



**Faculty of Medicine and Health
School of Medical Sciences**

ANAT 2111

Introductory Anatomy

T1 2021

COURSE OUTLINE

Contents

Course Staff.....	3
Course Details	3
Student learning outcomes	4
Course relationships	4
Teaching rationale	5
Attendance	6
Course Structure	6
Resources for students.....	7
Continual course improvement.....	7
Course Schedule – T1- 2021.....	8
Assessment.....	9
Ethical behaviour and human remains	10
The Use and Handling of Specimens (i.e. human remains) in the dissecting room.....	10
Anatomical terms.....	11
Student Risk Management Plan	12

Please read this manual/outline in conjunction with the following pages on the [School of Medical Sciences website](#):

- [Advice for Students](#)
- [Learning Resources](#)

(or see "STUDENTS" tab at medicallsciences.med.unsw.edu.au)

Course Staff

Dr Tom Duncan (convenor)

Office: Level 2 West, Wallace Wurth Building
Email: t.duncan@unsw.edu.au

Dr Stanley Serafin (co-convenor)

Office: Level 2 West, Wallace Wurth Building
Telephone: 02 9385 2276
Email: s.serafin@unsw.edu.au

Prof. Nalini Pather

Office: Level 2 West, Wallace Wurth Building
Telephone: 02 9385 8025
Email: n.pather@unsw.edu.au

Appointments with any of the above academics should be arranged **via email**.

Please email from your **official UNSW student account**, include your **student number, course code** and state the **subject** clearly. **Except for questions that have private/personal content, all questions preferably should be posted in the Moodle Forum.**

Course Details

Units of Credit and Hours of Study

This course is worth six units of credit (6 UOC). This is a blended learning course (i.e. has both face-to-face and online learning activities) and consists of 6 hours per week of scheduled learning activities. Each week these comprise:

- One hour of self-directed learning – online video lectures and readings (*note: this is instead of a traditional live lecture*).
- Four hours of practical in-person labs (2 x 2 hours) / two hour online lab + two hour video conference tutorial via Teams.
- One hour of self-directed revision activities online – adaptive tutorials and labelling exercises.

What is anatomy?

Anatomy literally means to break apart or separate the human body into its parts; to dissect the body. The earliest recorded anatomy teachers, Herophilus and Erasistratus, lived in Ancient Alexandria and taught anatomy between 300 BC and the second century AD. However, the roots of anatomy go back much further – perhaps 4,000 years ago – with the mummification practices of the Ancient Egyptians and with the Ancient Greek physicians. The most famous anatomist is the Ancient Roman Galen, whose work remained the standard for almost 1,300 years until the European Renaissance. During and after the Renaissance, anatomy developed into a modern scientific discipline. Therefore, anatomy is one of the oldest scientific fields and one that has always and continues to underpin medicine. It is also a well-established scientific discipline in its own right.

Anatomy is a dynamic and diverse science that considers the structures of the body from the cellular level through to the body's external surface and beyond. Anatomy examines the cells and tissues of the body (cell

biology and histology), the systems of the body (integumentary, skeletal, muscular, nervous, cardiovascular, lymphatic, respiratory, alimentary, urinary, genital and lymphoid systems), the joints, movements and biomechanics of the human body, human comparative and evolutionary anatomy (anthropology), the development of the embryo and postnatal growth of the infant and child, as well as clinical and radiographic anatomy. Anatomy at UNSW teaches and researches across most of these areas. Note that the term *gross anatomy* refers to the study of the structures of the body that are observable without the aid of microscopes (i.e. the naked eye) and which can be palpated (touched), while *microanatomy* is sometimes used to refer to the microscopic structures of the body (e.g. tissues; the subject of histology).

Course aims

This course aims provide students with an understanding of the structure and organisation of the human body as it relates to function.

This course provides an introduction to the topographical anatomy of the whole human body, based on the study of prosected human specimens. Topics for study include: general topographical and descriptive anatomy, and skeletal, muscular, cardiovascular, respiratory, digestive, urinary, reproductive, nervous, and special sensory organ systems. This course is designed for students who require the broad study of human anatomy, as well as those who wish to proceed to Level III studies or a major in Anatomy.

Student learning outcomes

At the end of the course, students will be able to:

1. Demonstrate an understanding of the ethical considerations, and good practice of, working with human cadaveric tissue
2. Demonstrate the appropriate use of anatomical terminology
3. Demonstrate an understanding of the structure and function of the following body systems and their components: skeletal, muscular, cardiovascular, respiratory, digestive, urinary, reproductive, nervous, and special sensory organ systems of the human body
4. Explain how the function of body systems is interdependent

The University of NSW has developed a list of attributes which its graduates should possess upon graduation (the 'graduate attributes'). This course has been designed to help students to develop these capabilities. Students completing the course will have gained knowledge and skills that contribute to directly to them acquiring these attributes during their study at UNSW. One way this has occurred is through curriculum mapping of this course.

See medsciences.med.unsw.edu.au/students/undergraduate/advice-students#graduate

Course relationships

Introductory Anatomy is the foundation course for all advanced (Level III) gross anatomy courses at UNSW: *Visceral Anatomy* (ANAT3121), *Anatomy of Head and Neck* (ANAT3131), *Functional Anatomy of Limbs* (ANAT3141; ANAT2451) and *Neuroanatomy* (ANAT3411). A number of other courses offered by anatomy compliment these gross anatomy offerings: *Histology: Basic and Systematic* (ANAT2241) and *Embryology: Early and Systematic Development* (ANAT2341). More generally, anatomy courses compliment the subjects offered by other areas within the School of Medical Science (i.e. Physiology, Pharmacology, Pathology and Health and Exercise Science) as well as courses taught in biological science, biomolecular science and genetics, psychology, biomechanics, vision science, food science and nutrition, medical microbiology and immunology, and engineering.

Prerequisite courses: A pass in BABS1201 or DPST1051 plus either a pass in ANAT2241 or BABS1202 or DPST1052 or BABS2202 or BABS2204 or BIOC2201 or BIOC2291 or BIOS1101 or HESC1501 or PHSL2101 or PHSL2121 or VISN1221

Teaching rationale

Student learning and engagement with the content of the course underpins all learning activities.

Online videos- Students are required to work with online videos in **preparation and prior to attending the weekly lab**. These videos are available online (see corresponding weekly folder in Moodle). They aim to present essential concepts and theoretical details on specific topics throughout the course. These videos are interactive with incorporated sets of questions aimed to guide and reflect on understanding the key concepts. However, these videos are not designed to provide the entire content required for achieving the learning outcomes for the course but are designed to **consolidate major concepts**. With the help of online interactive videos, you should be able to navigate the content further independently through the prescribed textbook. In addition to working with online videos, **in preparation** for the weekly online tutorial, students are also required to read corresponding pages in the **prescribed textbook** (see Moodle for instructions).

Laboratory practicals - The purpose of weekly **compulsory** practical sessions is to give students first-hand experience of the content covered. During these three-hour weekly sessions, students also will identify the gross anatomical structures and their features, practice anatomical terminology and discuss the concepts studied in preparation to the weekly topic. The anatomy laboratory is the best resource to learning anatomy and is a wonderful place of privilege, discovery and discussion. The gross anatomy laboratory sessions are small group sessions that allow students to explore prosected (professionally dissected) specimens of the human cadaveric material. Although, the tutor is present to guide you through the activities in these sessions, these sessions are meant to be led by students. Working in small teams, you will be consolidating content and apply problem-solving approach. It is also a good opportunity to discuss with peers and teaching staff difficult topics and receive an informal feedback. For those unable to attend in person, recordings of the demonstration will be made available.

Question forums – Each week there will be a question forum for students to ask any topic related questions (any questions containing personal information please email the convenors directly). These forums are a place for students to submit questions and interact with other students by answering questions. These forums will be monitored by academic staff, but it is expected that students answer most questions posted.

Self-directed learning activities – The purpose of these weekly compulsory activities is to help students interact with the content covered. During these activities students will identify the gross anatomical structures and their features.

Formative Adaptive Tutorials – These will be made available to students via a link in Moodle during this course and they are included as a part of content delivery and a good way to check your understanding of a topic. These tutorials are a series of interactive questions based on applying the content covered in lectures and laboratory sessions and are a useful resource in consolidating and revised course content. Sessions are structured to encourage student participation in these activities and to enhance your learning. You will benefit most if you undertake these tutorials consistently. Some of these tutorials may also be done during allocated time within the course timetable. The focus of these tutorials is to apply the principles of anatomy to function.

Labelling exercises – These practice tasks allow you to informally check your understanding of the content as well as to independently assess your performance. These practical tasks aim to assist with learning terminology and grasping difficult concepts.

Video conference tutorial - At the end of each week there will be a video conference tutorial delivered via Teams. During this, academics will discuss more challenging concepts, and answer questions from the forums.

Independent study - There is insufficient time in the lectures, workshops and practicals for you to develop a deep understanding of the concepts covered in this course. In order for you to achieve the learning outcomes that will be assessed, you will need to revise the material presented in the course regularly. You will probably also need to do additional reading beyond the lecture materials in order to learn effectively. Relevant additional resources, including textbook chapters, will be cited in lecture and practical sessions.

Participation

Your attendance, reviewing of videos, completion of online activities and participation in tutorials is IMPORTANT. It is expected that you complete all these activities. There will be no “make-up” sessions for any missed group sessions or video conferences.

Course Structure

The workflow of a typical week includes the following activities:

1. **Preparatory activities** – activities available via Moodle and should be completed **prior** to attending labs each week. Please note that there are online activities that need to be completed **before** Week 1.
 - a. Online videos (*note: this is in place of a traditional live lecture, the original schedule lecture time of Thurs 3-4pm will therefore not be used*)
 - b. Readings
2. **Question forums** – At any time during the week students should post and/or answer questions in weekly topic forums on Moodle.
3. **Laboratory practicals** – students will attend **either** in-person **or** online labs
 - a. In-person labs occur Monday 3pm-5pm and Wednesday 11am-1pm (D26, level 1, Anatomy lab 08A). Students will work through the lab manual in small groups.
 - b. Online-lab 1 occurs Thursdays 9-11am via MS Teams. Students will watch the recordings of the lab demonstrations and work through the lab manual in small groups via breakout rooms in MS Teams.
4. **Video conference tutorial** – Friday 9-11am via MS Teams. (*note: this is scheduled as Online lab 2*)
5. **Online self-directed learning activities** – available via Moodle and include additional videos, adaptive tutorials and labelling activities.

Resources for students

Prescribed Text:

Marieb EN, Wilhelm PB & Mallat J (2017). *Human Anatomy, 8th ed.*, Pearson.

Atlas:

Logan BM (2016). *Logan's Illustrated Human Anatomy, 1st ed.*, CRC press.

Other books that are useful and may be used as texts instead (available in the Library):

- Snell, R. (2012). *Clinical Anatomy by Systems, 9th ed.*, Lippincott, Williams and Wilkins.
- Drake, R. et al. (2014). *Gray's Anatomy for Students, 3rd ed.*, Churchill Livingstone (**available ONLINE**)
- Moore, K. & Dalley, A. (2018). *Clinically Oriented Anatomy, 8th ed.* Wolters Kluwer.
- Tortora, G.J. and B.H. Derrickson (2018). *Tortora's Introduction to the Human Body, 11th ed.* John Wiley & Sons Australia Ltd.
- Rohen, J., Yokochi, C. & Lütjen-Drecoll, E. (2006). *Color Atlas of Anatomy: A Photographic Study of the Human Body, 6th ed.* Lippincott, Williams and Wilkins.

See also medicallsciences.med.unsw.edu.au/students/undergraduate/learning-resources

Student support services

Transitioning to Online Learning <https://www.covid19studyonline.unsw.edu.au/>

Guide to Online Study <https://student.unsw.edu.au/online-study>

UNSW Student Life Hub <https://student.unsw.edu.au/hub#main-content>

Continual course improvement

For course evaluation, feedback has been gathered at the completion of the course, using among other means, UNSW's Course and Teaching Evaluation and Improvement Process and myExperience. Student feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

The Introduction to Anatomy course has been a part of the UNSW 2025 Strategy Inspired Learning Initiative and has been significantly redesigned based on not only student feedback but also on best practices in learning and teaching using an interactive, flipped classroom approach. The current changes to the course include:

- The content has been streamlined for a 9-week term delivery.
- The assessment has been modified to increase the contribution of the continuous assessment activities to the final course mark.
- The adaptive tutorials have been reviewed so that the content is limited to the course content.

ANAT2111- course schedule – T1- 2021

COURSE COMPONENT	ONLINE VIDEOS	LAB	LAB	ONLINE LAB	SELF-DIRECTED ACTIVITIES	CONTINUOUS ASSESSMENT	TUTORIAL	SCHEDULED EXAMS	
DATE & TIME	Completed before each week's labs	Monday 3pm-5pm	Wednesday 11am-1pm	Thursday 9am-11am	Self-paced	Completed each week	Friday 9am-11am	Thursday 3pm-5pm	
MODE OF DELIVERY	MOODLE	IN PERSON Biological sciences North D26, Floor 1, Anat lab 08A	IN PERSON Biological sciences North D26, Floor 1, Anat lab 08A	MS TEAMS	MOODLE	MOODLE	MS TEAMS	MOODLE	
Week	Students are REQUIRED TO COMPLETE online tasks available in "Week 0" folder on Moodle BEFORE Week 1								
1	15/02-19/02	Skeletal system	LAB 1 - Axial Skeleton	LAB 2 – Appendicular Skeleton	Skeletal system	Skeletal system	Skeletal system	Skeletal system	
2	22/02-26/02	Muscular system	LAB 3 – Muscles of Head, Neck and Upper limb	LAB 4 – Muscles of Back, Abdomen, and Lower Limb	Muscular system	Muscular system	Muscular system	Muscular system	
3	01/03-05/03	Cardiovascular system	LAB 5 - The Heart	LAB 6 - Vessels	Cardiovascular system	Cardiovascular system	Cardiovascular system	Cardiovascular system	
4	08/03-12/03	Respiratory system	LAB 7 - Upper respiratory tract	LAB 8 – Lower respiratory tract	Respiratory system	Respiratory system	Respiratory system	Respiratory system	
5	15/03-19/03	Digestive system	LAB 9 – Upper gastrointestinal tract and accessory organs	LAB 10 – Lower gastrointestinal tract	Digestive system	Digestive system	Digestive system	Digestive system	
6	22/03-26/03	FLEXI WEEK							
7	29/03-02/04	Urinary and Reproductive systems	LAB 11 - Urinary System	LAB 12 - Reproductive System	Urinary and Reproductive systems	Urinary and Reproductive systems	Urinary and Reproductive systems	MID TERM EXAM	
8	05/04-09/04	Nervous system I		LAB 13 - Nervous system I	Nervous system I	Nervous system I	Nervous system I	Nervous system I	
9	12/04-16/04	Nervous system II and Special senses	LAB 14 - Peripheral and Autonomic Nervous Systems	LAB 15 - Special senses	Nervous system II and Special senses	Nervous system II and Special senses	Nervous system II and Special senses	Nervous system II and Special senses	
10	19/04-23/04								END TERM EXAM
	26/04-29/04	Study period							
	30/04-13/05	FINAL EXAM PERIOD							

Assessment

1. Mid-Term Assessment	20%
2. End-Term Assessment	20%
3. Continuous Assessment	20%
4. Final Exam	40%

Continuous Assessments

These comprise online activities that encompass both the identification of structures as well as theoretical concepts. The assessments are released weekly on Moodle, and students are required to complete them within that week. The highest 5 scoring continuous assessment marks will be used to calculate the final grade. No resits or supplementary continuous assessment will be provided.

Term Assessments

These are short online delivered assessments that cover content delivered in each half of the term. These assessments encompass both the identification of structures as well as theoretical concepts. It is delivered electronically and is time-constrained.

Theory Exam

A single 2-hour written exam is worth 40%, and it will be held during the formal examination period. It assesses student knowledge of the course content and deeper understanding (such as the ability to make connections between ideas or to assess capacity for problem-solving). The written exam comprises of multiple-choice and short/long answer questions and will test knowledge obtained from seminars and laboratories.

Please note:

- Final exam period for Term 1, 2021 is 30th April to 13th May 2021.
- Supplementary exam period for Term 1, 2021 is 24th May to 28th May 2021.

Access to previous exam papers

Past exam papers are **not** available to students. **Sample** questions are **provided** and are published via Moodle.

Failure to complete an assessment

In case if you miss any part of your assessment due to misadventure or illness, an application for Special Consideration should be lodged online in myUNSW before the assessment is due.

Failure to sit a test or exam without lodgment of an application for **Special Consideration** will lead to automatic failure of the test. An absence from a test or exam must be supported by a medical certificate or other document that clearly indicates you were unable to be present. That certificate should be dated the same day as the examination. See <https://student.unsw.edu.au/special-consideration>

Should you require adjustments for a disability, please see the Equitable Learning Services: <https://student.unsw.edu.au/els>

Ethical behaviour and human remains

In this course, you will be required to study human anatomical specimens. Each year, people donate their bodies to UNSW via a Bequeathal Program so that you and your colleagues can learn about the human body. The donations are provided through the extraordinary generosity of the public (our donors and their families). This is a special privilege afforded very few people. By law, responsibility to the donor and their family members, and as a matter of good ethical practice you must treat all human remains with great respect and care (see below). The University operates the Bequeathal Program under the Code of Practice noted below, which all students are required to adhere to.

Before starting this course, students **MUST** complete the online modules listed as compulsory in Week 0 of the course Moodle site.

Code of Practice:

The University recognises the magnitude of the contribution made by those who donate their bodies for the teaching of anatomy, and it is committed to treating the human remains entrusted to its care with the utmost respect and professionalism. In keeping with this commitment, the University requires its employees and students to uphold all legal, public health, and ethical standards associated with the handling of bodies and human tissue samples. Any activity which undermines its ability to meet UNSW's legislative obligations, or which devalues the contribution made by those who donate their bodies for the purposes of the teaching of anatomy to students will be in breach of this policy and subject to further action.

For those engaging in the online space (learning and teaching), the University considers that the Code of Practice remains relevant. The use of images of anatomical specimens should follow principles consistent with the Anatomy Act 1977 and/or Human Tissue Act 1983. When images are used online, these should never be identifiable, caricatured and shared for any purpose other than educational; and should not be published on social media platforms.

See medicalsciences.med.unsw.edu.au/students/undergraduate/advice-students#Practicals

Anatomical terms

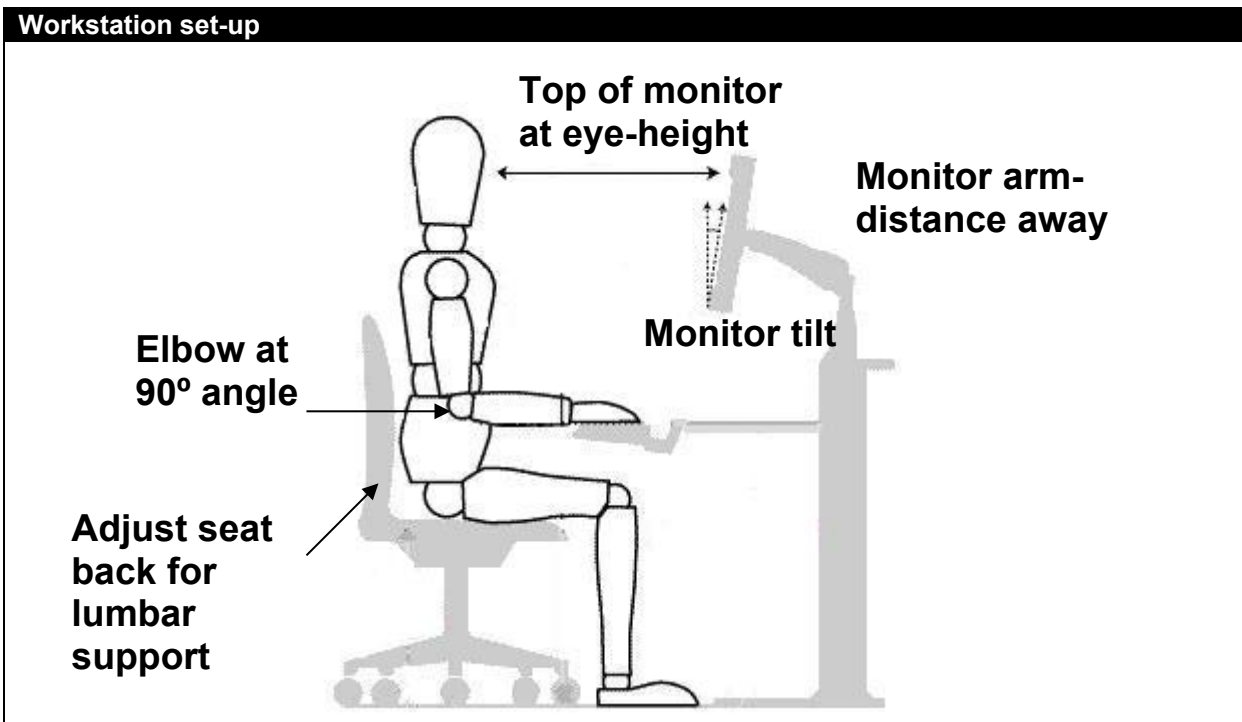
One of the largest challenges for new students in anatomy is learning anatomical terms. In many ways the process is like learning a new language. All scientific disciplines have a set of terms and across the whole of science they are derived mostly from Latin and Ancient Greek words. Why Latin and Ancient Greek? Latin, in particular, is a 'dead' language, meaning that no one alive today uses it as the 'mother' tongue. Thus, it is not subject to fashions and constant change, like most living languages, especially English. Moreover, the spelling of Latin and Ancient Greek words has been agreed to for a long time.

In Australia and other English-speaking countries, anatomical terms are Anglicised (translated to English). This means that in many cases the terms we teach are the English equivalent of the Latin or Greek word (e.g. Latin = *Corpus ossis ilii*; English = Body of the ilium). There are, however, still plenty of Latin and Greek terms used. Their pronunciation, however, is an entirely different matter. It varies greatly across English speaking countries; even at UNSW you will find lecturers employing different pronunciations, partly as a result of where they learned their anatomy! What matters is that we all know which structure we are referring to when we use a particular term; there are no points for correct pronunciation as most of the variants are equally correct!

An international organisation called the *Federative Committee on Anatomical Terminology* with representatives from many countries has published the standard (agreed) set of anatomical terms that anatomists follow. It is called *Terminologia Anatomica* and the last edition was published in 1998. Most internationally oriented textbooks (such as *Gray's Anatomy*) apply *Terminologia Anatomica*. In this course, we strive also to use this standard set of anatomical terms as much as possible as we believe that is represents best international practise as well, as making it easier for you to learn. The terms that you need to know in laboratory classes are given in **bold**. You should, however, endeavour to understand all of the information given in laboratories in order to do well in the course.

Medicine Teaching Laboratory		Anatomy Practical Classes for Medicine and Science Students Bioscience Building Level 1 LAB08B Wallace Wurth Building G06/07 <small>DOC:PHSL-SRA-S&H-01rev1.1</small>
Student Risk Assessment		

Hazards	Risks	Controls
Ergonomics	Musculoskeletal pain	<ul style="list-style-type: none"> Correct workstation set-up Check electrical equipment is in good condition before use All portable electrical equipment tested and tagged
Electrical	Electrical shock/Fire	



Personal Protective Equipment

Not necessary in these practicals.

Emergency Procedures

In the event of an alarm, follow the instructions of the demonstrator. The initial sound (beep) is advising you to prepare for evacuation and during this time start packing up your things. The second sound (whoop) gives instruction to leave. Evacuate via the fire stairs on West or East side of the laboratory, to the assembly point at the western end of the Lowy Building opposite the Clancy Auditorium. In the event of an injury inform the demonstrator. There are portable First Aid Kits located in 08A and 07 Teaching Laboratories.

Clean up and waste disposal

No apparatus or chemicals used in these practicals.

Declaration

I have read and understand the safety requirements for this practical class, and I will observe these requirements.

Signature:..... **Date:**.....

Student number: