Functional Histology: A Text and Colour Atlas. 5th ed. Elsevier.

Other:

Nielsen M and Miller S. Real Anatomy 1.0. Wiley. (CD)

Albertine KH. 2007. The Anatomy: Student's Self-test Colouring Book. Palgrave Macmillan.

Albertine KH. Anatomy Flash Cards. Palgrave Macmillan.

Unit Schedule

WEEK	LECTURES	PRACTICAL SESSSIONS	ASSESSMENTS

1	Introduction Cells; Basic Tissues		
2	Basic Tissues; Embryology Bone Tissue		Quiz 1
3	Appendicular skeleton; Axial Skeleton; Joints		
4	Muscle tissue; Skeletal muscles		Quiz 2
5	Skin; Cardiovascular system		
6	Blood; Lymphatic system		Quiz 3
7	Nervous tissue; Nervous system	Cell biology; Embryology; Epithelium; Connective tissue; Skin; Bones and Bone tissue; Joints; Skeletal muscles; Muscle tissue; Cardiovascular system histology and anatomy; Blood	Practical test 1 (at the end of the Practical Session 1)
8	Nervous system; Endocrine system		Quiz 4
9	Nervous system; Respiratory system		
10	Digestive system		Quiz 5
11	Surface anatomy; Urinary system		
12	Special senses; Reproductive system		Quiz 6

13	Somatic senses and motor control; Revision	Nervous system anatomy and histology; Endocrine system; Special senses; Respiratory system anatomy and histology; Surface anatomy; Urinary system anatomy and histology; Reproductive system anatomy and histology	Practical test 2 (at the end of the Practical Session 2)

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

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy http://mq.edu.au/policy/docs/grading/policy.html

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

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy 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/

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://informatics.mq.edu.au/help/.

When using the University's IT, you must adhere to the Acceptable Use 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 the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Assessment tasks

- Quiz
- Practical test 1
- Practical test 2
- Final Examination

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

- Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.
- Describe different levels of structural organisation of the human body.
- Name and identify the four basic tissues and describe the major characteristics of each.
- Describe the major developmental events that occur during the embryonic and fetal periods.
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Assessment tasks

- Quiz
- Practical test 1
- Practical test 2
- Final Examination

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

- Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.
- Describe different levels of structural organisation of the human body.
- Name and identify the four basic tissues and describe the major characteristics of each.
- Describe the major developmental events that occur during the embryonic and fetal periods.
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Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.

- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Assessment tasks

- Quiz
- Practical test 1
- Practical test 2
- Final Examination

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 and identify the microscopic and macroscopic anatomy of all systems of the human body and explain their function and integration: Integumentary, Skeletal, Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.
- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Assessment tasks

- Quiz
- Practical test 1
- Practical test 2
- Final Examination

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 outcome

- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Assessment tasks

- Quiz
- Final Examination

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcome

- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Assessment tasks

- Quiz
- Practical test 2
- Final Examination

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

- Adopt and be able to use anatomical terminology: define and understand the anatomical position, anatomical planes, sections and directional terms.
- Describe and identify the microscopic and macroscopic anatomy of all systems of the human body and explain their function and integration: Integumentary, Skeletal, Muscular, Cardiovascular, Lymphatic,Nervous,Endocrine,Respiratory,Digestive,Urinary,Reproductive.

Assessment tasks

- Quiz
- Practical test 1
- Practical test 2
- Final Examination

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 major developmental events that occur during the embryonic and fetal periods.
- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Assessment tasks

- Quiz
- Final Examination

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 outcome

- Apply the knowledge of anatomy within the clinical and research contexts and in the interpretation of medical imaging.

Assessment tasks

- Quiz
- Practical test 1

- Practical test 2
- Final Examination