UNSW Course Outline

ANAT1451 Functional Anatomy and Biomechanics 1 - 2024

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General Course Information

Course Code : ANAT1451
Year : 2024
Term : Term 2
Teaching Period : T2
Is a multi-term course? : No
Faculty : Faculty of Medicine and Health
Academic Unit : School of Biomedical Sciences
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

Are you preparing to be a movement specialist, or seeking a deeper understanding of the upper and lower limb function and dysfunction? Immerse yourself in understanding functional anatomy of limb movement underpinned by foundational principles of biomechanics. In this

course you will acquire a deep understanding of the neuromuscular anatomy of the limbs and their role in facilitating movement by integrating functional biomechanics. You will apply this knowledge to understand how movement may be compromised in musculoskeletal and nerve injury. Hands-on laboratory-based study involving human donor cadavers, medical imaging and surface anatomy will be complemented by adaptive online learning modules and case-based tutorials to understand normal function, clinical presentation and functional deficits.

Course Aims

This course aims to provide you with a comprehensive knowledge of the functional anatomy of the upper and lower limbs underpinned by biomechanical principles. You will apply your knowledge of limb anatomy to interpret medical imaging and clinical presentations, and to predict the functional deficits of neuromusculoskeletal lesions.

Relationship to Other Courses

Assistance with progression checking:

If you are unsure how this course fits within your program, you can seek guidance on optimising your program structure from staff at the Nucleus Student Hub.

- Progression plans for UNSW Medicine and Health programs can be found on the UNSW Medicine & Health website.
- Progression plans for UNSW Science programs can be found on the UNSW Science website.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Demonstrate ethical principles of working with diverse groups of people and with human tissue
CLO2 : Apply anatomical terminology and knowledge to describe body position, orientation, regions and planes, and to explain joint movement
CLO3 : Describe musculoskeletal anatomy including muscle origins and insertions, bony landmarks, joint structure and neurovascular supply of the upper and lower limbs
CLO4 : Correlate functional anatomy with surface anatomy, medical imaging, clinical presentation and fundamental biomechanical principles
CLO5 : Explain how kinematics and kinetics can be used to understand human-environment and human-equipment interactions in relation to activities of daily living and the impact of body proportions and anatomical differences on human movement
CLO6 : Describe results from static and dynamic physical assessments and provide recommendations for movement or exercise modification

Course Learning Outcomes	Assessment Item
CLO1 : Demonstrate ethical principles of working with diverse groups of people and with human tissue	• Tutorial work • Integrated Practical Assessment
CLO2 : Apply anatomical terminology and knowledge to describe body position, orientation, regions and planes, and to explain joint movement	• Continuous Assessment • Exam • Integrated Practical Assessment
CLO3 : Describe musculoskeletal anatomy including muscle origins and insertions, bony landmarks, joint structure and neurovascular supply of the upper and lower limbs	• Tutorial work • Continuous Assessment • Exam • Integrated Practical Assessment
CLO4 : Correlate functional anatomy with surface anatomy, medical imaging, clinical presentation and fundamental biomechanical principles	• Tutorial work • Continuous Assessment • Exam • Integrated Practical Assessment
CLO5 : Explain how kinematics and kinetics can be used to understand human-environment and human-equipment interactions in relation to activities of daily living and the impact of body proportions and anatomical differences on human movement	• Tutorial work • Continuous Assessment • Exam • Integrated Practical Assessment
CLO6 : Describe results from static and dynamic physical assessments and provide recommendations for movement or exercise modification	• Tutorial work • Continuous Assessment • Exam • Integrated Practical Assessment

Learning and Teaching Technologies

Moodle - Learning Management System

Learning and Teaching in this course

All course materials and course announcements are provided on the course learning management system, Moodle (or Open Access).

By accessing and using the ICT resources provided by UNSW, you are agreeing to abide by the 'Acceptable Use of UNSW ICT Resources' policy particularly on respect for intellectual property and copyright, legal and ethical use of ICT resources and security and privacy.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Tutorial work Assessment Format: Individual	20%	Start Date: Not Applicable Due Date: Week 10 Tutorial
Continuous Assessment Assessment Format: Individual	10%	Start Date: Not Applicable Due Date: These are weekly quizzes that are due each week at 5pm on Monday.
Integrated Practical Assessment Assessment Format: Individual	40%	Start Date: Not Applicable Due Date: The mid-term and end-of-term components are conducted during the Week 5 and 10 practicals, respectively.
Exam Assessment Format: Individual	30%	Start Date: Not Applicable Due Date: During Exam Period

Assessment Details

Tutorial work

Assessment Overview

This assessment task comprises weekly pre-tutorial online modules and in-class tutorial activities that are cumulatively worth 20% of the overall course mark. The weekly pre-tutorial online modules are cumulatively worth 10% of the overall course mark. Feedback on the weekly pre-tutorial online modules is provided immediately via the course learning management system. The weekly in-class tutorial activities are cumulatively worth 10% of the overall course mark. Feedback on the weekly in-class tutorial activities is provided immediately during tutorials throughout the term.

Course Learning Outcomes

- CLO1 : Demonstrate ethical principles of working with diverse groups of people and with human tissue
- CLO3 : Describe musculoskeletal anatomy including muscle origins and insertions, bony landmarks, joint structure and neurovascular supply of the upper and lower limbs
- CLO4 : Correlate functional anatomy with surface anatomy, medical imaging, clinical presentation and fundamental biomechanical principles
- CLO5 : Explain how kinematics and kinetics can be used to understand human-environment and human-equipment interactions in relation to activities of daily living and the impact of body proportions and anatomical differences on human movement
- CLO6 : Describe results from static and dynamic physical assessments and provide recommendations for movement or exercise modification

Detailed Assessment Description

Detailed information about this assessment will be provided on the course Moodle page.

Submission notes

Refer to Moodle for submission information.

Assessment information

Use of Generative Artificial Intelligence (AI) in the assessment

UNSW Pro-Vice Chancellor Education and Student Experience (PVCESE) provides guidance on the use of generative Artificial Intelligence in assessments.

NO ASSISTANCE is permitted for the test.

It is prohibited to use any software or service to search for or generate information or answers. If such use is detected, it will be regarded as serious academic misconduct and subject to the standard penalties, which may include 00FL, suspension and exclusion.

Assignment submission Turnitin type

Not Applicable

Continuous Assessment

Assessment Overview

This assessment task consists of weekly quizzes that cumulatively are worth 10% of the course mark. These quizzes are administered online and test your understanding of practical and theoretical knowledge acquired in the course.

Individualised feedback is provided at the end of the assessment time. Cohort feedback is provided at the next session led by an academic facilitator and misconceptions discussed.

Course Learning Outcomes

- CLO2 : Apply anatomical terminology and knowledge to describe body position, orientation, regions and planes, and to explain joint movement
- CLO3 : Describe musculoskeletal anatomy including muscle origins and insertions, bony landmarks, joint structure and neurovascular supply of the upper and lower limbs
- CLO4 : Correlate functional anatomy with surface anatomy, medical imaging, clinical presentation and fundamental biomechanical principles
- CLO5 : Explain how kinematics and kinetics can be used to understand human-environment and human-equipment interactions in relation to activities of daily living and the impact of body proportions and anatomical differences on human movement

- CLO6 : Describe results from static and dynamic physical assessments and provide recommendations for movement or exercise modification

Detailed Assessment Description

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Assignment submission Turnitin type

Not Applicable

Integrated Practical Assessment

Assessment Overview

The Integrated Practical Assessment has a mid-term and end-of-term component that are worth 20% each. This assessment task is based on the laboratory and tutorial practical concepts in the preceding weeks. You are required to answer questions based on anatomical structures flagged on cadaveric specimens, anatomical models, radiographic images and surface anatomy images.

Individual marks and generalised cohort feedback will be provided at the next session led by an academic facilitator.

Course Learning Outcomes

- CLO1 : Demonstrate ethical principles of working with diverse groups of people and with human tissue
- CLO2 : Apply anatomical terminology and knowledge to describe body position, orientation, regions and planes, and to explain joint movement
- CLO3 : Describe musculoskeletal anatomy including muscle origins and insertions, bony

landmarks, joint structure and neurovascular supply of the upper and lower limbs
- CLO4 : Correlate functional anatomy with surface anatomy, medical imaging, clinical presentation and fundamental biomechanical principles
- CLO5 : Explain how kinematics and kinetics can be used to understand human-environment and human-equipment interactions in relation to activities of daily living and the impact of body proportions and anatomical differences on human movement
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Assignment submission Turnitin type

Not Applicable

Exam

Assessment Overview

This is a final written examination that takes place during the official exam period. This assessment task is designed to assess your practical and theoretical knowledge of course content and ability to integrate and apply it to solve problems related to functional anatomy and biomechanics. The examination contains a combination of multiple choice and short answer questions.

Generalised cohort feedback will be provided through the learning management system.

Course Learning Outcomes

- CLO2 : Apply anatomical terminology and knowledge to describe body position, orientation, regions and planes, and to explain joint movement
- CLO3 : Describe musculoskeletal anatomy including muscle origins and insertions, bony landmarks, joint structure and neurovascular supply of the upper and lower limbs
- CLO4 : Correlate functional anatomy with surface anatomy, medical imaging, clinical presentation and fundamental biomechanical principles
- CLO5 : Explain how kinematics and kinetics can be used to understand human-environment and human-equipment interactions in relation to activities of daily living and the impact of body proportions and anatomical differences on human movement
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Assignment submission Turnitin type

Not Applicable

General Assessment Information

Detailed instructions regarding assessments for this course are provided on the course Moodle page (or Open Learning).

For student information on results, grades, and guides to assessment see: https://student.unsw.edu.au/assessment

Grading Basis

Standard

Requirements to pass course

In order to pass this course students must:

- Achieve a composite grade of at least 50 out of 100
- Meet any additional requirements specified in the assessment details section and on Moodle.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 27 May - 2 June	Topic	Pectoral Girdle & Shoulder
Week 2 : 3 June - 9 June	Topic	Brachial Plexus & Arm
Week 3 : 10 June - 16 June	Topic	Elbow & Forearm
Week 4 : 17 June - 23 June	Topic	Wrist & Hand
Week 5 : 24 June - 30 June	Assessment	INTEGRATED PRACTICAL ASSESSMENT 1
Week 6 : 1 July - 7 July	Topic	Flexiweek
Week 7 : 8 July - 14 July	Topic	Pelvis & Gluteal Region
Week 8 : 15 July - 21 July	Topic	Thigh & Knee
Week 9 : 22 July - 28 July	Topic	Leg, Ankle & Foot
Week 10 : 29 July - 4 August	Assessment	INTEGRATED PRACTICAL ASSESSMENT 2

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

The times and locations of classes can be found on myUNSW under Class Timetable.

The expected engagement for all UNSW 6UOC courses is 150 hours per term. This includes lectures, tutorials, readings, and completion of assessments and exam preparation (if relevant).

Course Resources

Prescribed Resources

Learning resources for this course will be avialable on Moodle:

1. Lecture Slides and Recordings
2. Lab Manual and Anatomy Checklists
3. Tutorial Learning material

Soames & Palastanga (2019) *Anatomy and Human Movement* (7th ed.) is the prescribed anatomy text and is availabe for free through ClinicalKey Student.

Recommended Resources

Abrahams et al. (2013) *McMinns & Abrahams' Clinical Atlas of Human Anatomy* (7th ed.) is the recommended anatomy atlas and is availabe for free through ClinicalKey Student.

Complete Anatomy is supplied FOR FREE through the UNSW library.

Additional recommended resources for this course are also provided on the course Moodle page.

Additional Costs

There are no additional costs associated with this course.

Course Evaluation and Development

Student feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

We use student feedback from myExperience surveys to develop and make improvements to the course each year. We do this by identifying areas of the course that require development from both the rating responses and written comments. Please spare a few minutes to complete the myExperience surveys for this course posted at the top of the Moodle page at the end of term.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Stanley Serafi n					Yes	Yes
	Rachel Berry					No	No
Lecturer	Blake Dickson					No	No
	Michael Lee					No	No
	Serena Hong					No	No
	Jacqueline No rth					No	No
	Varun Sahni					No	No

Other Useful Information

Academic Information

As a student of UNSW Medicine & Health you are expected to familiarise yourself with the contents of this course outline and the UNSW Student Code and policies and procedures related to your studies.

Student Code of Conduct

Throughout your time studying at UNSW Medicine & Health, you share a responsibility with us for maintaining a safe, harmonious and tolerant University environment. This includes within the courses you undertake during your degree and your interactions with the UNSW community, both on campus and online.

The UNSW Student Code of Conduct website provides a framework for the standard of conduct expected of UNSW students with respect to both academic integrity and your responsibility as a UNSW citizen.

Where the University believes a student may have breached the code, the University may take disciplinary action in accordance with the Student Misconduct Procedure.

The Student Conduct and Integrity Office provides further resources to assist you to understand your conduct obligations as a student at UNSW.

Academic Honesty and Plagarism

Academic integrity

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to the principle of academic integrity, and ethical scholarship of learning is fundamental to your success at UNSW Medicine & Health.

Plagiarism, contract cheating, and inappropriate use of generative AI undermine academic integrity and are not tolerated at UNSW. For more information see the Academic Integrity and Plagiarism toolkit.

In addition to the information you are required to review in your ELISE training, UNSW Medicine &

Health strongly recommends that you complete the Working with Academic Integrity module before submitting your first assessment task.

Referencing

Referencing is a way of acknowledging the sources of information that you use to research your assignments. Preferred referencing styles vary among UNSW Medicine & Health disciplines, so check your course Learning Management System (e.g. Moodle or Open Learning) page for information on preferred referencing styles.

For further information on referencing support and styles, see the Current Student Referencing page.

Academic misconduct and plagiarism

At UNSW, academic misconduct is managed in accordance with the Student Misconduct Procedure. Allegations of plagiarism are generally handled according to the UNSW Plagiarism Management Procedure. Plagiarism is defined in the UNSW Plagiarism Policy and is not tolerated at UNSW.

Use of Generative AI and other tools in your assessment

UNSW has provided guiding statements for the use of Generative AI in assessments. This will differ, depending on the individual assessment task, your course requirements, and the course stage within your program.

Your course convenor will outline if and how you can use Generative AI in each your assessment tasks. Options for the use of generative AI include: (1) no assistance; (2) simple editing assistance; (3) planning assistance; and (4) full assistance with attribution.

You may be required to submit the original generative AI responses, or drafts of your original work. Inappropriate use of generative AI is considered academic misconduct.

See your course Moodle (or Open Learning) page for the full instructions for individual assessment tasks for your course.

Submission of Assessment Tasks

Special Consideration

In cases where illness, misadventure or other circumstances beyond your control will prevent you from submitting your assessment by the due date and you require an extension, you need to formally apply for Special Consideration through myUNSW.

UNSW has a **Fit to Sit/Submit rule**, which means that by sitting or submitting an assessment on the scheduled assessment date, you are declaring that you are fit to do so and cannot later apply for Special Consideration.

Timed online assessment tasks

If you experience a technical or connection problem during a timed online assessment, such as a timed quiz, you can apply for Special Consideration. To be eligible to apply you need to contact the Course Convenor and advise them of the issue immediately. You will need to submit an application for Special Consideration immediately, and upload screenshots, error messages or other evidence of the technical issue as supporting documentation. Additional information can be found on: https://student.unsw.edu.au/special-consideration

Examinations

Information about the conduct of examinations in your course is provided on your course Moodle page.

Other assessment tasks

Late submission of assessment tasks

UNSW has standard late submission penalties as outlined in the UNSW Assessment Implementation Procedure, with no permitted variation. All late assignments (unless extension or exemption previously agreed) will be penalised by 5% of the maximum mark per calendar day (including Saturday, Sunday and public holidays).

Late submissions penalties are capped at five calendar days (120 hours). This means that a student is not permitted to submit an assessment more than 5 calendar days (120 hours) after the due date for that assessment (unless extension or exemption previously agreed).

Failure to complete an assessment task

You are expected to complete all assessment tasks for your courses. In some courses, there will be a minimum pass mark required on a specific assessment task (a “hurdle task”) due to the

need to assure clinical competency.

Where a hurdle task is applicable, additional information is provided in the assessment information on your course Moodle page.

Feedback on assessments

Feedback on your performance in assessment tasks will be provided to you in a timely manner. For assessment tasks completed within the teaching period of a course, other than a final assessment, feedback will be provided within 10 working days of submission, under normal circumstances.

Feedback on continuous assessment tasks (e.g. laboratory and studio-based, workplace-based, weekly quizzes) will be provided prior to the midpoint of the course.

Any variation from the above information that is specific to an assessment task will be clearly indicated in the course and assessment information provided to you on your course Moodle (or Open Learning) page.

Faculty-specific Information

Additional support for students

The university offers a wide range of support services that are available for students. Here are some links for you to explore.

- The Current Students Gateway: https://student.unsw.edu.au
- Academic Skills and Support: https://student.unsw.edu.au/academic-skills
- Student support: https://www.student.unsw.edu.au/support
- Student Wellbeing, Health and Safety: https://student.unsw.edu.au/wellbeing

Mind Smart Guides are a series of mental health self-help resources designed to give you the psychological flexibility, resilience and self-management skills you need to thrive at university and at work.

- Mind Smart Guides: https://student.unsw.edu.au/mindsmart
- Equitable Learning Services: https://student.unsw.edu.au/els
- Guide to studying online: https://www.student.unsw.edu.au/online-study

Most courses in UNSW Medicine & Health use Moodle as your Learning Management System. Guidance for using UNSW Moodle can be found on the Current Student page. Difficulties with Moodle should be logged with the IT Service Centre.

- Moodle Support: https://student.unsw.edu.au/moodle-support

The IT Service Desk is your central point of contact for assistance and support with remote and on-campus study.

- UNSW IT Service Centre: https://www.myit.unsw.edu.au/services/students

Course evaluation and development

At UNSW Medicine & Health, students take an active role in designing their courses and their overall student experience. We regularly seek feedback from students, and continuous improvements are made based on your input. Towards the end of the term, you will be asked to participate in the myExperience survey, which serves as a source of evaluative feedback from students. Your input to this quality enhancement process is valuable in helping us meet your learning needs and deliver an effective and enriching learning experience. Student responses are carefully considered, and the action taken to enhance educational quality is documented in the myFeedback Matters section of your Moodle (or Open Learning) course page.

School-specific Information

Laboratory or practical class safety.

For courses where there is a laboratory or practical-based component, students are required to wear the specified personal protective equipment (e.g., laboratory coat, covered shoes, safety glasses) indicated in the associated student risk assessments. The student risk assessments will be provided on the course Moodle page and must be read and acknowledged prior to the class.

Master of Science in Health Data Science courses

Courses in the Master of Science in Health Data Science are hosted through Open Learning. Additional resources are available on the Health Data Science Student Hub.

Recording of lectures, tutorials and other teaching activities (MSc. HDS only)

Lectures, tutorials and other teaching activities may be recorded. Students should be advised that they are consenting to the recording by their enrolment in the course or participation in the activity. The purpose of audio and video recordings is to enhance the student experience by supporting engaged learning in an online teaching environment and ensure equitable access to all course resources for our students. If you have concerns about accessing course recordings, or being recorded, please contact the Course Convenor.

School Contact Information

School guidelines on contacting staff:

Course questions

All questions related to course content should be posted on Moodle (or Open Learning) or as directed by your Course Convenor.

In cases where email communication with course convenors is necessary, we kindly request the following:

- Use your official email address for any correspondence with teaching staff.
- We expect a high standard of communication. All communication should avoid using short-hand or texting language.
- Include your full name, student ID, and your course code and name in all communication.

Our course convenors are expected to respond to emails during standard working hours of Monday to Friday, 9am-5pm.

Administrative questions

If you have an administrative question about your program of study at the School please submit

your enquiry online at UNSW Ask Us.

Complaints and appeals

Student complaints and appeals: https://student.unsw.edu.au/complaints

If you have any grievances about your studies, we invite you to address these initially to the Course Convenor. If the response does not meet your expectations, you may then contact:

School Grievance Officer, Prof Nick Di Girolamo (n.digirolamo@unsw.edu.au)

Health Data Science programs: School Grievance Officer, Dr Sanja Lujic (s.lujic@unsw.edu.au)