

SOMS1912

Human Systems 1

Course Outline
Term 2, 2023

School of Biomedical Sciences
Faculty of Medicine & Health

Table of Contents

1. Staff	3
2. Course information	3
2.1 Course summary	4
2.2 Course aims	4
2.3 Course learning outcomes (CLO)	4
2.4 Relationship between course learning outcomes and assessments	5
3. Strategies and approaches to learning	5
3.1 Learning and teaching activities	5
3.2 Expectations of students	6
4. Course schedule and structure	7
5. Assessment	8
5.1 Assessment tasks	8
5.2 Assessment criteria and standards	9
5.3 Submission of assessment tasks	10
5.4. Feedback on assessment	10
6. Academic integrity, referencing and plagiarism	11
7. Readings and resources	11
8. Administrative matters	12
9. Additional support for students	13

1. Staff

Position	Name	Email	Consultation times* and locations
Academic Staff: Lecturers, Tutors, and/or Laboratory Leads			
Convenor & Physiology Lecturer	A/Prof Andrew Moorhouse	a.moorhouse@unsw.edu.au	Wallace Wurth Level 3 NW
Co-convenor & Anatomy Lecturer	Dr Cristian Leyton	c.leyton_moscoso@unsw.edu.au	Wallace Wurth Level 2 NW
Co-convenor & Anatomy Lecturer	Dr Christina Byun	christina.byun@unsw.edu.au	Wallace Wurth Level 2 NW
Anatomy Lecturer	Mr Patrick Chau	patrick.chau@unsw.edu.au	Wallace Wurth Level 2 NW
Physiology Lecturer	Dr Fred von Wegner	f.vonwegner@unsw.edu.au	Wallace Wurth Level 3 NW
Physiology Lecturer	Dr Zaky Kovacevic	z.kovacevic@unsw.edu.au	Wallace Wurth Level 4 East
Physiology Lecturer	Dr Justin Lees	justin.lees@unsw.edu.au	Wallace Wurth Level 2 East
Physiology Lecturer	Dr Deepak Sharma	deepak.sharma1@unsw.edu.au	Wallace Wurth Level 3 NW
Casual Academics: Tutors and/or Laboratory Demonstrators			
Physiology	Ms Si Yin Lui	Anatomy	Mr Kurt Pacubas
Physiology	Ms Lily Pearson	Anatomy	Mr Rahul Prabhu
Physiology	Ms Sophia Gilchrist	Anatomy	Ms Hannah Whitmont
Physiology	Ms Liz Kalotay	Anatomy	Ms Negin Sedghidiznab
Physiology	Mr Eddie Wise	Anatomy	Ms Jessica Gonzalez
Anatomy	Dr Kosta Kotsidis	Anatomy	Dr Joanne Chan
Anatomy	Ms Carly Stevens	Anatomy	Mr Aria Mohammadi

We acknowledge the support of:

- *Dr Lucy Jo and Armida Pobre from Medicine & Health Education Development Unit*
- *Matt Oxley and Nathan Colquhoun from Medicine and Health Media Production & Training Unit*
- *Our vital lab support staff in Physiology and Anatomy*

* The preferred way for queries on course content or structure is via the Moodle forum.

* Students wishing to see the course convenors or lecturers should make an appointment by email.

2. Course information

Units of credit: 6 UOC

Pre-requisite(s): nil

Teaching times and locations: <https://timetable.unsw.edu.au/2023/SOMS1912.html>

2.1 Course summary

Are you preparing for a career in medicine or health, or simply keen to learn about how our bodies function in health and disease? Human Systems 1 will enable you to appreciate the relationship between anatomical structures and physiological functions of the human body. You will investigate the relationships between normal structure and function in human cells, tissues, and organs, and how this applies to health maintenance, ageing and disease. The Human Systems 1 course content is divided into modules: Anatomy and Physiology Fundamentals; Integumentary System, Musculoskeletal System; Nervous System; Endocrine System; and Special Senses. Alongside learning about these systems in the human body, you will also develop skills in research, critical analysis, and communication of scientific information relevant to the study of medicine and health.

2.2 Course aims

This course aims to provide you with a foundational understanding of the structural organisation and function of the human body, and the ability to apply this knowledge to understand the principles of health and disease.

2.3 Course learning outcomes (CLO)

At the successful completion of this course you (the student) should be able to:

1. Demonstrate ethical principles of working with human material and donor cadavers
2. Integrate an understanding of the structure and function of the major cells, tissues and organs associated with the following systems within the human body: Integumentary System, Musculoskeletal System; Nervous System; Endocrine System; and Special Senses.
3. Evaluate the role/s of cells, tissues, and organs in maintaining health by identifying and integrating core concepts in anatomy and physiology across the different body systems.
4. Apply a knowledge of normal structure and function of cells, tissues, and organs to understand the changes that occur during human development, growth, ageing and disease.
5. Collaborate in diverse teams to identify, interpret, and synthesise scientific data from a range of sources and apply that knowledge to specific scenarios in medicine and health.

2.4 Relationship between course learning outcomes and assessments

Course Learning Outcome (CLO)	LO Statement	Related Tasks & Assessment
CLO 1	Demonstrate ethical principles of working with human material and donor cadavers	Continuous Assessments
CLO 2	Integrate an understanding of the structure and function of the major cells, tissues and organs associated with the following systems within the human body: Integumentary System, Musculoskeletal System; Nervous System; Endocrine System; and Special Senses.	Continuous Assessments Group Project Integrated Practical Assessment End of Course Examination
CLO 3	Evaluate the role/s of cells, tissues, and organs in maintaining health by identifying and integrating core concepts in anatomy and physiology across the different body systems.	Continuous Assessments Group Project Integrated Practical Assessment End of Course Examination
CLO 4	Apply a knowledge of normal structure and function of cells, tissues, and organs to understand the changes that occur during human development, growth, ageing and disease.	Continuous Assessments Group Project Integrated Practical Assessment End of Course Examination
CLO 5	Collaborate in diverse teams to identify, interpret, and synthesise scientific data from a range of sources and apply that knowledge to specific scenarios in medicine and health.	Group Project

3. Strategies and approaches to learning

3.1 Learning and teaching activities

This course uses a blended learning framework around weekly or bi-weekly themes and is underpinned by active learning principles. Lectures and laboratory sessions integrate with tutorials and self-directed learning activities.

Lectures will provide you with the framework for the inquiry and learning in each topic. Lectures are asynchronous, delivered as online step by step learning activities using Articulate Storyline/Rise. Embedded within these learning activities are key objectives, brief video pages, text, image and graph pages, and quizzes with immediate feedback.

Laboratory practical sessions provide you with a collaborative hands-on exploration of human structure and function. Anatomy labs use prosected (professionally dissected) specimens, bones, models, and applications to medical imaging and surface anatomy related to each topic. Physiology laboratory practical sessions provide an opportunity to further consolidate understanding of the specific organ systems under study and to develop important generic scientific skills around accurate generation and recording of experimental data. These are a privileged experience of exploration, discovery and discussion facilitated by academic staff and near-peer demonstrators.

Tutorial sessions are face to face collaborative learning experiences designed for you to clarify and apply the knowledge and concepts learnt in each topic. The tutorial sessions focus on health and medical scenarios related to the weekly topic. An academic will guide you to gain deeper insight to the relevance of structure and function in health and disease contexts.

Weekly seminars provide a chance to interact directly with peers and the academics leading that week's content. They provide a chance to further expand on key concepts, re-iterate and consolidate the weekly tutorials and to discuss aspects of that topic that require further guided study.

Time will be allocated in the course to progress the Collaborative Discovery Group Project that relates and integrates Human Anatomy and Physiology around a disease context. The group project also allows you to at the same time develop interpersonal communication and research skills. Ability to effectively work with a diverse range of other people in a professional manner is an essential attribute for medicine and health professionals.

3.2 Expectations of students

Students are reminded that UNSW recommends that a 6 units-of-credit course should involve about 150 hours of study and learning activities. The formal learning activities total approximately 60 hours throughout the term and students are expected (and strongly recommended) to do at least the same number of hours of additional study.

The 2023 timetable has allocated on-campus tutorials on Monday, practical classes on Tuesdays and/or Thursdays, and a seminar on Wednesdays. Students are expected to attend these sessions at their allocated time slot (unless taking the BIPH program remotely). Students are expected to have done any pre-lab preparation and to bring a personal laboratory coat and safety glasses for those practical classes where they are required. This will be clearly indicated in the information for the practical class on Moodle. For the group project, students will be in teams formed from the same practical groups and some weeks' practical time is allocated for the teams to work independently on this project.

The exploration of the weekly topics should commence by working through the asynchronous online lectures as these are necessary to provide the Foundation learning material for the topic. We recommend these are done on the 1st Monday of the week, or at least prior to the lab classes (Tuesday and/or Thursday). Laboratory classes provide Anatomy and/or Physiology demonstrations and experiments to help further investigate the topic of the week. The tutorial on the following Monday will provide tasks to re-iterate the previous week's content in a clinical / health context. The seminar on the following Wednesday provides a chance to go over or extend any key concepts.

The Moodle course is the primary means of conveying learning activity schedules and announcements for the course, and students are expected to regularly check the information on Moodle and to have read any announcements. Students are strongly encouraged to post queries via Moodle Forums and staff are requested to prioritize responding to Moodle Forum questions.

If you wish to contact the course convenors or staff, you can do so by e-mail, using the details provided in section 1 of this document and on the course Moodle page. We are committed to providing the best experience and outcome for all students and will therefore endeavour to respond to e-mails as soon as possible, but please consider the following:

- Standard work hours are Monday to Friday from 8:30 am to 5:30 pm. E-mail correspondence received outside of this time may be dealt with from the next working day.
- Staff will prioritize responding to Moodle queries above emails, and may direct students in emails to the appropriate Moodle forum.
- All staff and students have busy schedules and multiple commitments, so while staff will endeavour to answer e-mail correspondence as quickly as possible, please apply appropriate expectations in this regard (i.e., within 48 hours and on a workday).
- All digital correspondence, including e-mail, Teams messages, and messages on Moodle forums should be respectful, courteous, and polite.

To help us improve the course, please consider providing us with feedback by acting as a student liaison, and/or by completing MyExperience and any other surveys during the term.

4. Course schedule and structure

This course consists of 69 hours of class activities (lectures, tutes, pracs, seminars) and an expected additional 20 hours (outside class) for set assessments, class preparation & the Group Project.

Week & Theme	Lecture Topics	Activity	Related CLO
Week 1 Principles & Body & Cell Overview	Principles of Anatomy: Body Organisation & Terminology Principles of Physiology: Cells and Cell Transport	Tutorial: Group Project, A&P in practice, Body Systems Anatomy Lab: Ethics & Basic Body Plan Seminar: Core Concepts Physiology Lab: Cell Homeostasis Progress Quiz 1 released	1,2,3,4,5
Week 2 Integumentary & Skeletal Systems	Bones & Joint Structure Skin Functions & Sweating	Tutorial: Homeostasis Anatomy Lab: Bones and Joints Seminar: week 1 conclusion Progress Quiz 2 released	1,2,3,4
Week 3 Muscle and peripheral nerves	Limb Nerves & Muscles Nerve Action Potentials	<i>(Public Holiday – Monday – no tutorial)</i> Anatomy Lab: Limb Muscles and Movement Seminar: week 2 conclusion	2,3,4
Week 4 Muscle	Head & Trunk Nerves & Muscles Muscle Contraction: Skeletal, Smooth & Cardiac	Tutorial: fractures & recovery Physiology Lab: Human Nerve & Muscle, EMG Seminar: week 3 conclusion Progress Quiz 3 released	2,3,4
Week 5 Nervous System	Organisation, Brain, Meninges, Ventricles Circuits, Synapses & Plasticity	Tutorial: Muscle Weakness Anatomy & Phys Lab Revision (optional) Seminar: week 4 conclusion Mid-Term Prac Exam	2,3,4
Week 7 Nervous System	Spinal cord, spinal nerves & ANS, Motor Control & Sensory Processing	Tutorial: Brain Wiring & Re-wiring Anatomy Lab: Nervous System Seminar: week 5 conclusion Group Project Session	2,3,4,5

		Mid-Term Prac Exam Progress Quiz 4 released	
Week 8 Special Senses	Sensory Systems: Eye & Ear Sensory Systems: Touch & Pain	Tutorial: Dementia & Parkinson's Anatomy Lab: Eye & Ear Seminar: week 7 conclusion Physiology Lab: Sensory Physiology Progress Quiz 5 released	2,3,4
Week 9 Endocrine 1	Cell Communication, hormones, receptors & signalling Histology of Exocrine & Endocrine glands	Tutorial: Pain & Chronic Pain Anatomy Lab: Endocrine Organ Anatomy Seminar: week 8 conclusion Physiology Lab: Thyroid Physiology Progress Quiz 6 released	2,3,4
Week 10 Endocrine	Hypothalamus-Pituitary and associated Endocrine Organs Glucose and Ca ²⁺ homeostasis	Tutorial: You are what you eat Anatomy & Phys Lab Revision (optional) Seminar: week 9 & 10 review End-Term Prac Exam	2,3,4

Exam Period: 11 Aug – 24 Aug 2023; Supplementary Exam Period: 4 Sep – 8 Sep 2023

5. Assessment

5.1 Assessment tasks

Assessment task	Length	Weight	Mark	Due date and time
Assessment 1: Continuous Assessment	6 Progress Quizzes	30%	Each quiz marked out of 10; Total of 60 marks	Wednesday midday, weeks 2,3,5,8,9 & 10
Assessment 2: Group Project	Video, 5 mins Self and Peer Evaluation	20%	Video, 100 marks, scaled to 15% Teamwork, Peer Evaluation and Reflection,, 30 marks, scaled to 5%	Video: Monday 9am, week 7 Teamwork, Peer Evaluation and Reflection, Friday 5pm week 8.
Assessment 3: Integrated Practical Assessment	1 hour x 2	30%	50 marks each to give 100 marks	Allocated Thursday Practical Class in Weeks 5 and 10
Assessment 4: End of Course Examination	2 hours	20%	100 marks	Exam period: 11 – 24 Aug

Assessment 1: Continuous Assessment / Progress quizzes.

This is a continuous assessment quiz released at the end of each module. The aim of this assessment is to ensure students attain an understanding of the content in each module and to identify any

concepts for remediation. The quizzes will be available online via the course Moodle site. The questions will be multiple choice, short calculations, fill in the blanks, or drag-and-drop type questions. Quizzes will generally be released on the Thursday evening at the end of each module and will be available until the Wednesday of the following week. Exact times are given on Moodle. It is a timed quiz but with multiple attempts possible, although marks and feedback not shown until after the submission date.

Assessment 2: Group Project.

In this collaborative project, you will work in teams to integrate anatomy and physiology concepts across at least two body systems. You will then apply this integrated understanding to explain one health condition of your choice. The final submission will be a short video. The task is scaffolded, with support from the academic staff in class and through the discussion forum.

The group project will require students to work in allocated teams (of ~five or six students) to develop and produce a short (~5 minute) video presentation that describes the relationship between two different body systems is altered in a particular disease state. The video should describe how the structure and function of one body system is altered by the disease, and how this results in altered structure and function of another body system. Students will also peer evaluate other video presentations and their own contributions and those of their team members to effective teamwork. Students will also peer review other team's videos. Further details of the project and marking criteria and task stages are given in Moodle.

Assessment 3: Integrated Practical Assessment.

This is an integrated anatomy and physiology practical assessment that will be held in week 5 (assessing practical classes in weeks 1-4) and in week 10 (assessing practicals in weeks 7-9). Each assessment contributes equally to the total weighting (ie 15% each). This assessment aims to ensure students attain understanding of the learning objectives related to the practical classes. The exams are held in the scheduled practical class sessions and delivered as invigilated online quizzes consisting of multiple choice, short calculations, fill in the blanks, or drag-and-drop type questions.

Assessment 4: End of Course Examination.

This is a final examination that takes place during the term examination period. The task assesses the integration of theoretical and practical components of the course.

The end of course examination will be an online, open-book exam comprised of multiple choice, short calculations, fill in the blanks, or drag-and-drop type questions. An approved UNSW calculator may be required, further assessment details will be provided on Moodle. The questions will be based on the material covered in the lectures and tutorials throughout the course, although concepts related to practical classes may also be included. Material covered in the progress tests may be again examined in the final exam.

Further information

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

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

5.2 Assessment criteria and standards

Students are reminded that items submitted for assessment must be their own work, or the collaborative work of the team of which they are a member.

For the **collaborative assignment**, an assessment rubric is provided in Moodle that describes each of the assessment criteria and the standards of achievement for each criterion. The breakdown of marks for each of the assessment criteria is provided. When working in a team, all students are expected to contribute in an equitable manner to the learning activities.

For the **practical exams**, the purpose is to demonstrate your understanding of the key concepts and recall of the specific structures and how they relate to function. You may be asked to apply experimental concepts to solve simple related problems and correctly interpret experimental data similar to that done in the practical classes.

For the **progress tests** and the **end of session exam**, questions are designed to assess your understanding of the content, the application of the content to solve problems and your reasoning for the answer provided. Questions may have one or more correct answers within the options provided.

5.3 Submission of assessment tasks

Late Submission

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 day (including Saturday, Sunday and public holidays). For example, if an assessment task is worth 30 marks, then 1.5 marks will be lost per day (5% of 30) for each day it is late. So, if the grade earned is 24/30 and the task is two days late the student receives a grade of $24 - 3 \text{ marks} = 21 \text{ marks}$.

Late submission is capped at 5 days (120 hours). This means that a student cannot submit an assessment more than 5 days (120 hours) after the due date for that assessment.

Special Consideration

If you experience a short-term event beyond your control (exceptional circumstances) that impacts your performance in a particular assessment task, you can apply for Special Considerations.

You must apply for Special Consideration **before** the start of your exam or due date for your assessment, except where your circumstances of illness or misadventure stop you from doing so.

If your circumstances stop you from applying before your exam or assessment due date, you must **apply within 3 working days** of the assessment, or the period covered by your supporting documentation.

More information can be found on the [Special Consideration website](#).

5.4. Feedback on assessment

Continuous Assessments (Progress Quizzes)

Individualised feedback is provided at the end of the assessment time. Cohort feedback is provided and misconceptions will be addressed. Students will be able to access online activities to remediate any misconceptions or troublesome concepts. Students can request further explanation of concepts through forums or weekly seminars, and/or may be directed to online activities or reading to remediate any misconceptions or troublesome concepts.

Group Project

Formative feedback will be provided by peers and academic facilitators prior to final submission. Feedback on the final submission is provided by academic facilitators via a rubric and written

comments, along with marks for the project and teamwork and peer contributions. Students will be encouraged to self-reflect on their teamwork skills as part of the assessment task.

Integrated Practical Assessment

Individualised feedback is provided at the end of the assessment period. Cohort feedback is provided at the seminar concluding that topic where any common misconceptions can be addressed. Students can request further explanation of concepts through forums or weekly seminars, and/or may be directed to online activities or reading to remediate any misconceptions or troublesome concepts.

End of course examination

Cohort feedback is provided in the form of a post in the course learning management system, once the exam has been completed.

6. Academic integrity, referencing and plagiarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Specific referencing styles to use in the Group Project are provided on Moodle. 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>.

7. Readings and resources

Students will not be required to purchase any text book to support this course, and readings for different lectures and topics will be provided through the UNSW Leganto system, with links provided on Moodle for each topic and/or activity.

UNSW Library Reading Lists at Leganto

https://unsw.alma.exlibrisgroup.com/leganto/public/61UNSW_INST/lists/54069413780001731?auth=SAML

[We endeavour to provide readings available electronically through a library subscription or as a pdf of a small section of a textbook as permissible under Copyright. A list of available e-texts is also given on this Leganto site]

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

Recommended textbooks

If students do wish to purchase a personnel copy of a textbook we recommend the following (which we cannot purchase on an Institutional License):

TORTORA, GERARD J. & DERRICKSON, BRYAN H. & BURKETT (2021) Principles of anatomy and physiology (3rd Asia Pacific edition). JOHN WILEY. ISBN: 9780730392002

[3 electronic copies of the 2019 edition are held in the library and available via Leganto. A single print copy of the 2nd Ed (2020) is available for 4 hr loan and a print copy of the 3rd edition should arrive mid-June – details will be placed on Leganto. A personnel copy of this 3rd Edition has additional online resources and can be purchased through [Wiley Direct.](#)]

OR

CO, ELIZABETH M (2021) Anatomy & Physiology (1st Ed). CENGAGE. ISBN

[A single print copy is available for 4 hr loan – see Leganto. A personnel copy has additional online resources]

Moodle

All the learning resources for this course will be provided on Moodle. This will include specific reading lists for topics, lecture notes and recordings, a list of online resources, learning activities for the tutorials, notes for the laboratory classes, the course timetable and outline, and various supplementary articles. Announcements will be made via Moodle and it is the students' responsibility to regularly check this site.

8. Administrative matters

Student enquiries should be submitted via student portal <https://portal.insight.unsw.edu.au/web-forms/>

9. Additional support for students

- The Current Students Gateway: <https://student.unsw.edu.au/>
- Academic Skills and Support: <https://student.unsw.edu.au/academic-skills>
- *Student Wellbeing and Health* <https://www.student.unsw.edu.au/wellbeing>
- UNSW IT Service Centre: <https://www.myit.unsw.edu.au/services/students>
- *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>
- *Equitable Learning Services (Formerly Disability Support Unit)*: <https://student.unsw.edu.au/els>
- *Transitioning to Online Learning* <https://www.covid19studyonline.unsw.edu.au/>
- *Guide to Online Study* <https://student.unsw.edu.au/online-study>