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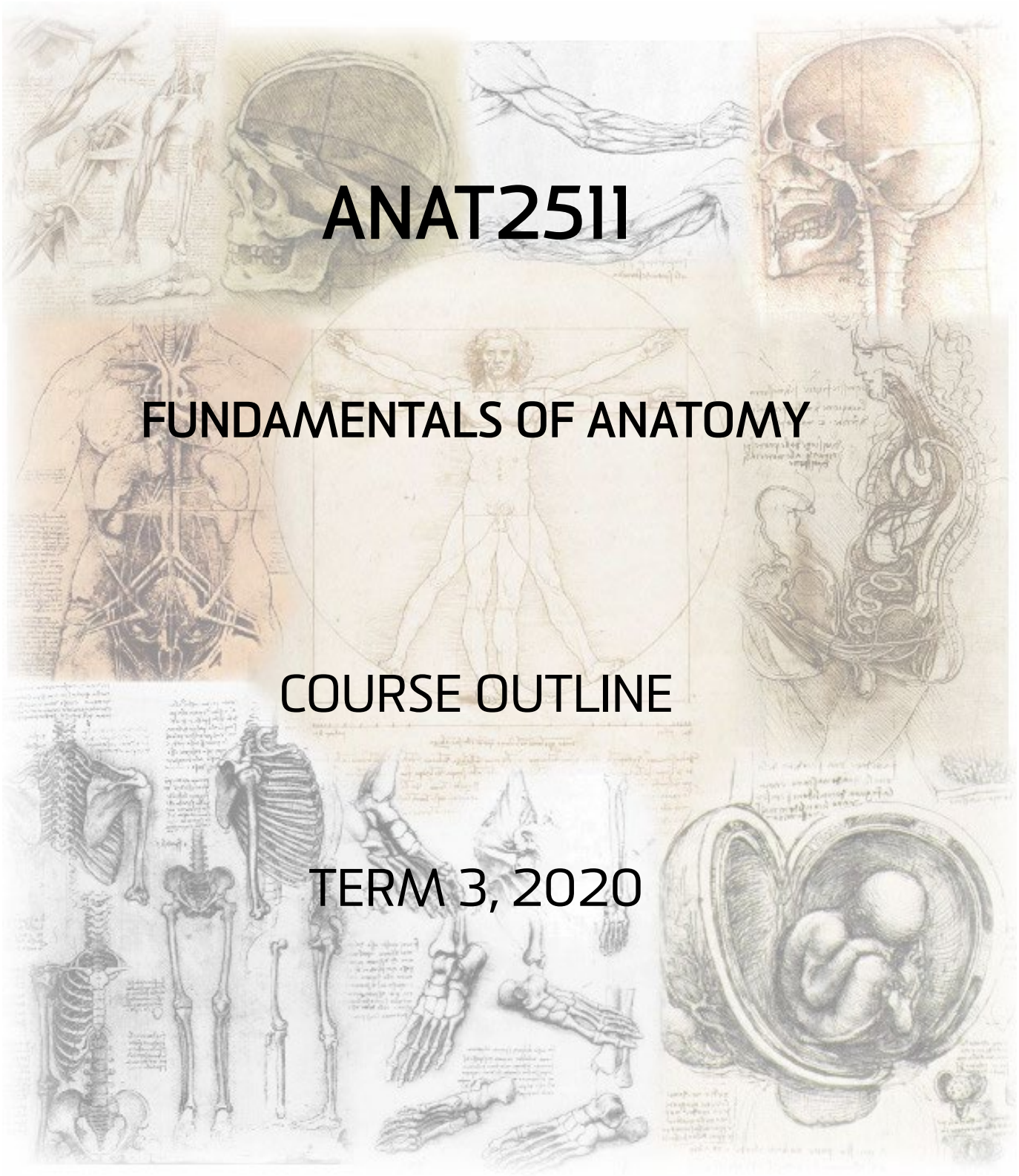
Faculty of Medicine
School of Medical Sciences



ANAT2511

FUNDAMENTALS OF ANATOMY

COURSE OUTLINE

TERM 3, 2020

Contents

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)

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Units of Credit

ANAT2511 Fundamentals of Anatomy is a 6 UOC course.

Exclusion Courses:
ANAT1521 Anatomy for Medical Science
ANAT1551 Introductory Anatomy for Health & Exercise Science
ANAT2151 Introductory Functional Anatomy
ANAT2111 Introductory Anatomy
ANAT2200 Basic Histology
ANAT2241 Histology: Basic and Systematic

Modifications to the Course From 2019

In 2020, the course has been revised for fully online delivery by the course academic team. Content has been streamlined for a 9-week term delivery. The assessment breakdown has been modified to increase the contribution of the continuous assessment activities to the final course mark. The course includes online learning activities and weekly online live sessions led by the academic team.

Course Aims and Learning Outcomes

This course is designed as a stand-alone subject for students who will benefit from knowledge of basic anatomy. The aim of this course is to provide students with an understanding of the structural organization of the human body at a gross (macroscopic) and histological (microscopic) level, i.e. the position, form and structure of organs and 'systems'. The course is designed to provide an understanding of the human body that underpins its function and medical and biomedical engineering designs. The course provides an overview of the structure of the major components of each body system and the microscopic structure of its tissues. The course emphasises the relationship between structure and function. In addition, students will gain familiarity with anatomical and medical terminology.

The course focuses on the most important organ systems (musculoskeletal, respiratory, cardiovascular, nervous, digestive, reproductive and sensory organs). At the end of the course, the student will be able to appreciate the structure of the above systems and how this structure optimises organ function. Recent advances in medical and biomedical engineering research related to anatomy will also be discussed.

Student engagement particularly through the gross anatomy practicals will equip them to be able to identify the anatomical features of each of these systems on dissected human specimens, bones and models, as well as applying these to discussion of functional and applied aspects of the body system. Histology practicals focus of the identification of cells and tissues, viewed by virtual microscopy images of real tissue, again with consideration of their functions.

Resources for Students

Prescribed Text:

- Tortora, G.J., et al. (2019). Principles of Anatomy & Physiology, 2nd Asia-Pacific Edition, John Wiley and Sons Inc.

Prescribed Atlas:

- Nielsen, M., and Miller, S.D. (2011). Atlas of Human Anatomy, John Wiley and Sons Inc.

Other useful texts:

- Young, B., et al. (2014). Wheater's Functional Histology: A Text and Colour Atlas, 5th ed.
- Hull, Kerry, (2010). Coloring Atlas of the Human Body, Lippincott, Wilkins and Williams.
- Drake, R. et al. (2019). Gray's Anatomy for Students. 4th ed., Churchill Livingston (available ONLINE).
- Moore, K. & Dalley, A. (2018). Clinically Oriented Anatomy, 8th ed. Wolters Kluwer.
- Rohen, J., Yokochi, C. & Lütjen-Drecoll, E. (2011). Color Atlas of Anatomy: A Photographic Study of the Human Body, 7th ed. Lippincott, Williams and Wilkins.

Websites and Student Support:

- Virtual Microscopy Database (VMD): http://virtualmicroscopydatabase.org/
- Histology Guide (Brelje & Sorenson): http://www.histologyguide.com/index.html
- Equitable Learning Services https://student.unsw.edu.au/els
- Special Consideration https://student.unsw.edu.au/special-consideration
- Transitioning to Online Learning https://www.covid19studyonline.unsw.edu.au/
- Guide to Online Study https://student.unsw.edu.au/online-study
- UNSW Student Life Online https://student.unsw.edu.au/hub#main-content
- Lecture recordings: https://student.unsw.edu.au/lecture-recordings

Assessment

1.	Continuous Assessment	20%
2.	Mid-Term Assessment	25%
3.	End-Term Assessment	25%
4.	Final Exam	30%

Continuous Assessment

This consists of regular short online assessments based on the identification of structures in images as well as theoretical content. It provides students with regular feedback on their mastery of each topic.

Mid-Term Assessment

This online assessment encompasses the identification of structures in images as well as theoretical concepts.

End-Term Assessment

This online assessment encompasses the identification of structures in images as well as theoretical concepts.

Final Exam

A single final exam will be held during the formal examination period. It assesses student mastery of course content and ability to apply this knowledge to functional and clinical contexts through problem-solving. Final exam period for Term 3, 2020 is 27 November to 10 December 2020. Supplementary exam period for Term 3, 2020 is 11 January to 15 January 2021.

Course Schedule – T3 2020

		Self-Directed Activities	Assessments Tuesday 9-10am	Formative Activities	Online Workshop 1 Thursday 9-11am	Online Workshop 2 Friday 2-4pm
W1	14/09-20/09	Epithelial & Connective Tissues & Axial Skeleton		Adaptive Tutorial	Epithelial Tissue & Axial Skeleton	Connective Tissue & Axial Skeleton
W2	21/09-27/09	Bone, Cartilage, Appendicular Skeleton & Joints		Adaptive Tutorial	Bone & Appendicular Skeleton	Cartilage & Joints
W3	28/09-04/10	Muscle Tissue & Muscular System		Adaptive Tutorial	Muscle Tissue & Muscular System	Muscle Tissue & Muscular System
W4	05/10-11/10	Nervous Tissue & Central Nervous System		Adaptive Tutorial	Nervous Tissue & Central Nervous System	Nervous Tissue & Central Nervous System
W5	12/10-18/10	Peripheral Nervous System & Special Senses		Adaptive Tutorial	Peripheral Nervous System & Special Senses	Peripheral Nervous System & Special Senses
W6	19/10-25/10	Flexi week – Study for Midterm Assessment & start on Week 7 Self-Directed Activities				
W7	26/10-01/11	Cardiovascular & Respiratory Systems	**Midterm Assessment**	Adaptive Tutorial	Cardiovascular System	Respiratory System
W8	02/11-9/11	Digestive System		Adaptive Tutorial	Digestive System	Digestive System
W9	09/11-15/11	Urinary & Reproductive Systems		Adaptive Tutorial	Urinary System	Reproductive System
W10	16/11-20/11		**Endterm Assessment**			
	21/11-26/11	**STUDY PERIOD**				
	27/11-10/12	**EXAM PERIOD**				

Ethical Behaviour and Human Remains

In this course, you may have the opportunity 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.

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.

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

The Use and Handling of Specimens (i.e. human remains) in the dissecting room

Prior to attending the practical classes you should read the section below on the handing and use of anatomical specimens.

1. In this course, you may be able to study human anatomical (prosected/professionally dissected) 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. Moreover, you must at all times show respect for your tutor and colleagues. Some people react differently to human remains; certain parts of the body may be culturally sensitive or even offensive; some students find working with human heads to be disturbing.
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.

Medicine Teaching Laboratory Student Risk Management Plan	UNSW SYDNEY	Gross Anatomy Practical Classes for Medical and Science Students DOC:PHSL-SRA-S&H-01rev1.1

Hazards	Risks	Controls
Physical Cold temperature (16ºC) Sharp bone/plastic **Biological** Fungi, bacteria (tetanus), hepatitis B and C **Chemical** Formaldehyde Methanol 2-phenoxyethanol	Cold Penetrating wound of foot Infection Corrosive/Flammable Irritant/toxic Irritant	• Wear laboratory coat over appropriate warm clothing • Wear enclosed shoes with full coverage of the dorsum of the foot • Have appropriate immunisation • Do not eat, drink or smoke in the Gross 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 • Always wash hands with liquid soap and dry thoroughly with disposable paper towel before leaving • Low concentrations of chemicals used • Chemicals used in well ventilated area • Safety Data Sheets for chemicals available in the laboratory

Personal Protective Equipment required

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 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.
- Remove your gloves and dispose in the biowaste bins provided.
- Wash your hands and instruments thoroughly with the soap provided and dry your
- Hands with the 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: .....

ANAT-SRA-Med&SciStudent relates to RA-MED-06. Date for review: 1/2/2020