



# MEDI2100

## Musculoskeletal System

Session 2, In person-scheduled-weekday, North Ryde 2022

*Macquarie Medical School*

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#### 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.

## General Information

Unit convenor and teaching staff

Unit Convenor

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Credit points

10

Prerequisites

30cp at 1000 level or above including ANAT1001 or HLTH108

Corequisites

Co-badged status

Unit description

This unit focuses on the musculoskeletal anatomy and physiology of the upper and lower limbs and back, building upon your basic knowledge of anatomy acquired in ANAT1001 (Introduction to Anatomy). You will apply your knowledge of musculoskeletal anatomy and physiology through practical classes involving prosected cadavers, models, medical images, surface anatomy and clinical cases which collectively allow students to demonstrate ethical and professional behaviour, including an appreciation and respect for those who have bequeathed their bodies to medicine. Utilising an integrated, clinically-based approach to teaching that encompasses relevant gross and radiological anatomy as well as histology and embryology, you will develop an in-depth understanding of human musculoskeletal system.

## 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 structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relationships.
- ULO2:** Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- ULO3:** Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.
- ULO4:** Identify, on living subjects, surface anatomy landmarks of the limbs and back, the route of nerves and blood vessels, movements of joints, and muscle action.
- ULO5:** Apply knowledge of the anatomy of the limbs and back to interpret basic medical images.
- ULO6:** Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- ULO7:** Show an appreciation and respect for those who have bequeathed their bodies to research.

## General Assessment Information

Grade descriptors and other information concerning grading are contained in the [Macquarie University Assessment Policy](#).

All final grades are determined by a grading committee, in accordance with the Macquarie University Assessment Policy, and are not the sole responsibility of the Unit Convenor.

Students will be awarded a final grade and a mark which must correspond to the grade descriptors specified in the [Assessment Procedure](#) (clause 128).

To pass this unit, you must demonstrate sufficient evidence of achievement of the learning outcomes, meet any ungraded requirements, and achieve a final mark of 50 or better.

Further details for each assessment task will be available on iLearn.

## Late Submissions

For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for Special Consideration.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Online Quiz</a>	10%	No	Weeks 5 and 12
<a href="#">Anatomy Test</a>	40%	No	Weeks 6 and 13
<a href="#">Final Exam</a>	50%	No	Exam period

### Online Quiz

Assessment Type [1](#): Quiz/Test

Indicative Time on Task [2](#): 4 hours

Due: **Weeks 5 and 12**

Weighting: **10%**

Online quiz assessing physiology component of the bone and muscle

On successful completion you will be able to:

- Outline the role of the endocrine system in the regulation of muscle and bone homeostasis.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.
- Show an appreciation and respect for those who have bequeathed their bodies to research.

### Anatomy Test

Assessment Type [1](#): Quiz/Test

Indicative Time on Task [2](#): 16 hours

Due: **Weeks 6 and 13**

Weighting: **40%**

Test assessing knowledge in gross anatomy of the musculoskeletal system.

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, surface anatomy 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 basic medical images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.

## Final Exam

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **Exam period**

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 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.
- Articulate the physiological basis of bone and muscle function, and mechanisms of tissue repair after injury.
- Identify, on living subjects, surface anatomy 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 basic medical images.
- Apply knowledge of the anatomy of the limbs and back to the analysis of movement through the study of clinical cases.
- Show an appreciation and respect for those who have bequeathed their bodies to research.

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<sup>1</sup> 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.

<sup>2</sup> 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

As a student enrolled in this unit, you will engage in a range of weekly online and face-to-face learning activities, including:

- Lectures 3 x 1 h
- Practicals 2 h
- Tutorials 1.5 h

Details can be found on the iLearn site for this unit.

### Required and recommended resources:

- Drake RL & Lowrie (2020) *Gray's Anatomy for Students*. 4<sup>th</sup> ed. Elsevier.
- Moore KL, Agur AMR, & Dalley AF. (2018) *Clinically Oriented Anatomy* 8<sup>th</sup> ed. Lippincott Williams & Wilkins. Baltimore.
- Hall, J.E. & Guyton, A.C. (2021 ). *Textbook of medical physiology* (14<sup>th</sup> ed). Philadelphia, PA: Saunders, Elsevier.
- MEDI2100 Anatomy Practical Manual – Available in iLearn
- Abrahams PH, Boon J & Spratt JD (2020) *McMinn's Clinical Atlas of Human Anatomy*. 8<sup>th</sup> ed. Mosby/Saunders Elsevier.
- Anatomy.TV – available through Macquarie University Library

### Technology Used

Active participation in the learning activities throughout the unit will require students to have access to a tablet, laptop or similar device. Students who do not own their own laptop computer may borrow one from the university library.

## Unit Schedule

Week	Lectures (synchronous, online)	Practical LAB* (F2F)	Tutorial TUT* (F2F)	Quiz
	L1 & L2: 2h  L3: 1h	2h LAB:	1.5h TUT:	

1	Intro; Commemoration; UL overview; Shoulder	<i>NO F2F LAB</i> <b>online module:</b> <i>Arm 1</i>	<i>NO F2F TUT</i> <b>online module:</b> <i>Arm 2</i>	<i>Formative quiz</i>
2	Elbow; Forearm; Wrist; Introduction to Hand	<b>LAB 1:</b> Shoulder, Arm	<b>TUT 1:</b> Shoulder, Arm	<i>Formative quiz</i>
3	Hand; UL Neuro-vasculature 1 & 2	<b>LAB 2:</b> Elbow, Forearm, Wrist	<b>TUT 2:</b> Elbow, Forearm	<i>Formative quiz</i>
4	UL Revision; Surface Anatomy; Embryology	<b>LAB 3:</b> Hand, UL Neurovasc.	<b>TUT 3:</b> Wrist, Hand	<i>Formative quiz</i>
5	UL Revision; LL overview	<b>LAB 4:</b> Revision	<b>TUT 4:</b> UL Neurovasculature	<b>QUIZ 1 (5%)</b>
6	Gluteal region; Hip; Thigh	<b>PRAC EXAM 1</b> <b>(15%)</b>	<i>NO F2F TUT</i> <i>online activities</i>	<i>Formative quiz</i>
7	Knee; Leg, Introduction to Foot	<b>LAB 5:</b> Gluteal, Hip, Thigh	<b>TUT 5:</b> Hip, Thigh	<i>Formative quiz</i>
RECESS				
8	Ankle; Foot; LL Neuro-vasculature 1	<b>LAB 6:</b> Knee, Leg	<b>TUT 6:</b> Knee, Leg	<i>Formative quiz</i>
9	LL Neurovasculature 2; Surface Anat; Embryology	<i>NO F2F LAB</i> <i>online activities</i>	<i>NO F2F TUT</i> <i>online activities</i>	<i>Formative quiz</i>
10	Back 1	<b>LAB 7:</b> Ankle, Foot, Neurovasc.	<b>TUT 7:</b> Ankle, Foot, Neurovasc.	<i>Formative quiz</i>
11	Back 2; Trunk Wall	<b>LAB 8:</b> Back 1, Revision	<b>TUT 8:</b> Back 1	<i>Formative quiz</i>
12	LL & Back Revision; Embryology	<b>LAB 9:</b> Back 2, Revision	<b>TUT 9:</b> Back 2	<b>QUIZ 2 (5%)</b>
13	No Lecture <i>online revision activities</i>	<b>PRAC EXAM 2</b> <b>(20%)</b>	<i>NO F2F TUT</i> <i>online activities</i>	

The unit schedule might have a minor changes, please check your iLearn regularly.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](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](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](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 \(https://policies.mq.edu.au\)](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](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>



## The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the 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

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)

## Student Enquiries

Got a question? Ask us via [AskMQ](#), or contact [Service Connect](#).

## 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.

## Inclusion and Diversity

Social inclusion at Macquarie University is about giving everyone who has the potential to benefit from higher education the opportunity to study at university, participate in campus life and flourish in their chosen field. The University has made significant moves to promote an equitable, diverse and exciting campus community for the benefit of staff and students. It is your responsibility to contribute towards the development of an inclusive culture and practice in the

areas of learning and teaching, research, and service orientation and delivery. As a member of the Macquarie University community, you must not discriminate against or harass others based on their sex, gender, race, marital status, carers' responsibilities, disability, sexual orientation, age, political conviction or religious belief. All staff and students are expected to display appropriate behaviour that is conducive to a healthy learning environment for everyone.

## **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 clinical, practical, laboratory, work-integrated learning (e.g., PACE placements), and team-based learning activities. Some learning activities are recorded (e.g., face-to-face lectures), however you are encouraged to avoid relying upon such material as they do not recreate the whole learning experience and technical issues can and do occur. As an adult learner, we respect your decision to choose how you engage with your learning, but we would remind you that the learning opportunities we create for you have been done so to enable your success, and that by not engaging you may impact your ability to successfully complete this unit. We equally expect that you show respect for the academic staff who have worked hard to develop meaningful activities and prioritise your learning by communicating with them in advance if you are unable to attend a small group interactive session.

Another dimension of professionalism is having respect for your peers. It is the right of every student to learn in an environment that is free of disruption and distraction. Please arrive to all learning activities on time, and if you are unavoidably detained, please join activity as quietly as possible to minimise disruption. Phones and other electronic devices that produce noise and other distractions must be turned off prior to entering class. Where your own device (e.g., laptop) is being used for class-related activities, you are asked to close down all other applications to avoid distraction to you and others. Please treat your fellow students with the utmost respect. If you are uncomfortable participating in any specific activity, please let the relevant academic know.