



Australia's
Global
University

Faculty of Medicine & Health
School of Medical Sciences

ANAT 3131

FUNCTIONAL ANATOMY OF
HEAD, NECK AND BACK

Term 2, 2021

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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 medicalsciences.med.unsw.edu.au)

1. Course Staff

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Enrolment and Administrative Help

Staff in SoMS student administration are available to help with problems with enrolment and scheduling, and should be the first point of contact for administrative problems. They can be contacted via student portal <http://unsw.to/webforms>.

2. Course Information

Course Code / Name	ANAT3131 Functional Anatomy of Head, Neck and Back
Units of Credit	6 UOC
Assumed Knowledge, Prerequisites or Co-requisites	ANAT2111 or ANAT1521 or ANAT2511
Hours per Week	7HPW: 2h seminar, 3h laboratory practical & 2h tutorial or online activities
Number of Weeks	10 weeks
Commencement Date	Week 1, MON the 31 st May

3. Course Details

3.1. Course Description and Aims

You will gain an understanding of functional and clinically relevant anatomy of the head, neck and back regions of the human body. You will develop comprehensive knowledge of head and neck region of the human body, including its musculoskeletal, viscera. and neurovascular components. The learning activities in this course aim to develop thorough understanding of the normal anatomy that can be applied to clinically relevant scenarios and medical imaging using problem-solving skills.

3.2. Student Learning Outcomes

On successful completion of this course you will be able to:

1. Demonstrate a thorough knowledge of the functional anatomy of the head, neck and back, including the musculoskeletal framework, viscera, neurovasculature and lymphatics.
2. Identify the anatomy underpinning clinical and functional presentations related to the head, neck and back.
3. Correlate normal anatomy with clinical imaging and cross-sectional anatomy.

3.3. Graduate Attributes (GA) developed in this course

UNSW aspires to develop graduates who are rigorous scholars, capable of leadership and professional practice in a global community. UNSW programs aspire to graduate:

1. Scholars capable of independent and collaborative enquiry, rigorous in their analysis, critique and reflection, and able to innovate by applying their knowledge and skills to the solution of novel as well as routine problems (SLO 1, 2, 3);
2. Entrepreneurial leaders capable of initiating and embracing innovation and change, as well as engaging and enabling others to contribute to change (SLO 2, 3);
3. Professionals capable of ethical, self-directed practice and independent lifelong learning (SLO 1,2,3);
4. Global citizens who are culturally adept and capable of respecting diversity and acting in a socially just and responsible way (SLO 2, 3).

4. Strategies and Approaches to Learning

4.1. Teaching Strategies

Students are initially introduced to the anatomical region in the form of seminars incorporating multimedia-learning tools. With this knowledge in hand, students engage in learning activities during the laboratory sessions and tutorial activities where the tutors provide assistance, guidance and encouragement for each student to actively participate in their learning. Students are always encouraged to question, observe and share knowledge and experiences that help their learning and that of their peers. The anatomy laboratory is wonderful and fascinating environment for discovery and students are given every opportunity to explore the cadaveric specimens, participate in active discussions and find answers for themselves. Learning activities during tutorials and practicals emphasise and encourage self-directed and team-based learning.

4.2. Rationale for learning and teaching activities in this course

Online Seminars (recordings are available via Moodle platform) focus on major concepts and 'difficult' topics in the anatomy of the head and neck such as an arrangement of structures, innervation and function, functional anatomy of cranial nerves. Seminars are used to present major concepts, in particular the content that maybe challenging, within a given time on specific topics throughout the course. They provide a preliminary overview of the region that is being studied and focus on:

- arrangement and anatomy of the structures in the head and neck;
- arrangement of the musculoskeletal elements that underpins the movement of the joints in the head, neck and vertebral column;
- functional anatomy of the cranial nerves;
- aspects relevant to clinical situations as well as surface and radiological anatomy.

Laboratory sessions complement the seminars and independent work. The purpose of the practical components is to give students first-hand experience of the content covered. Access to the anatomy laboratory is an awesome privilege and an essential part of reinforcing learning with first-hand exploration of human specimens. These sessions are conducted in small groups and involve active

learning by studying human bones, prosected and plastinated specimens, models and radiographs. Tutors will provide guidance and support for students to make sure that all the aims and activities for that laboratory class are fully understood at the end of the session.

Tutorials amalgamate the theoretical and practical components and provide correlation with applications such as clinical and functional cases, and medical imaging. Tutorials provide an informal engaging team-based learning environment. Sessions are structured to encourage student participation in activities and discussions designed to enhance learning while working in teams and individually applying a problem-based approach. The students will benefit most with some preparation prior to attending the session. The focus of the tutorials in this course will be to apply the principles of functional and clinical anatomy of head, neck and back.

Independent studies facilitate achievement of the learning outcomes for the course by developing further the concepts covered in face-to-face sessions. Additional reading beyond the lecture materials is encouraged for efficient learning. Relevant additional resources, including textbook chapters, videos, research articles and case reports will be cited and/or provided in Moodle and will be discussed in online forums, virtual anatomy adaptive tutorials and formative self-assessment tasks, will be provided to encourage understanding and deep learning.

4.3. Rationale for assessment and feedback in this course

Assessments (see page 9 for details) have been chosen as tools to enhance and guide your learning as well as a way of measuring performance, and are therefore a central teaching strategy in this course:

Individual Quizzes (10%)

Multiple choice question (MCQ) quizzes are based on the weekly content. Quizzes will assess understanding of major concepts for a given week and ability to correlate structure/function relationships underpinning clinical and functional presentations related to the regions studied.

Team Assessment (25%)

Students work in small teams researching allocated topics and applying their knowledge to solve problems presented in tutorials. The assessment is designed to develop skills involved in critical analysis of relevant scientific literature. Teams will be assessed on disciplinary knowledge by their instructor and peers. **Feedback:** students will receive individual marks that are based on: (a) team assessment performance where a team receives the same mark; and (b) individual marks based on peer assessment.

Spot tests (30%)

Two spot tests (midterm and endterm, each equal to 15%) assess the ability to identify anatomical structures and demonstrate understanding of their functions and relationships. Spot Test 1 assesses content from weeks 1-5, while Spot Test 2 examines content from weeks 7-10.

Final examination (35%)

This is a 2-hour written paper held during the examination period. Typically, it consists of a combination of MCQs and short answer questions. It will test understanding of functional anatomy of the body regions studied with the emphasis on demonstrating the ability to apply acquired knowledge to explain normal functioning as well as relevant clinically-oriented scenarios.

Feedback

The course conveners will endeavor to make this course interesting, relevant and a rewarding learning experience for you. Problem based questions have been included at the end of each practical in your course manuals – you are encouraged to work through these to provide yourself with

feedback on your progress through the course. During the practical sessions, you will also have an opportunity to try some practice spot-test-style questions. Answers for these will be provided as feedback to you on your progress. The continuous assessment, Quizzes, and adaptive tutorials are designed to give you continuous feedback on your progress. Answers to these will also be discussed immediately following the assessment. In addition, the virtual adaptive anatomy tutorials will be made available via a link in Moodle. These will provide you with immediate feedback and are to be used as a formative assessment tool. Students are encouraged to contact course convenors for individual feedback and trouble-shooting, like wise, course convenors actively contact students in regards to individual performance and offer help where appropriate.

4.4. Expectations of students

Attendance is important and highly encouraged for satisfactory completion of the course and achieving the learning outcomes. It is expected that all students attend at least 80% of all practical and laboratory classes. Attendance of the laboratory classes and tutorials will be recorded at the start of each class. If absent from a laboratory/tutorial component, students are encourage to notify the course convenors as soon as possible. When missing an **assessment item**, students are required to submit an **online application via myUNSW for special consideration** and provide evidence of the cause of absence such as medical certificates or other documentation. We expect students to engage in independent studies using relevant additional readings and online activities provided on Moodle. Team-based assessments will involve working in small groups inside and outside of class, which will be facilitated via in-person and online activities, including social networks and discussion forums. In order to pass the course, every item of assessment must be attempted.

4.5. Student support

If you find yourself in a difficult situation or have questions or require support, please do not hesitate approaching the course convenors via email or phone. There are many relevant student support service units that you may also find useful should you require support – some of these links are listed below:

Special consideration: <https://student.unsw.edu.au/special-consideration>

Equitable Learning Services: <https://student.unsw.edu.au/els>

Key Dates <https://student.unsw.edu.au/dates>

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>

Student Support and Development <https://student.unsw.edu.au/support>

IT, eLearning and Apps <https://student.unsw.edu.au/elearning>

Student Support and Success Advisors <https://student.unsw.edu.au/advisors>

5. ANAT3131 Schedule – T2, 2021

Week	Dates	Tutorial Mon 1-3pm Mathews 103	Lab Fri 2-5pm Anatomy Teaching Labs	Self-directed Activities Videos, adaptive tutorials, labelling activities (see Moodle)
0	24/05-30/05	Compulsory anatomy orientation online module.		
1	31/05-06/06	Introduction to ANAT3131 and team-based learning	Quiz: Skull & Face Skull & Face	Skull & Face, Introduction to Cranial Nerves
2	07/06-13/06	Skull & face tutorial	Quiz: Mastication Mastication	Mastication
3	14/06-20/06	Public Holiday*	Quiz: Oral Region Oral Region	Oral Region
4	21/06-27/06	Mastication tutorial	Quiz: Orbital Region Orbital Region	Orbital Region
5	28/06-04/07	Oral region tutorial	Spot Test 1	Revision
6	05/07-11/07	Flexiweek: start on Week 7 Self-directed activities		
7	12/07-18/07	Orbital region tutorial	Quiz: Nose & Ear Nose & Ear	Nose & Ear
8	19/07-25/07	Nose & ear tutorial	Quiz: Pharynx & Larynx Pharynx & Larynx	Pharynx & Larynx
9	26/07-01/08	Pharynx & larynx tutorial	Quiz: Back Back	Back
10	02/08-06/08	Back tutorial	Quiz: Neck Neck	Neck
	07/08-12/08	Study period		
	13/08-26/08	Exam period: Spot Test 2 & Final Exam		

Supplementary exam period for Term 2, 2021 is 6 September to 10 September.

6. Assessment

6.1. Assessment Tasks

Task	Knowledge & abilities assessed	%	Due Date	Feedback
Spot Test 1	These are lab-based assessments on identification of structures and related theory and application questions. They are aligned with course aims 1-5 and student learning outcomes 1-3.	15	Week 5	students will receive their individual and cohort marks; summary feedback on areas that had lower performance will be provided; individual - by appointment
Spot Test 2		15	Examination period	
Individual Quizzes	Regular (weekly) online individual quizzes that are aligned with course aims and student learning outcomes. Based on the course aims 1-5 and student learning outcomes 1-3.	10	weekly	Marks & informal peer-reviewed comments in the class; Convenor informal feedback on Moodle
Team Assessment	Students work in small teams researching allocated topics and applying their knowledge to solve problems presented in tutorials. Teams will be assessed on disciplinary knowledge by their instructor and peers. Based on the course aims 1-5 and student learning outcomes 1-3.	25	<i>TBA via Moodle</i>	individual marks based on team assessment & individual marks based on peer assessment; detailed feedback - via Moodle
Final Exam	This examination is based on the entire content of the course. It will encompass the course aims and student learning outcomes specified above.	35	Examination period	Students receive their individual marks and may discuss their performance in person by appointment

6.2. Assessment Criteria and Standards

Detailed criteria, standards and submission procedure for team-based application assessments will be posted in Moodle in the 'TEAM-BASED ASSESSMENT' folder. The criteria will be discussed at length during tutorials. MCQ-based quizzes will be marked with immediate feedback and possibilities to appeal the results based on the justification written by teams. The spot tests will be marked based on the correct identification of structures as specified in the Laboratory Manual. Trial spot tests and revision sessions will be arranged throughout the term to familiarize students with the spot test format, criteria and standards expected. The format of the final examination will be discussed early on at the course, and the MCQ-type questions will be practiced on weekly basis. The short answer questions will be practiced during weekly tutorials in a format of the applied questions, where students will be able to familiarise themselves with criteria and standards as well as being able to apply those for formative feedback to their peers. Further information can be found at:

UNSW grading system: <https://student.unsw.edu.au/grades>
 UNSW assessment policy: <https://student.unsw.edu.au/assessment>

6.3 Failure to complete an assessment

Failure to sit a test or exam without lodgment of an application for Special Consideration with Student Central 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>

7. Resources, Support and Equipment

Textbook	<ul style="list-style-type: none"> Clinically oriented anatomy 8th Ed, Moore K.L., Dalley A.F. & Agur A.M.R. Lippincott Williams & Wilkins 2017 available from UNSW bookshop & library.
Software	<ul style="list-style-type: none"> Acland's Video Atlas of Human Anatomy (aclandanatomy.com) by Wolters Kluwer, Lippincott Williams & Wilkins) free access is available via UNSW Library
Recommended Resources	<ul style="list-style-type: none"> Gray's Anatomy for students. Drake, R.L., Vogl, W. & Mitchell, A.W.M., Elsevier /Churchill Livingstone: Philadelphia PA, 2015 – also available online. Color Atlas of Anatomy. A photographic study of the human body. 7th Edition, Rothen J.W., Yokochi C., Lutjen-Drecoll E., Lippincott Williams & Wilkins, 2011. Atlas of Human Anatomy. 5th Edition. Netter F.H., Saunders Elsevier, 2010. Human Anatomy. Color atlas and textbook. 5th Edition, Gosling J.A. et al; Mosby Elsevier, 2008.
Study Spaces	<ul style="list-style-type: none"> Library can be used for on-campus studies Anatomy museum (ground floor of Wallace Wurth East; swipe card entry) provides specimens, Anatomy software and Internet access Wallace Wurth East G06/G07 (swipe card entry) computers with a variety of anatomical software including Virtual Adaptive Anatomy Tutorials Museum of Human Disease medicallsciences.med.unsw.edu.au/students/disciplines/anatomy
Moodle	Information about the course and a number of electronic study resources can be accessed via the UNSW Moodle learning management system. You can also access the system via MYUNSW. Support materials are located at student.unsw.edu.au/moodle-support . Lecture notes, access to your grades, course documents and learning activities can be found on Moodle. Communication with the tutors and your groups and teams can also be done there.
Library	library.unsw.edu.au The Library has a collection of anatomical models available for studies
Lecture Recordings+	Lecture Recordings+ provides digital audio-visual recordings of lectures that can be accessed via streaming media over the web or as a podcast. Links are provided via Moodle.
Additional materials	medicallsciences.med.unsw.edu.au/students/undergraduate/learning-resources
Equipment Required	Laboratory coat, enclosed shoes, facemask and safety glasses are required to be worn in the lab. Personal electronic devices.

8. Course Evaluation and Development

Annual review of the course is done via student evaluation and feedback using the UNSW MyExperience process. Anonymous student feedback surveys during lectures/tutorials are also obtained during the course. This helps to address difficulties and issues as they arise. Student feedback is taken seriously and continual improvements of the course. Regular continued feedback will also be obtained from all academic staff teaching in the course. In **2020**, the course content was revised according to the 9-week schedule and to improve the clarity and the flow of the topics; adaptive tutorials have been upgraded; assessment structure has been revised and simplified in its arrangement to allow for even distribution of working load throughout the term, building up steadily towards the final exam and spot tests, with plenty of ongoing individual and group feedback from course convenors and peers as well as self-evaluation.

9. Academic Integrity and Plagiarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. Not referencing other people's work can constitute plagiarism. Further information about referencing styles can be located at <https://student.unsw.edu.au/referencing> **Academic integrity** is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage.¹ At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work. Further information about academic integrity and **plagiarism** can be located at:

- The *Current Students* site <https://student.unsw.edu.au/plagiarism>, and
- The *ELISE* training site <https://subjectguides.library.unsw.edu.au/elise>

The *Conduct and Integrity Unit* provides further resources to assist you to understand your conduct obligations as a student: <https://student.unsw.edu.au/conduct>.

10. Ethical behaviour and human remains

In this course, you will be required to study human anatomical (prosected = professionally dissected) specimens. Each year, people donate their bodies to UNSW so that you and your colleagues can learn about the human body directly from their remains. These are precious materials 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).

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

The University operates the Bequeathal Program under the Code of Practice noted below, which all students are required to adhere to.

¹ International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

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

Prior to attending the practical classes you should remind yourself the following rules on the handling and use of anatomical specimens:

1. In this course, you will be required to study human anatomical specimens. By law, responsibility to the donor and their living family members, and as a matter of good ethical practice, you must treat all human remains with great care, showing them the respect you would afford a living person. Any inappropriate handling will result in exclusion from the class and possible suspension from the course.
2. You must show respect for your tutor and colleagues.
3. Students must bring and wear a laboratory coat for all laboratory classes and must wear closed toe shoes. Moreover, you must wear disposable gloves when handling wet specimens, and at no times are you allowed to eat or drink in the dissecting room. Failure to comply with these rules will result in you being asked to leave the dissection room. These are occupational health and safety requirements of the School of Medical Sciences. First aid kits are also provided in the dissection room in the event of an injury during a laboratory class.
4. The solution that most of the human remains are stored in is a mild disinfectant and poses no danger to students when handled correctly. Thus, the floral smell is the disinfectant, and has nothing to do with decomposition of the bodies: they are preserved in formalin and do not decompose under laboratory conditions. They can, however, dry out/discolour through regular use and exposure to air.
5. Due to the delicate nature of the human brain, these specimens are stored in formalin. This chemical emits a strong odour; harmless, unless ingested or exposed to in high concentrations over long periods of time. Please do not spend too long handling such specimens as you might find the fumes cause discomfort. If they do, simply excuse yourself from the class (inform your tutor) and quietly leave the cubicle or laboratory for some fresh air.
6. Some students feel uncomfortable, even physically sick the first time (or few times) they study prosected human remains. This is a common reaction among students and is nothing to be ashamed about. If you feel discomfort when handling remains, simply stand back and observe and communicate with other students in your group while they handle remains. If you feel sick, simply excuse yourself from the class (inform your tutor) and quietly leave the cubicle or laboratory for some fresh air.
7. When handling these materials please be very careful. Always wear gloves, use instruments such as forceps and probes to touch structures, and keep handling to a minimum. Do not move remains from one bench to another. If they need to be moved, ask your tutor to do it.
8. When you have been handling wet specimens always remove your gloves before handling models. Moreover, always wash your hands with soap at the basins in the dissection room when a class has finished (i.e. before leaving the dissection room). Make a habit of practicing good hygiene to look after yourself and others (classmates, other students and your family).
9. Anatomical models must also be treated with great care. Proper handling is essential: do not pick up a cranium by placing your fingers in the orbits, as this will lead to breakage of delicate bones. Instead, pick it up by placing one hand across the braincase, just behind the orbits, and the other hand beneath its base.
10. For those engaging in the online space (learning and teaching), the Department 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.

Student Risk Assessment

Hazards	Risks	Controls
<p>Physical Cold temperature (16°C) Sharp bone/plastic</p> <p>Biological Fungi, bacteria (tetanus), hepatitis B and C</p> <p>Chemical Formaldehyde Methylated spirits 2-phenoxyethanol</p>	<p>Cold</p> <p>Penetrating wound of foot</p> <p>Infection</p> <p>Corrosive/Flammable Flammable Irritant</p>	<ul style="list-style-type: none"> • Wear laboratory coat over appropriate warm clothing • Wear enclosed shoes with full coverage of the dorsum of the foot • Wear protective eyewear • Wear face mask (if required) • Have appropriate immunisation • Do not eat, drink or smoke in the Anatomy Lab • Do not place anything (e.g. pens, pencils) into your mouth • Use disposable gloves when handling wet specimens and do not cross-contaminate models or bones with wet specimens • Use disinfectant and wipes for cleaning models • Always wash hands with liquid soap and dry thoroughly with disposable paper towel before leaving (hand sanitisers also available) • Low concentrations of chemicals used • Chemicals used in well ventilated area • Safety Data Sheets for chemicals available

Personal Protective Equipment required

				
Lab. Coat	Closed in footwear	Safety Glasses	Gloves	Mask

Emergency Procedures

In the event of an alarm sounding, stop the practical class and wait for confirmation to evacuate from demonstrators. Then wash your hands and pack up your bags. Follow the instructions of the demonstrators (and/or fire wardens) regarding exits and assembly points.

Clean up and waste disposal

- Cover wet specimens with the towels provided. Make sure that towels do not hang over the edge of the table, because this allows fluid to drip onto the floor. Fluids on the floor are a major safety hazard and should be reported to staff immediately.
- Replace stools under the tables in your cubicle (if applicable).
- Remove your gloves and dispose in the biowaste bins provided.
- Wash your hands and instruments thoroughly with the soap and dry your hands with paper towel.
- Remove your laboratory coat when you leave the dissecting room.

Ethics Approval

This type of practical has been previously considered and approved by the UNSW Human Research Ethics Advisory Panel (HC180115).

Declaration

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

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

Student number: