



Faculty of Medicine & Health

School of Health Sciences

DEPARTMENT OF EXERCISE PHYSIOLOGY

HESC2501

Exercise Physiology

COURSE OUTLINE

TERM 3, 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 medicallsciences.med.unsw.edu.au)

HESC2501 Course Information

The focus of this course is on the physiological adaptations of the respiratory, cardiovascular, endocrine and musculoskeletal systems to acute and chronic exercise, building on knowledge and skills developed in Human Physiology A and concurrently developed in Human Physiology B. Specific adaptations to the different component of exercise (intensity, duration, type) will be presented. Skills and techniques used to monitor and analyse those adaptations will be developed throughout this course e.g. submaximal and maximal exercise tests, ECG, spirometry.

Credit Points: 6 UOC

Course Pre-requisites:

BIOC2181 Fundamentals of Biochemistry

PHSL2501 Human Physiology A

COURSE STAFF

Course Co-convenors:

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Available to help with problems with enrolment and scheduling, and the first point of contact for administrative problems.

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- Mr Balu Daniel d.balu@unsw.edu.au

OBJECTIVES OF THE COURSE

1. To encourage a comprehensive understanding of the human physiological response (energy utilisation, endocrine, cardiovascular, respiratory, musculoskeletal) to both acute and repeated bouts of exercise
2. To provide knowledge of measurement principles and techniques commonly utilised in exercise physiology
3. To provide confidence in performing basic measurements in exercise testing.

STUDENT ATTRIBUTES and LEARNING OUTCOMES

HESC2501 will develop those attributes that the Faculty of Medicine has identified as important for an Exercise Physiology Graduate to attain. These include skills, qualities, understanding and attitudes that promote lifelong learning that students should acquire during their university experience.

Graduate Attributes

- Develop a thorough understanding of the relationship between physical activity and health
- Attain competencies in conducting a broad range of exercise-based clinical tests and in delivering lifestyle change programs that use exercise for the primary prevention of disease and the management of chronic disease
- Attain skills and detailed clinical knowledge relevant to cardiopulmonary, metabolic, musculoskeletal and neuromuscular rehabilitation
- Develop advanced problem-solving skills and a capacity for critical thinking
- Develop an ability to engage in independent and reflective learning for the betterment of professional clinical practice
- Develop a broad range of communication skills and an ability to work as a member and a leader of a team, with respect for diversity and a high standard of ethical practice

This course will enable students to explore and gain further understanding of the response of the human body to physical activity with an emphasis of their application to real situations in the field of Exercise Physiology. This course provides the fundamental knowledge and promotes the development of skills which will work towards the realisation of the overall Bachelor of Exercise Physiology program objectives and skills of an Exercise Physiologist.

Learning Outcomes

On completion of this course students should be able to:

1. Describe and explain the transient changes in cardiovascular, respiratory and musculoskeletal systems and muscle metabolism (energy utilisation) in response to acute exercise (single session).
2. Describe the adaptations in cardiovascular, respiratory and musculoskeletal systems and muscle metabolism (energy utilisation) to exercise training.
3. Demonstrate technical competency in key exercise testing skills (e.g. heart rate and blood pressure measurement; the collection of blood by finger prick for the analysis of lactate).
4. Communicate effectively (oral) in simulated clinical exercise testing scenarios.

5. Communicate effectively (written) to professionals through reports of scientific laboratory experiments.

COURSE STRUCTURE and TEACHING STRATEGIES

Learning activities involve:

- Lectures: Online pre-recorded mini-lectures (iSpring)
- Tutorials: TUES 11-12pm, 12-1pm, 3-4pm (Online via Blackboard Collaborate)
- Labs: Wk 1-5: online; Wk7-10: In lab (Ex Phys lab or Rm120) (see schedule at back)
- Lecture Support session: MON 9-10am (Online via Blackboard Collaborate)
- Supplementary Online content: pre-tutorial/lab activities (videos, quizzes)

Students are expected to attend all scheduled activities for their full duration. 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 are approximately 75 hours throughout the term and students are expected (and strongly recommended) to do at least the same number of hours of additional study.

COVID CONSIDERATIONS 2021

HESC2501 is a practical-focused course, with 9 small-group labs and a practical assessment (OSCE). Learning Outcomes 3 & 4 are practical-based (show skills proficiency; oral communication during these skills) and must be achieved before progressing to 3rd year of the degree. Labs will be online until face-to-face sessions are allowed. Face-to-face sessions will be required in preparation for the practical assessment and to meet the learning outcomes of this course. If F2F sessions are not possible during this term, we will need to conduct these sessions and the practical assessment once possible prior to starting 3rd year of the degree, especially HESC3541 in T1. More information will be provided once available during term.

Lectures will be online pre-recorded mini-lectures (using iSpring; ~30min long). These will be asynchronous (you can watch them at any time), with a 1hr real-time 'support session' webinar each week used to ask questions about the course content.

Tutorials are live online this year. You will attend a 1hr tutorial each week designed to outline data collection and interpretation in the lab that week.

RATIONALE FOR THE INCLUSION OF CONTENT AND TEACHING APPROACH

How the course relates to the Exercise Physiology profession

The content allows students to develop a fundamental knowledge of the human physiological response to physical activity. This forms the basis upon which further knowledge and skills enable an Exercise Physiologist to deliver lifestyle programs that use exercise with an aim of promoting disease prevention and rehabilitation of chronic disease. This course also enables students to develop the skills of communication and critical thinking. It reflects the position of the course convenor that their practice within the field will require these skills for ongoing development.

How the course relates to other courses in the Exercise Physiology program

The course will build upon material presented in earlier courses in the program - Introductory Exercise Science (HESC1501), Exercise Programs and Behaviour (HESC1511) and Human Physiology A (PHSL2501). The skills and knowledge developed in this course will provide a strong base in exercise physiology essential for the clinically oriented courses offered in third stage such as Advanced Exercise Science (HESC3501), Physical Activity and Health (HESC3504) and Clinical Exercise Physiology (HESC3541).

APPROACH TO LEARNING AND TEACHING

The learning and teaching philosophy underpinning this course is centred on student learning and aims to create an environment which interests and challenges students. The teaching is designed to be engaging and relevant in order to prepare students for future careers.

Lectures – Online. This will involve mini-lectures using iSpring. The mini-lectures will aim to be ~30min long involving slides with audio voice-over and regular short quizzes to aid in reinforcing key concepts. A 1hr webinar session with a lecturer will be held each week (MON 9-10am) to ask questions about the content covered the previous week and the upcoming week.

Tutorials – Online. This format provides a more informal learning environment than a lecture. Sessions will be structured via worksheets to encourage your participation in activities and discussions designed to enhance your learning. Tutorials will relate to the lectures, online content and labs. Attendance at ALL tutorials is compulsory and attendance will be marked.

Laboratories – Online (wks 1-5) and (tentatively) F2F (wks 7-10). Labs are designed to help you to develop technical skills that will be relevant in your professional career, and to apply experiments to demonstrate and reinforce key theoretical concepts that have been covered in lectures. These are **small-group** labs (~12 students per lab). Lab notes will be available to download from Moodle prior to each lab and a pre-lab video is also available for most labs. Students are required to bring a copy of the lab notes and expected to have read the lab notes prior to the lab. Attendance at ALL labs is compulsory and attendance will be marked.

Lab expectations: Students are expected to behave in an ethical, socially responsible and professional manner within the laboratory class. Punctual arrival is expected as important information including safety precautions are discussed at the beginning of each class and late students will be refused entry and marked as absent. Turn-off mobile phones before entering (mobile phones are not to be used or answered during the class). The use of computers for work not related to the current laboratory is not permitted in class. Eating is not permitted; however, students may bring water.

All students must come prepared for active participation wearing clothing which is suitable for exercise (e.g., shorts or track pants, T-shirt or light sweater, and running shoes). Enclosed footwear is compulsory. Students who are not dressed appropriately for the lab (e.g., open footwear) or do not have a legitimate reason for not participating (e.g., medical complaint or injury) will be refused entry to the class and will then be marked absent.

Students must take care with biological and hazardous material and leave all equipment clean and functional. Students who do not adhere to these basic laboratory rules will be marked absent.

Online supplements: There are pre-tutorial/lab activities to complete via Moodle each week. These will be made available online for you to listen to in your own time before the lecture or tutorial/lab. There are also post-lab quizzes to reinforce concepts covered in the lab.

Independent study – There is insufficient time in the lectures, tutorials and labs 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 will be cited in each lecture. Lectures are only a summary of the concepts and theory essential for meeting the course objectives and student learning outcomes outlined above. In order to do well in this course, it is essential that students make use of other resources, such as the recommended and additional textbooks (see below in TEXTBOOKS AND OTHER RESOURCES section) and Web-based resources.

Assessments – These tasks have been chosen as tools to enhance and guide your learning as well as a way of measuring performance and are therefore central teaching strategy in this course.

ASSESSMENTS

Summary of Assessments	% Total Marks	Due Date	Learning Outcomes
TASK 1 – QUIZZES	10%	Every 2 nd week	1,2
TASK 2 – LABORATORY ASSIGNMENTS	25%		
a) Written tasks - preparation	(7%)	Weeks 1-4	1,5
b) Lab Report	(18%)	Week 7	
TASK 3 – FINAL EXAM	35%	Exam period	1,2
TASK 4 – OSCE	30%	Exam period	3,4

ASSESSMENT TASK 1 - QUIZZES

There will be 5 online quizzes. Completing each online activity within the timeframe nominated will earn 2% of the course grade, for a total of 10% for completing all tasks. Marks are awarded once you have attained at least 90% correct on each quiz. Each quiz will comprise of 20 questions, meaning you need at least 18 correct answers to earn the 2% grade. There are no part marks. You may attempt each quiz multiple times within the allotted period to reach the 90% threshold, though each attempt may have different questions. The online activities are designed to reinforce concepts and skills covered in the lectures. You should complete these quizzes independently.

ASSESSMENT TASK 2 - LABORATORY ASSIGNMENTS

There are 2 parts:

- 1) Written tasks in preparation for writing a lab report (7%)
- 2) Lab report (18%)

The goal of the laboratory report is to enable and consolidate learning by 'doing'. Assessing this learning can enhance conceptual understanding of the theory-practice relationship and develop higher level reasoning skills.

The written tasks will be completed during Labs 1-4. This is worth 7% overall. The tasks are designed to prepare you for writing the full lab report in a similar style of Exercise Physiology journal articles.

The Lab Report is worth 18%. Data will be provided to you. You will analyse the data and write it up journal-article style. This assignment is due in week 7 via MOODLE (TurnItIn). The Lab report will be marked according to the marking criteria detailed in Table 1.

Referencing for the laboratory report

Referencing is a process that identifies the sources of information used in your assignment. Some of the main purposes of referencing are: to justify/support the position you take in your assignment, to show the arguments put forward by different writers, and to allow the reader to locate the sources used. Further information can be found at <http://www.apastyle.org>

Penalty for Late Submission of Assignment

In cases where an extension has not been granted, the following penalties will apply: For the lab report assignment submitted after the due time, a penalty of 50% of the maximum marks available for that assignment will be incurred. Lab reports received more than 48 hours after the due time will not be allocated a mark, however it must still be submitted to pass the unit.

ASSESSMENT TASK 3 - END OF SESSION EXAM

The END OF SESSION EXAM is a written exam comprised of multiple choice and short answer questions, and analytical interpretation of typical experimental situations. It will be held during the examination period following the end of term, and will cover ALL lecture (including online), tutorial and laboratory content from the ENTIRE term.

ASSESSMENT TASK 4 - OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)

The OSCE will be held during the exam period. It will assess your ability to perform various practical skills commonly applied in clinical exercise physiology. The assessment environment will mimic real-life practice.

Marking Criteria

EACH student will be required to perform a range of skills (listed in the table below), under the supervision of an examiner. Broadly, the assessment covers three categories:

- (1) communication skills
 - a. effectively communicate verbally to the client
 - b. establish a good rapport with the client
 - c. explain testing procedures to a client and check their understanding

- d. explain the results to the client in a manner that the client can understand
- (2) exercise physiology competency
 - a. conduct test / assessments using protocols taught in this course and identify criteria for test completion or test termination
 - b. execute a test / assessment by performing the tasks in a logical sequence
 - c. monitor the client throughout the test / assessment, ensuring client safety
- (3) technical skill
 - a. correctly use all equipment required in testing
 - b. correctly set up a client for testing

The exam will be divided into 7 stations that cover the practical skills learnt during the laboratories (e.g. heart rate and blood pressure at rest and during exercise, blood lactate, ECG, exercise testing - anaerobic, submaximal and maximal tests).

Final exam period: 26 November to 9 December 2021
Supplementary exam period: 10 January to 14 January 2022

Table 1: Marking criteria for Lab Report

Assignment Marking Criteria	Not satisfactory	Developing (Not Yet Competent)	Competent	Good	Advanced
	0%	25%	50%	75%	100%
Introduction (20 marks) <ul style="list-style-type: none"> Explain the key concepts being studied, with regard to the relevant underlying physiology. (8) Review the relevant literature – detail findings from directly relevant previous research on the topic, and from credible scientific journals. (8) State the aim and hypotheses of the lab. (4) 	<ul style="list-style-type: none"> Unable to explain any concepts relevant to the lab. Unable to review any literature. Unable to state an aim and hypotheses. 	<ul style="list-style-type: none"> Inadequate explanation of the key concepts relevant to the lab. Inadequate review of some relevant research, or provided largely irrelevant references. Unclear aim and hypotheses were stated. 	<ul style="list-style-type: none"> Basic explanation of the key concepts relevant to the lab. Basic review of some relevant research. Basic aim and hypotheses were stated. 	<ul style="list-style-type: none"> Explained key concepts relevant to the lab. Good review of relevant research. Clear aim and plausible hypotheses were stated. 	<ul style="list-style-type: none"> Clear, concise, and focused explanation of all key concepts relevant to the lab. Clear, concise, comprehensive and focused review of relevant research. Clear, concise, and focused aim and hypotheses were stated.
Methods (12 marks) <ul style="list-style-type: none"> Procedures explained in adequate detail to enable replication of the entire task by an independent researcher, and are written scientifically (not copied from the lab manual). (8) Inclusion of participant characteristics. (2) Inclusion of statistical methodology. (2) 	<ul style="list-style-type: none"> Unable to write procedures, or did not paraphrase the lab notes. No/incorrect participant characteristics No/incorrect statistical methodology stated 	<ul style="list-style-type: none"> Inadequate procedural steps or lacking key detail to enable task replication, or largely inadequate paraphrasing. Some irrelevant, incorrect and/or missing key information. inadequate participant characteristics were stated inadequate statistical methodology stated 	<ul style="list-style-type: none"> Basic procedural steps or lacking some detail to enable task replication. Mostly relevant and correct information included. basic participant characteristics were stated basic statistical methodology stated 	<ul style="list-style-type: none"> Clear procedural steps that would enable task replication. Relevant and correct information included. Good participant characteristics were stated Good statistical methodology stated 	<ul style="list-style-type: none"> Clear, concise, comprehensive and focused detail of the procedural steps that would enable task replication. Relevant, concise and correct information included. Clear, concise participant characteristics were stated Clear, concise statistical methodology stated
Results (24 marks) <ul style="list-style-type: none"> Summarize the key data in text (i.e. describe the data prior to use in the tables / figures). (8) Correct reporting of statistics used. (4) Present the key data /results – data is relevant, correct and appropriately presented (e.g. in tables / figures). (12) 	<ul style="list-style-type: none"> Unable to summarize any data. Irrelevant and/or incorrect data and/or unable to present data in tables / figures. No/incorrect statistics presented 	<ul style="list-style-type: none"> Inadequate, overly-brief or inconsistent summary of the key data. Some irrelevant and/or incorrect data or missing key data, and/or presented in inadequate tables / figures. No/incorrect statistics used to present the data 	<ul style="list-style-type: none"> Basic summary of the key data. Mostly relevant and correct data presented in basic tables / figures (including labelling). Basic statistics used to summarize the data 	<ul style="list-style-type: none"> Clear summary of the key data. Relevant and correct key data presented in good tables / figures. Good use of statistics to summarize the data 	<ul style="list-style-type: none"> Clear, concise and focused summary of the key data. Relevant and correct key data presented in well-designed tables / figures. Excellent use of statistics to summarize the data.
Discussion & Conclusion (26 marks) <ul style="list-style-type: none"> States the key findings (expected and/or unexpected) from the data. (4) Explains and 'makes sense' of the findings for the reader, with regard to the relevant underlying physiology. (8) Compares findings to previous research / group data (e.g. from the Introduction). (8) Implication(s) of the findings (e.g. for science or clinical applications). (2) Final statement (Conclusion) summarizing the study and the major finding(s). (4) 	<ul style="list-style-type: none"> Unable to identify any findings from the data. Unable to explain & 'make sense' of the key findings. Unable to compare own findings to previous literature and group data. Unable to discuss any implication of the findings Unable to provide a conclusion 	<ul style="list-style-type: none"> Inadequate statement of findings (expected or unexpected) from the data. Inadequate explanation which did not clearly 'make sense' of the findings. Unable to compare own findings to previous literature and group data. Inadequate discussion of the implication of the findings. Inadequate or unclear conclusion 	<ul style="list-style-type: none"> Basic statements of key findings (expected or unexpected) from the data. Basic explanations with limited interpretation to 'make sense' of the key findings. Basic comparison of own findings to previous literature and group data. Basic discussion of the implication of the findings. Basic conclusion 	<ul style="list-style-type: none"> Clear statements of key findings (expected or unexpected) from the data. Clear explanations with interpretation to 'make sense' of the key findings, being critical of own methodology. Clear comparison of own findings to previous literature and group data. Clear discussion of the implication of the findings. Clear conclusion. 	<ul style="list-style-type: none"> Clear, concise and focused statements of key findings (expected or unexpected) from the data. Clear, concise, comprehensive and focused explanations with in-depth interpretation to 'make sense' of the key findings, being critical of own methodology. Clear, concise and focused comparison of own findings to previous literature and group data. Clear, concise and focused discussion of the implication of the findings. Clear, concise and focused conclusion.
Other (Referencing, Language and Presentation) (18 marks) <ul style="list-style-type: none"> Appropriate Reference section (APA format) & referencing of statements in the body of the report. (9) Overall presentation, writing quality and attention-to-detail e.g. correct grammar, spelling and punctuation, consistency in presentation (line spacing, paragraphing etc.), correct units and use of past tense. (9) 	<ul style="list-style-type: none"> Unable to reference, either within text or a Reference section. Extremely poor overall presentation, writing quality and attention-to-detail. 	<ul style="list-style-type: none"> Inadequate referencing, either within text or in the Reference section. Inadequate overall presentation, writing quality or attention-to-detail. 	<ul style="list-style-type: none"> Some appropriate and correct referencing within text and in the Reference section. Basic overall presentation, writing quality and attention-to-detail. 	<ul style="list-style-type: none"> Mostly appropriate and correct referencing, both within text and in the Reference section. Good overall presentation, writing quality and attention-to-detail. 	<ul style="list-style-type: none"> Completely appropriate and correct referencing, both within text and in Reference section. Advanced-level overall presentation, writing quality and attention-to-detail.

TEXTBOOKS AND OTHER RESOURCES

Moodle

Information about the course as well as lecture, tutorial and lab notes can be accessed via the UNSW Moodle system from the following site:

<https://moodle.telt.unsw.edu.au/login/index.php>

You can use Moodle to download lecture notes, access your grades, find reference material in the course (such as this document), and communicate with the lecturer and your peers. Please see the lecturer if you would like more information to help you to make the most of this resource.

UNSW Library

The University Library provides a range of services to assist students in understanding how to identify what information is required for assignments and projects; how to find the right information to support academic activities; and how to use the right information most effectively. <https://www.library.unsw.edu.au/study/information-resources>

Suggested Reference Books

McArdle W., Katch F., Katch VL. (2014). Exercise Physiology. Nutrition, Energy and Human Performance. (8th edition) Lippincott, Williams and Wilkins. Philadelphia, USA.

Lecture Readings

- Biochemistry & Nutrition – chapters 1-11
- Cardiovascular & Respiratory – chapters 12-17
- Muscle function and exercise training – chapters 18, 21-23
- Exercise considerations – chapters 24-25, 31

Coombes, J. & Skinner, T. (2021). ESSA's Student Manual for Health, Exercise and Sport Assessment. (2nd edition) Elsevier. Sydney, Australia.

This text will be useful for many lab sessions conducted throughout the Exercise Physiology degree and is also available in the UNSW library.

Other Suggested Reference textbooks

- Kenney WL, Wilmore JH, & Costill DL. (2019). Physiology of Sport and Exercise. 7th ed. Human Kinetics, Champaign.IL., USA.
- American College of Sport Medicine. (2017). ACSM's health-related physical fitness assessment manual. 5th ed. Lippincott, Williams and Wilkins, Philadelphia, USA.
- American College of Sport Medicine. (2017). ACSM guidelines for exercise testing and prescription. 10th ed. Lippincott, Williams and Wilkins, Philadelphia, USA.
- Bourke L & Deakin V. (2015). Clinical Sports Nutrition. 5th ed. WCB/McGraw-Hill, Boston, USA.
- Hampton JR. (2013). The ECG made easy. 8th ed. Churchill Livingstone, Edinburgh, UK.
- Powers SK & Howley ET. (2017). Exercise Physiology. 10th ed. WCB/McGraw-Hill, Boston, USA.

We will also provide a variety of Recommended Readings and Videos on Moodle as supplements to selected lectures.

UNSW Academic Skills Support

The Academic Skills Support offers support to all students across all years of study enrolled at UNSW. This includes assistance to improve writing skills and approaches to teamwork. See <https://student.unsw.edu.au/skills>

COURSE EVALUATION AND DEVELOPMENT

Each year feedback is sought from students about the course and continual improvements are made based on this feedback. We will use myExperience to seek student feedback and use the feedback to make significant changes to the course for subsequent cohorts of students.

Based on the feedback received in recent years we have:

- Added more small group labs, replacing large group labs.
- Decreased the number of face-to-face lectures and added weekly tutorials. The tutorials are designed to provide information for the labs (e.g. data interpretation) and to consolidate knowledge from the lectures.
- Added more online content that will predominantly help with providing more structure and guidance for the labs and lab reports. The labs have also been improved to provide students with more structure.
- Moved the OSCE exam from the final teaching weeks to the exam period.
- Added online quizzes as assessments, replacing the mid-term exam.

GENERAL INFORMATION

Official Communication

All communication will be via your official UNSW email, please see [Advice for Student-Official Communication](#) for more details.

Academic Integrity and Plagiarism

Plagiarism is using the words or ideas of others and presenting them as your own. Plagiarism is a type of intellectual theft and is regarded by the university as academic misconduct. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. The University has adopted an educative approach to plagiarism and has developed a range of resources to support students.

The [UNSW Student Code](#) outlines the standard of conduct expected of students with respect to their academic integrity and plagiarism. More details of what constitutes plagiarism can be found [here](#)

Attendance Requirements

Attendance is compulsory at all tutorials, labs, and examinations for this course. Attendance at all labs will be recorded. Students who do not participate in these sessions for any reason other than medical or misadventure, will be marked absent and may be awarded a grade of

FAIL for the entire course. If absent for medical reasons, a medical certificate must be lodged with the lecturer within 7 days of the time period of the certificate's expiry. No consideration will be given after this time except for truly exceptional circumstances. Arrival more than 15 minutes after the start of the class will be recorded as non-attendance. Although lecture recordings will be available, student participation is encouraged in the lectures and these are important to attend.

For additional details on the UNSW Policy on Class Attendance and Absence see [Policy on Class Attendance and Absence](#).

Special Consideration

Please see [UNSW-Special Consideration](#)

If you believe that your performance in a course, either during session or in an examination, has been adversely affected by sickness, misadventure, or other circumstances beyond your control, you can apply for special consideration online.

If your request for consideration is granted an alternative assessment will be organised which may take the form of a supplementary exam, increased weighting of the final exam, or an oral element. You cannot assume you will be granted supplementary assessment.

For the UNSW assessment information and policy, see:

<https://my.unsw.edu.au/student/academiclife/assessment/AssessmentPolicyNew.html>

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

Health and Safety

Class activities must comply with the NSW *Work Health and Safety Act 2011*, the *Work Health and Safety Regulation 2017*, and other relevant legislation and industry standards. It is expected that students will conduct themselves in an appropriate and responsible manner in order not to breach HS regulations and ensure a safe work/study environment for themselves and others. Further information on relevant HS policies and expectations is outlined at: www.safety.unsw.edu.au

Student Conduct

All students must accept their shared responsibility for maintaining a safe, harmonious and tolerant University environment. For further information see www.student.unsw.edu.au/conduct

Student Equity and Diversity Issues

Students requiring assistance are encouraged to discuss their needs with the course convenor prior, or at the commencement of the course, or with staff in the Equitable Learning Services (<https://student.unsw.edu.au/els>).

Student Support Services

Details of the available student support services can be found at [Student Support and Success](#).

Details of counselling support services can be found at [Counselling and Psychological Services](#).

Appeal Procedures

Details can be found at [Student Complaints and Appeals](#)

Course schedule HESC2501 2021

Wk	Date	Lecture Snacks Online pre-recorded mini-lectures (* denotes compulsory viewing before the Tuesday tutorial)	Lecture Support MON 9-10am ONLINE live weekly	Tutorial TUES 11-12,12-1,3-4 ONLINE live weekly	Lab Wk 1-5: 1hr online WED 1-2, THURS 3-4, Fri 1-2, FRI 3-4 (JT) Wk 7-10: 3hr lab WED 12-3 (AK,ML) THURS 3-6 (AK,ML) FRI 12-3, 3-6 (AK) (ExPhys lab Rm110 / Rm120)	Assessments
1	13 Sept	1.1: Course Introduction JT, AK 1.2: Cardiovascular function review AK 1.3: Cardiovascular function (acute exercise) AK 1.4: Cardiovascular function (chronic exercise) AK 1.5: Aerobic exercise – theory JT * 1.6: Aerobic fitness assessment – sub-max JT *	Lecture Support 1	TUT 1: Aerobic fitness assessment – sub-max + Lab Report JT	Lab Report Support (online 1hr)	Lab report prep (due Tues 21 Sept 9am)
2	20 Sept	2.1: Energy metabolism review CM 2.2: Energy metabolism (acute exercise) CM 2.3: Aerobic fitness assessment – VO ₂ max JT *	Lecture Support 2	TUT 2: VO ₂ max testing AK	Lab Report Support (online 1hr)	Lab report prep (due Tues 28 Sept 9am) Quiz 1 (close Tues 28 Sept 5pm)
3	27 Sept	3.1: Neuromuscular physiology review JT 3.2: Resistance exercise (acute and chronic) JT 3.3: Muscle Fatigue JT 3.4: DOMS JT 3.5: Resistance Training Revision *	Lecture Support 3	TUT 3: Resistance exercise adaptations JT	Lab Report Support (online 1hr)	Lab report prep (due Tues 5 Oct 9am)
4	4 Oct	4.1: Respiratory physiology review JT 4.2: Respiratory function (acute / chronic exercise) JT 4.3: Lactate and Exercise JT *	Holiday	TUT 4: Lactate threshold testing JT	Lab Report Support (online 1hr)	Lab report prep (due Tues 12 Oct 9am) Quiz 2 (close Tues 12 Oct 5pm)

5	11 Oct	5.1: Nutrition – requirements of athletes ND * 5.2: Nutrition – optimising sports performance ND * 5.3: Ergogenic aids ND *	Lecture Support 5	TUT 5: Nutrition – optimising for sports performance JT/ND	Lab Report Support (online 1hr)	
6	18 Oct	Flexibility Week – No Teaching				Quiz 3 (close Tues 26 Oct 5pm) Lab Report (due Tues 26 Oct 9am)
7	25 Oct	7.1: Cardiac physiology review AK 7.2: ECG – Introduction AK * 7.3: ECG – Interpretation AK * 7.4: ECG – Major abnormalities AK *	Lecture Support 7	TUT 7: ECG AK	LAB 1: Aerobic fitness assessment – sub-max / VO ₂ max testing	
8	1 Nov	8.1: Anaerobic Exercise JT * 8.2: Exercise and gender JT	Lecture Support 8	TUT 8: Anaerobic capacity testing JT	LAB 2: ECG / Lactate threshold testing	Quiz 4 (close Tues 9 Nov 5pm)
9	8 Nov	9.1: Exercise Training AK * 9.2: Overtraining AK 9.3: Extreme Exercise AK 9.4: Detraining JT 9.5: Disuse JT	Lecture Support 9	TUT 9: Exercise Training / Lab Reports AK	LAB 3: Anaerobic capacity testing / Resistance exercise	
10	15 Nov	10.1: Exercise and the environment: altitude JT 10.2: Exercise and the environment: thermal stress JT 10.3: Exercise and children NvD 10.4: Exercise and elderly JT 10.5: Exercise in pregnancy NvD 10.6: Course Review	Lecture Support 10	TUT 10: OSCE AK	LAB 4: OSCE practice / Exercise Training	Quiz 5 (close Tues 23 Nov 5pm)

Lecturers and Demonstrators: A/Prof Jeanette Thom (JT), Dr Andrew Keech (AK), Dr Chris Maloney (CM), Nicole Dynan (ND), Nancy van Doorn (NvD), Meg Letton (ML)