



# MEDI203

## Musculoskeletal System

S2 Day 2019

*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

Mirjana Strkalj

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Unit Co-convenor

Anneliese Hulme

[anneliese.hulme@mq.edu.au](mailto:anneliese.hulme@mq.edu.au)

Credit points

3

Prerequisites

Admission to BClinSc and (12cp at 100 level or above) including HLTH108

Corequisites

Co-badged status

Unit description

This unit builds on the basic anatomy taught in HLTH108 (Introduction to Anatomy). It focuses on the musculoskeletal physiology and anatomy of the upper and lower limbs and back. The unit utilises an integrated, clinically-based approach within which relevant gross and radiological anatomy as well as histology and embryology are investigated in detail. The unit includes a significant practical component in which prosected cadavers, models, medical images, surface anatomy and clinical cases are studied. Students are expected to demonstrate ethical and professional behaviour including an appreciation and respect for those who have bequeathed their bodies to research.

## 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:

Show an appreciation and respect for those who have bequeathed their bodies to research.

Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.

Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.

Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.

Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.

Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.

Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## General Assessment Information

### 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.

Students will be awarded a final grade 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 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](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

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. 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
<a href="#">Online Learning Activities</a>	10%	No	weeks 5&11
<a href="#">Practical Lab Assessment</a>	40%	No	Weeks 6&13
<a href="#">Final Exam</a>	50%	No	University Examination Period

## Online Learning Activities

Due: **weeks 5&11**

Weighting: **10%**

Online Learning Activities are of different formats: multiple choice questions, matching questions, short answer questions.

On successful completion you will be able to:

- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.

- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## Practical Lab Assessment

Due: **Weeks 6&13**

Weighting: **40%**

Spot test in the anatomy lab

On successful completion you will be able to:

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## Final Exam

Due: **University Examination Period**

Weighting: **50%**

MCQ's and short answer questions

On successful completion you will be able to:

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.

- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## Delivery and Resources

This unit incorporates a variety of learning tools and media. It comprises:

3 x 1 hour lectures per week, weeks 1-13

1 x 2 hours wet laboratory practical session, weeks 2-13

1 x 2 h tutorial session per week, weeks 2-13

Prescribed text books and learning materials:

- Moore KL, Agur AMR, & Dalley AF. (2013) *Clinically Oriented Anatomy* 7<sup>th</sup> ed. Lippincott Williams & Wilkins. Baltimore.
- **or**
- Drake RL & Lowrie (2014) *Gray's Anatomy for Students*. 3<sup>rd</sup> ed. Elsevier.
- MEDI203 Unit Guide – available at Co-op bookshop. Macquarie University Printery.
- Abrahams PH, Boon J & Spratt JD (2009) *McMinn's Clinical Atlas of Human Anatomy*. 6<sup>th</sup> ed. Mosby/Saunders Elsevier.
- Anatomy.TV – available through Macquarie University Library

## 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>). 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](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://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 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](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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](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)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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/](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

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

#### Assessment tasks

- Online Learning Activities
- Practical Lab Assessment
- Final Exam

### 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**

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## **Assessment tasks**

- Online Learning Activities
- Practical Lab Assessment
- Final Exam

## **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**

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Outline the role of the endocrine system in the regulation of muscle and bone

homeostasis.

- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## **Assessment tasks**

- Online Learning Activities
- Practical Lab Assessment
- Final Exam

## **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 and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## Assessment tasks

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## 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

- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
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## Assessment tasks

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## 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**

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Describe the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
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## **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**

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- Apply knowledge of the anatomy of the limbs and back to interpret radiographic, CT and MRI images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement

through the study of clinical cases.

- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.

## **Assessment tasks**

- Online Learning Activities
- Practical Lab Assessment
- Final Exam

## **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**

- Show an appreciation and respect for those who have bequeathed their bodies to research.
- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- Identify, on living subjects, musculoskeletal landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
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