



# ANAT1002

## Anatomy of Limbs and Back

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

*Department of Chiropractic*

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#### Disclaimer

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## General Information

Unit convenor and teaching staff

Unit Convenor

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Embryology component

Mirjana Strkalj

Credit points

10

Prerequisites

HLTH108 or ANAT1001

Corequisites

Co-badged status

Unit description

This unit builds on the basic anatomy taught in ANAT1001 (previously known as HLTH108) (Introduction to Anatomy). It focuses on the musculoskeletal anatomy of the upper and lower limbs and back. The unit utilises an integrated approach within which relevant gross and radiological anatomy as well as histology and embryology are investigated in detail. It is clinically oriented and focuses on surface and applied anatomy. The unit includes a significant practical component in which human remains, models, medical images, surface anatomy and clinical cases are studied. Students are expected to show an appreciation and respect for those who have bequeathed their bodies to science.

## 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 and identify the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relations.

**ULO2:** Describe and identify the arterial supply, venous and lymphatic drainage of the musculoskeletal components of the limbs and back.

**ULO3:** Demonstrate, where appropriate, on a living subject: a. musculoskeletal landmarks of the limbs and back b. the route of nerves and blood vessels of the limbs and back c. movements at joints d. muscle actions.

**ULO4:** Identify bony landmarks of the limbs and back and identify major structures on selected radiographs, CT and MRI images.

**ULO5:** Apply acquired knowledge of the anatomy of the limbs and back to investigate clinical case studies.

**ULO6:** Communicate and demonstrate 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.

**Online Quizzes** There are seven quizzes (weeks 2,3,4,5,8,9,11). Each Quiz typically consists of around 10 questions (multiple choice, matching, T/F) on the topics of the given week. Questions are drawn from a database organised by specific subtopics for each question in the quiz. Time allocated: around 1.5 min per each question. The Quiz closes automatically once the time allocated runs out. Unfinished attempts will be saved automatically. You have ONE attempt at each question and ONE attempt for the whole quiz. The Quiz will become available on the Friday evening of the allocated week and will stay open for one week to complete it in your own time. Late attempts are not allowed (zero marks). Written feedback will be provided. The best FIVE marks out of SEVEN marks for the quizzes are counted towards the 20% of the final mark for the unit. The schedule of quizzes and their topics can be found in the timetable and iLearn.

**Practical Examinations** Practical examinations, the Prac Exam 1(Week 6) and Prac Exam 2 (Week 13), focus on practical identifications of anatomical structures. These tests are typically held in the usual scheduled practical laboratory classes, in the wet laboratory, in person. Any changes (e.g. due to COVID) will be announced via iLearn. Prac Exams assess students' ability to identify correctly anatomical structures on human remains, bones, models, medical images, and surface anatomy on real specimens and/or photographs. Typically, there are around 15 stations with around five identifications in each. Some relevant theoretical questions may also be included. The scope of Prac Exam 1 is on the practical knowledge achieved during the first five weeks of the semester, and Prac Exam 2 examines the practical knowledge relevant to weeks 6 throughout to week 13. The value of Prac Exam 1 is 15% and of Prac Exam 2 is 20%

towards the final mark for the unit. Students must attend the class they are enrolled in. If a practical exam is missed a supplementary exam will only be considered under the Special Consideration policy (<https://students.mq.edu.au/study/my-study-program/special-consideration>). Applications for special consideration should be submitted online within 5 days of the missed assessment (see: [www.ask.mq.edu.au](http://www.ask.mq.edu.au)). The supplementary prac exams will be conducted in the same way as the main sittings (e.g. if prac exam was conducted in person, the supplementary prac exam will also be in person). Note: *the supplementary prac exams are typically conducted AFTER EXAMINATION PERIOD; therefore, please do not plan your travel until confirming the date for the supplementary. There will be no individual sittings of prac exams due to the nature of the prac exams.*

**Final Theory Examination** This examination is held during the formal examination period, at the end of the semester. Its value is 45% towards the final mark. The examination is based on the entire content studied throughout the term covering gross anatomy of the limbs and back. The format of this paper comprises multiple choice and short answer questions, including clinical cases and problem-solving. A typical structure of the examination paper includes around 60-70 multiple choice questions (answers to be filled in the automated marking sheets) and several (e.g. three to five) short answer questions (answers to be written in the answer booklet provided). Short answer questions are based on scenarios discussed in lectures and tutorials. The content of this examination is aligned with the learning outcomes for the unit and all the learning activities that students participate in throughout the entire semester. The confidence in the knowledge and the examination skills will be built consistently throughout participation in weekly summative and formative quizzes (multiple choice questions) and tutorial discussions (problem solving and clinical cases). There will be no identification tasks in the final theory examination. Special Consideration procedures are as described above.

**Late Submissions** Unless a Special Consideration request has been submitted and approved, a 5% penalty (OF THE TOTAL POSSIBLE MARK) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical concern. For example:

Number of days (hours) late	Total Possible Marks	Deduction	Raw mark	Final mark
1 day (1-24 hours)	100	5	75	70
2 days (24-48 hours)	100	10	75	65
3 days (48-72 hours)	100	15	75	60
7 days (144-168 hours)	100	35	75	40
>7 days (>168 hours)	100	-	75	0

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.

**Special Consideration** If you are unable to complete an assessment task on or by the specified date due circumstances that are unexpected, unavoidable, significantly disruptive and beyond your control, you may apply for special consideration in accordance with the [Special Consideration Policy](#). Applications for special consideration must be supported by appropriate evidence and submitted via [ask.mq.edu.au](mailto:ask.mq.edu.au).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Online Quizzes</a>	20%	No	Weeks 2, 3, 4, 5, 8, 9, 11
<a href="#">Practical Exam 1</a>	15%	No	Week 6
<a href="#">Practical Exam 2</a>	20%	No	Week 13
<a href="#">Final Theory Exam</a>	45%	No	Formal Examination Period

### Online Quizzes

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Weeks 2, 3, 4, 5, 8, 9, 11**

Weighting: **20%**

7 x Online multiple choice quizzes throughout the session. Each quiz will focus on the recently covered material and utilise images of human remains, bones, x-rays, surface anatomy photographs.

The highest scoring 5 of the 7 quizzes will be counted towards the 20% for this assessment item.

On successful completion you will be able to:

- Describe and identify the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relations.
- Describe and identify the arterial supply, venous and lymphatic drainage of the musculoskeletal components of the limbs and back.
- Demonstrate, where appropriate, on a living subject: a. musculoskeletal landmarks of the limbs and back b. the route of nerves and blood vessels of the limbs and back c.

movements at joints d. muscle actions.

- Identify bony landmarks of the limbs and back and identify major structures on selected radiographs, CT and MRI images.
- Apply acquired knowledge of the anatomy of the limbs and back to investigate clinical case studies.

## Practical Exam 1

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

Indicative Time on Task <sup>2</sup>: 8 hours

Due: **Week 6**

Weighting: **15%**

Spot test in the anatomy laboratory focusing on the upper limb; utilising human remains, bones, x-rays, surface anatomy photographs.

On successful completion you will be able to:

- Describe and identify the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relations.
- Describe and identify the arterial supply, venous and lymphatic drainage of the musculoskeletal components of the limbs and back.
- Demonstrate, where appropriate, on a living subject: a. musculoskeletal landmarks of the limbs and back b. the route of nerves and blood vessels of the limbs and back c. movements at joints d. muscle actions.
- Identify bony landmarks of the limbs and back and identify major structures on selected radiographs, CT and MRI images.
- Communicate and demonstrate an appreciation and respect for those who have bequeathed their bodies to research.

## Practical Exam 2

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

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Week 13**

Weighting: **20%**

Spot test in the anatomy laboratory, focusing on the lower limb and back; utilising human remains, bones, x-rays, surface anatomy photographs.

On successful completion you will be able to:

- Describe and identify the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relations.
- Describe and identify the arterial supply, venous and lymphatic drainage of the musculoskeletal components of the limbs and back.
- Demonstrate, where appropriate, on a living subject: a. musculoskeletal landmarks of the limbs and back b. the route of nerves and blood vessels of the limbs and back c. movements at joints d. muscle actions.
- Identify bony landmarks of the limbs and back and identify major structures on selected radiographs, CT and MRI images.
- Communicate and demonstrate an appreciation and respect for those who have bequeathed their bodies to research.

## Final Theory Exam

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

Indicative Time on Task <sup>2</sup>: 31 hours

Due: **Formal Examination Period**

Weighting: **45%**

Theory exam covering the anatomy of the limbs and back. It consist of multiple choice questions, short answer questions and includes clinical cases.

On successful completion you will be able to:

- Describe and identify the structural and functional features of the musculoskeletal components of the limbs and back and their anatomical relations.
- Describe and identify the arterial supply, venous and lymphatic drainage of the musculoskeletal components of the limbs and back.
- Demonstrate, where appropriate, on a living subject: a. musculoskeletal landmarks of the limbs and back b. the route of nerves and blood vessels of the limbs and back c. movements at joints d. muscle actions.
- Identify bony landmarks of the limbs and back and identify major structures on selected radiographs, CT and MRI images.
- Apply acquired knowledge of the anatomy of the limbs and back to investigate clinical

case studies.

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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 face-to-face (laboratories and workshops) and online (lectures) activities. Details can be found on the iLearn site for this unit.

**1. Unit Schedule** A typical weekly schedule includes:

- three 1-hour **online lectures** (see timetable); lecture slides will be available in Weekly iLearn folders, and zoom recordings - via ECHO360.
- one 2-hour '**in person**' **laboratory practical** as per enrolment; you will be using models, bones, images and human remains specimens; prior to attending the lab. Prior to attending the lab, we advised you watching the relevant video fragments of Acland's Video Atlas software (available via MQU Library). We advise to print and bring the Unit Manual to the lab. You will need to wear enclosed shoes, lab coat and face mask. You can only attend the labs strictly per enrolment.
- one 1-hour '**in person**' **workshop** that consolidates your knowledge on the given topic by in depth discussions of content delivered in lectures/laboratories.
- **independent work** (at least 4 hours); this include tasks outlined in the Unit Manual, online activities including revision, 'check your understanding' online tutorials, formative quizzes, labelling tasks, and optional resources.

**2. Classes** Please make your choice for practical and workshop classes on E-student. You can only attend the classes according to your class registration. Under exceptional circumstances, practical/workshop times may be changed, with a written approval from the Unit Convenor. Participation in laboratory practicals and workshops is highly encouraged for optimal performance in the unit as all scheduled activities are aligned with the unit learning outcomes and assessments in the unit.

**3. Recommended Readings and Materials** The unit iLearn website can be accessed through the [ilearn.mq.edu.au](https://ilearn.mq.edu.au). Unit Manual (includes Lab and Workshop notes) is available in iLearn. You can print your own copy. All lecture and workshop slides will be posted on iLearn. You will find a link to ECHO360 recordings of the lectures on this website. You will also find a Leganto link on

iLearn that will show you the library resources available to support your learning (e.g. Complete Anatomy software and Acland's Video Atlas). Please note that there is a limit in the number of users that simultaneously can access the electronic textbooks. Therefore, it might be a good idea to purchase your own textbook - see a list of prescribed texts below (available via Booktopia). Later or earlier editions of the textbooks/atlas are acceptable (you can discuss this with your tutors and/or convenor). Further readings can be found via the Leganto link.

- Prescribed textbooks: Vogl, Drake, & Mitchell (2019) Gray's Anatomy for Students. 4th Ed, Elsevier; *OR* Moore, Dalley, & Agur (2017) Clinically Oriented Anatomy. 8th Ed, Wolters Kluwer
- Prescribed atlases: Abrahams, Boon & Spratt (2009) McMinn's Clinical Atlas of Human Anatomy. 6th Ed, Mosby/Saunders Elsevier, *OR* Rohen, Lutjen-Drecoll, & Yokochi (2015) A photographic Atlas. 8th Ed, Wolters Kluwer

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

## Unit Schedule

ANAT1002, S2, 2022

TIMETABLE

Unit convenor: [irina.dedova@mq.edu.au](mailto:irina.dedova@mq.edu.au)

Week	Start Date	Lectures	Practical LAB	Workshop	Assessment	Due Dates
		TUE (3-5pm): live zoom FRI: ECHO360 recording	2h LAB: TUE F2F per enrolment	1h W: FRI F2F per enrolment		
1	25/07	Commemoration, UL: Shoulder, Arm	online module ARM 1	online module ARM 2		
2	01/08	Elbow, Forearm, Wrist	LAB1: Shoulder, Arm	W1: Shoulder	Quiz 1	Open: 05/08 Close: 12/08
3	08/08	Hand, UL Neuro-vasculature	LAB2: Elbow, Forearm, Wrist	W2: Arm, Elbow, Forearm	Quiz 2	Open: 12/08 Close: 19/08
4	15/08	UL Prime Movers, Embryology	LAB3: Hand, UL Neurovasculature	W3: Wrist, Hand, UL Vessels	Quiz 3	Close: 19/08 Close: 26/08
5	22/08	UL Revision	LAB4: Revision	W4: Revision, UL nerves	Quiz 4	Open: 26/08 Close: 02/09

6	29/08	LL overview, Gluteal Region, Hip, Thigh	PRAC EXAM 1	online activities	Prac Exam 1 (15%)	F2F during LAB time
7	05/09	Knee, Leg, Intro to Foot	<b>LAB5:</b> Gluteal, Hip, Thigh	<b>W5:</b> Gluteal, Hip, Thigh		
12/09 - 25/09		TWO WEEKS RECESS				
8	26/09	Ankle, Foot	<b>LAB6:</b> Knee, Leg	<b>W6:</b> Knee, Leg	<b>Quiz 5</b>	Open: 30/09 Close: <b>07/10</b>
9	03/10	LL Neurovasculature	online activities	online activities	<b>Quiz 6</b>	Open: 07/10 Close: <b>14/10</b>
10	10/10	Back 1	<b>LAB7:</b> Ankle, Foot, LL Neurovasc	<b>W7:</b> Ankle, Foot, LL Neurovasc		
11	17/10	Back 2, Trunk Wall	<b>LAB8:</b> Back 1, Revision	<b>W8:</b> Back 1	<b>Quiz 7</b>	Open: 21/10 Close: <b>28/10</b>
12	24/10	LL & Back Revision, Embryology	<b>LAB9:</b> Back 2, Revision	<b>W9:</b> Back 2		
13	31/10	online activities	PRAC EXAM 2	online activities	Prac Exam 2 (20%)	F2F during LAB time

\* The location of Laboratory will be confirmed via iLearn. Timetable is subject to change (see iLearn).

**Public Holidays:** 03/10; **Last Withdrawal without Fail:** 28/09; **Exams:** 07/11-25/11.

**Supplementary Prac Exams:** these are typically conducted AFTER EXAMINATION PERIOD; therefore, please do not plan your travel until confirming the date for the supplementary; there will be NO online and/or individual sittings.

## 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.

## Changes from Previous Offering

In response to the COVID situation and based on student feedback, this unit has been digitally uplifted. Weekly online learning modules will assist you with revision and checking your understanding of the main learning outcomes for a given week. Formative quizzes and labelling tasks will provide endless opportunities to learn flexibly and to practice the format of the real assessments. All formative learning activities have immediate feedback that will help you learning efficiently. According to student feedback and to enhance student learning efficiency and wellbeing, the assessment structure for the unit has changed. The value of Quiz has increased from 10% to 20% and the number of quizzes increased from three to seven. This will facilitate breaking the content into smaller chunks and help focussing studying week-by-week rather than crumming material towards three quizzes two of which are held at the end of semester. Counting the best five of the seven marks allows a 'space for an error' and alleviates extra-pressure associated with high-value assessment items. The value of the practical examinations (which are considered by majority students as the most challenging aspect of the unit) has decreased to a combined 35% instead of 50%. This is representative of the unit LOs and supports a positive alignment of the assessment, learning activities and objectives in the unit. It also removes an excessive stress from the end of the semester when students required to

achieve most of the marks allocated for continuous assessment. We value feedback from students and will be working together with you to ensure that we will provide the best possible learning experience. Should you have any concerns or suggestions, do not hesitate to email the unit convenor.

## 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.

## PROFESIONALISM

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.