



**UNSW**  
AUSTRALIA

Medical Sciences  
Medicine

## **Exercise Physiology Program**

# **HESC1501**

## **Introductory Exercise Science**

# Semester 1, 2016 Course Outline

CRICOS Provider Code 00098G

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Please read this 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](http://medicallsciences.med.unsw.edu.au) )

## Course Staff

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## Course details

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**Credit Points:** 6 UOC

### Course Description

This course presents an overview of the vocational activities within the allied health profession of Exercise Physiology. The sub-disciplines of exercise science (exercise physiology, biomechanics, motor control and exercise psychology) and related biomedical sciences are introduced through examining how the body responds to physical activity. This course includes a clinical practicum component in the university's Lifestyle Clinic.

### Aims of the Course

1. To introduce the sub-disciplines of exercise science: functional anatomy/biomechanics, motor control, exercise physiology, and exercise psychology
2. To introduce the profession of Exercise Physiology, and issues relating to professional conduct
3. To encourage a basic understanding of the relationship between physical activity and health across the lifespan
4. To initiate learning of practical skills in exercise testing

## **Student Learning Outcomes**

This term is used to describe what it is that you should be able to do, explain or understand if you have learned effectively in the course. For each lecture, tutorial, practical and assessment item, the expected learning outcomes will be explicitly stated. The assessment in the course will be matched as closely as possible to the stated learning outcomes - that is, the assessment will test how well you have achieved the learning outcomes of the course. The general learning outcomes for the course are as follows:

### **At the end of the course you should:**

- Have an understanding of the different sub-disciplines of exercise science and an appreciation of the interdisciplinary nature of exercise physiology
- Have an understanding of the basic process of human growth and development and ageing, and how these changes impact physical function
- Describe the role and responsibilities of exercise physiologists in the provision of health care
- Have begun to develop basic competencies in assessing fitness, including the heart rate and blood pressure response during a submaximal exercise test, field tests of aerobic capacity and simple assessments of muscle strength
- Be able to communicate effectively and concisely through written reports of scientific experiments or clinical experiences

## **Graduate Attributes**

- Understand the relationship between physical activity and health
- Engage in independent and reflective learning for the betterment of professional clinical practice, following an evidence-based approach
- Communicate effectively with patients, colleagues and other health professionals
- Display a respect for diversity and a high standard of ethical practice

## **Rationale for the inclusion of content and teaching approach**

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### **How the course relates to the Exercise Physiology profession**

This course introduces the scientific basis of the exercise physiology profession. It also includes a series of clinical site visits, and lectures from accredited exercise physiologists, to provide an introductory overview of the activities of exercise physiologists in the workplace.

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

Basic skills and knowledge introduced in this course will be further developed throughout the program, in particular in Exercise Programs and Behaviour (HESC1511), Biomechanics (BIOM2451), Exercise Physiology (HESC2501), Muscle and Motor Control (NEUR3101) and Physical Activity and Health (HESC3504). Interim courses in anatomy, physiology and biochemistry provide critical background on which to further your understanding.

## Course Resources

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See also [Learning Resources](#) on the SoMS website

### Textbook

Abernethy, B., Kippers, V., Hanrahan, S., Pandy, M., McManus, A., & Mackinnon, L. (2013). *The Biophysical Foundations of Human Movement*. 3rd edition. Human Kinetics. ISBN: 1450431658

UNSW Library call no. 612.044/62 H

#### **Relevant Textbook Chapters**

In this course, the textbook chapters are followed reasonably closely.

<i>Intro Lecture</i>	<i>Chapter 1</i>
<i>Lectures 1 &amp; 2</i>	<i>Chapters 3, 4, 5, 6 (Part II) (Functional Anatomy)</i>
<i>Lectures 3-5</i>	<i>Chapters 7-10 &amp; 17 (Part III) (Biomechanics)</i>
<i>Lectures 6, 7 &amp; 13</i>	<i>Chapters 15-18 (Part V) (Motor Control)</i>
<i>Lectures 8-12</i>	<i>Chapters 11-14 (Part IV) (Physiology)</i>
<i>Lectures 13- 18</i>	<i>Chapters 5, 9, 13, 17, 21 (Exercise across the lifespan)</i>
<i>Lectures 19, 21, 22</i>	<i>Chapters 19-22 (Part VI) (Exercise Psychology)</i>

### Suggested Reference Books/Articles

Coombes, J. & Skinner, T. (2014). *ESSA's Student Manual for Health, Exercise and Sport Assessment*. Elsevier.

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

Other articles will be included in notes from individual lecturers and/or in the Resources section on Moodle.

### Course Evaluation and Development

HESC1501 (Introductory Exercise Science) is the first course in the *Bachelor of Exercise Physiology*. Over the last few years, we have responded to student feedback by:

- including clinical sessions, which involves visiting the UNSW Medicine Lifestyle Clinic to observe AEPs in action,
- including regular lectures from practicing exercise physiologists (AEPs),
- introducing a new Exercise Physiology Virtual Lab (via Moodle) to provide the opportunity to practice laboratory or clinical skills (e.g. taking blood pressure) outside of class time.

Each of these initiatives is designed to enrich learning in this course and to engage students in the program. The increased clinical content has been well received by students.

Student feedback is welcome and taken seriously. A Course and Teaching Evaluation and Improvement (CATEI) survey will be available in the final weeks of the course to formally gather student feedback.

### Health and Safety

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Class activities must comply with the NSW Occupational Health & Safety Act 2000 and the Occupational Health & Safety (OHS) Regulations 2001. It is expected that students will conduct themselves in an appropriate and responsible manner in order not to breach OHS regulations and ensure a safe work/study environment for themselves and others. Further information on relevant OHS policies and expectations is outlined at: [www.safety.unsw.edu.au](http://www.safety.unsw.edu.au)

## Teaching Strategies

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**Lectures** – This approach is used to present relatively large amounts of information within a given time on specific topics throughout the course. PDF copies of the lecture notes will be available online (via Moodle) prior to or after each lecture, so you should be able to think about and develop an understanding of the lecture concepts as they are presented, rather than writing voluminous notes. However, there will be information and explanations presented in lectures in addition to those covered in the notes that you should take down if they help you to understand the material. The lecturer will also try to allow some time for interaction and activities in each lecture to provide you with an opportunity to clarify or reinforce the ideas that have been presented. You should take these opportunities to think about the information that has been presented and ask questions to enhance your understanding.

There are 21 lectures (each 1 hour) in this subject.

**Q&A session** – This session provides the opportunity to ask questions of final year students, academic staff and practicing AEPs. This is valuable in the early part of the program to help you confirm your interest in the field, to improve your understanding of progression through the program and to seek clarification about any areas of concern. The Q&A will be highly interactive and you are advised to come prepared with questions in mind. For example, you might like to ask questions about student experiences in the program, including such things as points of interest and tips for different stages in the program. You may also be interested to ask practicing AEPs about aspects of their professional work.

There is 1 Q&A session (1 hour).

**Laboratories** – The purpose of the practical components of the course are twofold. The first purpose is to help you to develop technical skills that will be relevant in your professional career. It is essential that you obtain some hands-on experience with the major clinical and/or research techniques in exercise testing before you begin your clinical practicum. These skills will be rehearsed and developed further during subsequent courses in the program. The second purpose is to use experiments to demonstrate and reinforce key theoretical concepts that have been covered in lectures. The questions contained in the practical outlines will guide your learning in this respect.

There are 5 lab sessions (each 2 hours) in this subject.

**Tutorial and Clinicals** – This format provides a more informal learning environment than a lecture. Sessions will be structured to encourage your participation in activities and discussions designed to enhance your learning. You will benefit most if you do preparation prior to attending the session. *The tutorial / clinicals in this course are conducted in the Lifestyle Clinic to provide early exposure to a clinical environment and exercise physiology practice. It is imperative that you adhere to the Lifestyle Clinic Code of Conduct (including the strict dress code) whilst in that clinical setting.*

*Note: the hours of attendance at the tutorial and clinical will contribute towards your accreditation as an Exercise Physiologist, gained on completion of the degree in accordance with the governing body - Exercise & Sport Science Australia (ESSA) - guidelines.*

There are 4 clinical sessions and 1 tutorial (each 2 hours) in this subject.

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

**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.

## Examination procedures and attendance requirements

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Attendance at all labs, tutorials and clinicals will be recorded and attendance is expected at each session. Students who do not participate in these sessions for any reason other than medical or misadventure, will be marked absent and will be awarded a grade of FAIL for the entire course. If absent for medical reasons, a medical certificate must be lodged with the convenor (by email) within 7 days of the time period of the

certificate's expiry. No consideration will be given after this time. Although lectures will be available on ECHO360, student participation is encouraged in the lectures and these are important to attend.

### Deferred Exams

If you miss an exam for medical reasons you must supply adequate documentation (including a medical certificate). Your request for consideration will then be assessed and a deferred exam may be granted. You cannot assume you will be granted supplementary assessment. It is intended that supplementary exams for School of Medical Sciences courses in Semester 1, 2016 will be held in the week commencing Monday 4th July, 2016.

## Assessment

Assessment of your learning in the course will be achieved through examinations, online tasks and two written reports. The examination format tests your ability to recall and communicate knowledge of the subject matter without outside resources and in a time-constrained context. These requirements are similar to those encountered when dealing with a client or patient in a face-to-face setting, or when communicating with other health professionals or researchers. The examinations will be designed to determine how well you have achieved the general learning outcomes outlined above, and the specific learning outcomes outlined in each lecture/practical/tutorial. The written reports will assess your ability to access and interpret scientific literature in the field of exercise science, and to communicate concisely in a written report based on: 1) a laboratory experiment and 2) clinical site visits. You will be required to perform similar tasks in many professional settings within exercise physiology practice or medical research. For example, you will refer to the scientific literature to inform clinical exercise prescription or present a scientific case for using a particular training method.

Summary of Assessments	Weight	Date
<i>ASSESSMENT TASK 1 – VIRTUAL LABS, ONLINE QUIZ &amp; CASE STUDY</i>	<b>5%</b> <b>(1.25% each task)</b>	Task 1: Monday 21 <sup>st</sup> March (9am) Task 2: Monday 2 <sup>nd</sup> May (9am) Task 3: Monday 9 <sup>th</sup> May (9am) Task 4: Monday 9 <sup>th</sup> May (9am)
<i>ASSESSMENT TASK 2 – SYNOPSIS LABORATORY REPORT</i>	<b>10%</b>	Tuesday 26 <sup>th</sup> April (9am)
<i>ASSESSMENT TASK 3 – MID-SEMESTER EXAMINATION</i>	Total: <b>20%</b> (Multiple choice: <b>10%</b> Short-answer: <b>10%</b> )	Wednesday 13 <sup>th</sup> April (during Lecture time)
<i>ASSESSMENT TASK 4 – CLINICAL EXPERIENCE REPORT</i>	<b>20%</b>	Monday 16 <sup>th</sup> May (9am)
<i>ASSESSMENT TASK 5 – ePORTFOLIO</i>	<b>5%</b>	5 Blog entries – refer to Moodle site for specific due dates for individual Clinicals
<i>ASSESSMENT TASK 6 – END OF SESSION EXAMINATION</i>	Total: <b>40%</b> (Multiple choice: <b>20%</b> Short-answer: <b>20%</b> )	Exam period

### Submission of Assessment Tasks

Assignments are to be submitted electronically through Turnitin via Moodle.

### Penalties for late submission of assignments

In cases where an extension has NOT been granted, the following penalties will apply: For assignments submitted after **9:00am** on the due date, a penalty of 50% of the maximum marks available for that

assignment will be incurred. A further 25% of the maximum possible allocated marks (i.e. a total of 75%) will be deducted from assignments which are two (2) days late. Assignments received more than two (2) days after the due date **will not be allocated a mark**, however, these assignments **must** still be submitted to pass the unit.

### **Assessment Task 1 – Virtual Labs, Online Quizzes and Case Study (5%)**

There will be 4 online activities: 2 virtual tasks, a quiz and an online case study tutorial. Completing each online activity will earn 1.25% of the course grade, for a total of 5% for completing all tasks. Marks are awarded simply for attempting each task. The online activities are designed to reinforce concepts and skills covered during the physical laboratory and clinical classes. You should complete these tasks independently. Of course, you may choose to do this as a group and not test your own individual understanding of the material, but you will get the same marks either way. A voluntary online quiz will also be available to complete online at the end of semester to provide you with feedback on your understanding of the course material – it won't be graded.

### **Assessment Task 2 – Synopsis Laboratory Report (10%)**

You are to independently **summarise the purpose, methods, results and conclusions** from the laboratory conducted in week 6 (i.e. Lab 2 – Reaction time and motor learning). You are required to include with this summary a reference to a relevant journal article. Precise instructions for the format and content of this written report are included in the following pages. **THE FORMATTING INSTRUCTIONS MUST BE STRICTLY ADHERED TO.** Pay close attention to the formatting and marking criteria (below) when writing this assignment.

A key purpose of this assessment task is to provide students with feedback on written work early in the course and early in your university studies. You will have the opportunity to improve on the basis of this feedback in the subsequent assessment tasks.

#### **Learning Outcomes for the *Synopsis Laboratory Report***

- To develop and refine the skills to concisely and clearly explain the purpose, methods, results and conclusions from a scientific laboratory class in the form of a written report
- To reference a scientific journal article of relevance to the experiment
- To develop your ability to communicate effectively in the format of a written report and to adhere to specified formatting guidelines

#### *Synopsis Laboratory Report – Required Format*

**The synopsis laboratory report should have a title in Arial 11 point bold font (15 words max).**

surname, given name (z3333333)

The body of the report should be formatted in Arial 11 point normal font and must not exceed 400 words. This section should be 1.5 line spaced. Use bold type sub-headings (e.g. **Methods**) to clearly indicate your purpose, methods, results and conclusions sections.

Aim for a clear, concise and focused writing style. Please avoid a tendency of many university students (and some scientists) to be overly verbose - writing things in overly grand terms. Also appreciate that scientific reports do not require excessively complicated writing. Certainly, precise expression of detail is often important, but if details are expressed in easy to understand language then critical details will be conveyed more clearly.

Introduce the aims and purpose of the experiment in 2-3 sentences. Set the context for your reader – why you did the study and what you expected to find (hypothesis).

In the methods, summarise the key procedures you completed. Be concise and stick to the relevant details. For example, “the subject exercised on a stationary, friction-braked bike”, as opposed to “the subject exercised on a bike”.

Your selection of the key results is important. Describe the key data clearly to your reader. You can show a table or figure if you feel it will help. Use the appropriate S.I. units when reporting results and do not feel compelled to list every data value you collected; stick to the key results.

Finish by outlining the key findings to your reader. Relate your findings to those detailed in a similar published study (reference) – were they similar or very different findings, and theorise why (critical analysis). The scientific journal article needs to be acknowledged in the text e.g. (Jones & Smith, 1990), and also with

the full citation detailed in the Reference section at the end of your report (see below). You need to reference only 1 article, but search widely (PubMed, Google Scholar etc.) to find one with clear, direct relevance to the lab. Avoid directly quoting from the article. Plagiarism issues aside (it is acceptable to quote directly if the quoted passage is clearly identified as such, but not acceptable if there is a failure to acknowledge and identify the directly quoted prose), it is just not necessary in this task - our interest is in your writing.

[386 words]

## References

Jones, D.A., Smith, B.C. (1990). The measurement of reaction time and muscle activity. *Journal of Reaction Time*. 12, 3: 330-333.

**Table 1: Marking criteria for Synopsis Lab Report HESC1501 (10%)**

Assignment Marking Criteria	Absent	Developing (Not Yet Competent)	Competent	Good	Advanced
	0%	25%	50%	75%	100%
<p><b>Content (5 marks)</b></p> <p><b>Purpose</b></p> <ul style="list-style-type: none"> <li>Outline the key concepts being studied, and state the aim of the lab.</li> </ul> <p><b>Method</b></p> <ul style="list-style-type: none"> <li>Outline the procedures used in the lab (paraphrasing the lab notes).</li> </ul> <p><b>Results</b></p> <ul style="list-style-type: none"> <li>Summarise the key data.</li> </ul> <p><b>Conclusions</b></p> <ul style="list-style-type: none"> <li>State the key findings from the data.</li> <li>Final statement summarizing the study and the major finding(s).</li> </ul>	Unable to provide an overview of the lab experiment.	Inadequate or incomplete overview of the lab experiment, with some key information missing.	Adequate overview of the lab experiment, with key information outlined.	Good overview of the lab experiment, with key information outlined and some attempt at critical thought.	Comprehensive overview of the lab experiment, with key information outlined and includes excellent critical thought.
<p><b>Writing quality and presentation (3 marks)</b></p> <ul style="list-style-type: none"> <li>Writing fluency and style (clear, concise and focused).</li> <li>Language (spelling / grammar / punctuation)</li> <li>Adherence to the prescribed format.</li> </ul>	Unable to provide intelligible writing.	Inadequate overall writing quality overall presentation, or attention-to-detail. Inadequate clarity of writing. Frequent language errors. Formatting errors.	Adequate overall writing quality, overall presentation and attention-to-detail. Clearly written. Minor language errors. Adheres to the prescribed format.	Good overall writing quality, overall presentation and attention-to-detail. Clear and concise writing. Nil or minimal language errors. Adheres to the prescribed format.	Advanced-level overall writing quality, overall presentation and attention-to-detail. Clear, concise and focused writing. No language errors. Adheres to the prescribed format.
<p><b>Referencing (2 marks)</b></p> <ul style="list-style-type: none"> <li>Relevance of the article to the lab experiment. (1 mark)</li> <li>Appropriate Reference section (APA format) and referencing of statement in the body of the report. (1 mark)</li> </ul>	No article provided. Unable to reference, either within text or a Reference section.	Referenced article has only vague relevance to the lab experiment. Inadequate referencing, either within text or in the Reference section.	Referenced article has some relevance to the lab experiment. Appropriate referencing within text and in the Reference section, or with only a minor error.	Referenced article has reasonable relevance to the lab experiment. Appropriate referencing within text and in the Reference section.	Referenced article has clear, specified relevance to the lab experiment. Completely appropriate and correct referencing, both within text and in Reference section.

### **Assessment Task 3 – Mid-semester Examination (20%)**

The purpose of the exam is to test your understanding of the concepts covered up to the end of week 5 (including all 8 lectures and the first lab and tutorial). The format will be multiple choice and short answer questions. The exam will be held during a lecture period (see the Course Schedule).

### **Assessment Task 4 - Clinical Experience Report (20%)**

After reading the prescribed material, and attending the tutorial and the first 2 clinical sessions conducted in the UNSW Medicine Lifestyle Clinic, you will be required to answer 5 specific tasks concerning activities observed and completed during these clinic visits. You are also required to locate and summarise a journal article that addresses the scientific basis of exercise prescription for a selected clinical condition (task 6). You are required to complete this task independently. Pay close attention to the marking criteria below when planning and writing this assignment.

#### **Learning Outcomes for the Clinical Experience Report**

- To develop your understanding of clinical activities in an exercise physiology clinic and professional conduct issues surrounding these activities.
- To develop and refine the skills to briefly and clearly summarise a scientific article of relevance to exercise science and clinical exercise physiology practice.
- To develop your ability to communicate effectively in the format of a written report.

**Table 2: Marking criteria for Clinical Experience Report HESC1501 (20 marks)**

Assignment Marking Criteria	Weighting	Absent	Competent	Advanced		
		0 marks	1 mark	2 marks		
Task 1 Patient Safety and Risk Management	2 marks	Incorrect Poor detail Poorly written	Mostly accurate answers Good detail provided Mostly well written (some minor errors)	Accurate answers provided Comprehensive & concise detail Well written		
Task 2 Role of Health Professionals in Patient Care	2 marks					
Task 3 Details of Progression	2 marks					
Task 4 Movement Analysis	2 marks					
Task 5: Code of conduct	2 marks					
Assignment Marking Criteria	Weighting	Absent	Developing (Not Yet Competent)	Competent	Good	Advanced
		0 mark	1 mark	2 marks	3 marks	4 marks
Task 6: Article Selection	2 marks	Selection of an article inappropriate for the assignment (e.g. textbook chapter or not on a clinical condition).	Article is a review, outdated, or poor quality study, does not add support to evidence based practice	Selection of a recent, good quality, appropriate article (original research article)		
Task 6: Accuracy of the synopsis <ul style="list-style-type: none"> <li>• Purpose /aims</li> <li>• Variables/ measures</li> <li>• Results and conclusions</li> </ul>	4 marks	Comprehensive overview of the article, reporting the purpose, key measures, key results and the most pertinent conclusions.	Good overview of the article, reporting the purpose, measures, results and conclusions accurately and clearly. Some attention to the key details.	Good overview of the article, reporting the purpose, methods, results and conclusions accurately.	Good overview of the article, reporting the purpose, measures, results and conclusions accurately and clearly. Some attention to the key details.	Comprehensive overview of the article, reporting the purpose, key measures, key results and the most pertinent conclusions.
Quality of the writing and presentation <ul style="list-style-type: none"> <li>• Spelling</li> <li>• Grammar</li> <li>• Fluency and style</li> <li>• Adherence to prescribed format</li> </ul>	4 marks	Clear, fluent and concise writing. No errors in written expression. Adheres to the prescribed format.	Clearly and concise writing. Nil or minimal errors in written expression. Adheres to the prescribed format.	Clearly written. Minimal errors in written expression. Adheres to the prescribed format.	Clearly and concise writing. Nil or minimal errors in written expression. Adheres to the prescribed format.	Clear, fluent and concise writing. No errors in written expression. Adheres to the prescribed format.

### Clinical Experience Report - Details

Clinical sessions will be conducted at the UNSW Medicine Lifestyle Clinic and will involve patient case studies. It is therefore expected that students read the following documents (available on Moodle in Week 2) PRIOR to commencing the tutorial at the Lifestyle Clinic:

1. The 'HESC 1501: Lifestyle Clinic Resource Manual';
2. The Lifestyle Clinic website ([www.lifestyleclinic.net.au](http://www.lifestyleclinic.net.au)) to familiarise yourself with the clinical programs and services.
3. The Lifestyle Clinic Code of Conduct to become familiar with basic policies and procedures governing student conduct with the Clinic.

In the back of your Lifestyle Clinic Resource Manual, there is space to write down answers for each task as you go along. However, you will need to type up your Report using the template document which will be available online on Moodle for electronic submission of the completed answers to tasks 1 to 5, plus the report for task 6.

#### Tasks 1-5:

1. Observe the 'Medical Information Sheet' (i.e. patient's clinical data). List the client's condition and three (3) important pieces of information that the Exercise Physiologist has used to implement risk management procedures (to ensure the safety and welfare of the patient).
2. How was the patient referred? (e.g. self-referral or medical referral) List and explain the role of three (3) medical and allied-health professionals involved in the treatment of the patient.
3. An appropriate progression of exercise (volume and intensity) is important for both exercise adherence patient safety. Examine the patient records, and describe the progression of resistance training for that client in terms of volume, frequency and intensity of the exercises.
4. Select one resistance training exercise that was prescribed for your patient.
  - a. Perform a basic movement analysis using information in the Lifestyle Clinic Resource Manual and complete the table below.
  - b. Outline the major points to ensure correct lifting technique, and any precautionary advice (e.g. common incorrect techniques to avoid) exercise.
  - c. Explain the functional implications of the exercise (i.e. how does it translate to common activities of daily living)?

BASIC MOVEMENT ANALYSIS			
	JOINT 1	JOINT 2	JOINT 3
JOINT(S) INVOLVED IN ACTION			
MOVEMENT TERM			
MUSCLE(S) RECRUITED AT EACH JOINT			

5. Read the ESSA Code of Conduct. Using the patient case study in the Lifestyle Clinic, explain how the following criteria of the ESSA Code of Ethics are achieved:
  - a. 'Best Practice';
  - b. 'Client Care (and Confidentiality)'
  - c. 'Personal and Professional Integrity (and Scope of Practice)'.

#### Task 6:

6. Using an appropriate search engine (e.g. PubMed / Google Scholar), find one scientific article from the literature that examines the clinical effects of resistance or aerobic exercise on a selected chronic disease (choose from: cancer, obesity, type 2 diabetes, cardiovascular disease, osteoporosis). *[Download the article as a pdf and submit separately via TurnItIn on Moodle]*. On one page (1.5 line spaced) describe:
  - a. The aim of the investigation
  - b. The variables being measured before and after the exercise intervention
  - c. The important results/outcomes of the study.
  - d. What conclusions can be drawn from this evidence and how can this inform clinical practice?

### **Assessment Task 5 – ePortfolio/OU Blog (5%)**

**ePortfolio** – The ePortfolio is part of your course assessment and encourages you to reflect on different aspects your learning using a blog. The OU blog is located within the HESC1501 Moodle site. Throughout the semester you will be asked to make five (5) entries into the blog by answering a prompt question. Your response should be approximately 250 words. The entries are spaced throughout the semester and link to different aspects of the course.

### **Assessment Task 6 – End of Session Examination (40%)**

The purpose of the exam is to test your understanding of the concepts covered in the ENTIRE COURSE. The format will be multiple choice, short answer and long answer questions. The exam will be held during the end of session exam period.

## Course Schedule

## HESC1501 semester 1, 2016

Week	Week starting	Lecture 1	Lecture 2	Laboratory	Online Tasks	Tutorial	Clinicals
		Wednesday 11am-12pm  Matthews B	Thursday 11am-12pm  Colombo B	Group 1: Wed 2-4pm Group 2: Wed 4-6pm  Wallace Wurth 120	(completed online via Moodle by Monday 9am)	Groups A-F: Week 3 Groups G-L: Week 5 Lifestyle Clinic (38 Botany St)	Grps 1-8: Wks 6,8,10,12 Grps 9-15: Wks 7,9,11,13 Lifestyle Clinic (38 Botany St)
1	29 Feb	<b>Program Introduction</b> and professional issues <i>RW, AK, NvD 2 Mar</i>	<b>No Class</b>				
2	7 Mar	L1 – Our profession: Exercise Physiology <i>CT 9 Mar</i>	L2 – Human movement: Anatomical basis I <i>AK 10 Mar</i>				
3	14 Mar	L3 – Human movement: Anatomical basis II <i>NvD 16 Mar</i>	L4 – Human movement: Mechanical basis I <i>RW 17 Mar</i>		<b>Online Task 1:</b> Observing and assessing movement (1.25%) (complete by Mon 21 Mar, 9am)	<b>Groups A to F</b> A: Mon 11-1pm B: Mon 2-4pm C: Tues 11-1pm D: Tues 2-4pm E: Wed 9-11am F: Thurs 9-11am	
4	21 Mar	L5 – Human movement: Mechanical basis II <i>RW 23 Mar</i>	L6 – Human movement: Determinants of strength <i>RW 24 Mar</i>	Lab 1 – Measuring and assessing movement <i>NvD, MJ, NK, DM</i>			
<b>Mid-session break (25<sup>th</sup> March – 3<sup>rd</sup> April)</b>							
5	4 Apr	L7 – Motor control and learning: introduction <i>BB 6 Apr</i>	L8 – Motor control and learning: skill acquisition <i>RW 7 Apr</i>			<b>Groups G to L</b> G: Mon 11-1pm H: Mon 2-4pm I: Tues 11-1pm J: Tues 2-4pm K: Wed 9-11am L: Thurs 9-11am	
6	11 Apr	<b>L9 – Mid-semester Exam (20%)</b> <i>13 Apr</i>	L10 – Exercise Physiology: introduction to the cardiovascular system <i>AK 14 Apr</i>	Lab 2 – Reaction time and motor learning <i>NvD, MJ, NK, DM</i>			<b>Groups 1 to 8</b> 1: Mon 11-1pm 2: Mon 2-4pm 3: Tues 11-1pm 4: Tues 2-4pm 5: Wed 9-11am 6: Thurs 9-11am 7: Thurs 2-4pm 8: Fri 10-12pm
7	18 Apr	L11 – Working as an AEP: a Q&A session <i>Assorted AEPs 20 Apr</i>	L12 - Exercise Physiology: introduction to exercise metabolism <i>MM 21 Apr</i>		<b>Online Task 2:</b> Case Study tutorial (1.25%) (complete by Mon 2 May; 9am)		<b>Groups 9 to 15</b> 9: Mon 11-1pm 10: Mon 2-4pm 11: Tues 11-1pm 12: Tues 2-4pm 13: Wed 9-11am 14: Thurs 9-11am 15: Fri 10-12pm

Week	Week starting	Lecture 1 Wednesday 11am-12pm Matthews B	Lecture 2 Thursday 11am-12pm Colombo B	Laboratory Group 1: Wed 2-4pm Group 2: Wed 4-6pm Wallace Wurth 120	Online Tasks <i>(completed online via Moodle by Monday 9am)</i>	Tutorial Groups A-F: Week 3 Groups G-L: Week 5 Lifestyle Clinic (38 Botany St)	Clinicals Grps 1-8: Wks 6,8,10,12 Grps 9-15: Wks 7,9,11,13 Lifestyle Clinic (38 Botany St)
<b>Synopsis laboratory report (10%) due via Turn-It-In on Moodle; Tuesday 26<sup>th</sup> April, 9am</b>							
8	25 Apr	L13 – Exercise Physiology: adaptations to exercise (acute responses) <b>AK 27 Apr</b>	L14 – Exercise Physiology: adaptations to exercise (chronic responses) <b>MM 28 Apr</b>	Lab 3 – Measuring blood pressure and heart rate <b>MM, MJ, NK, DM</b>	<b>Online Tasks 3 &amp; 4:</b> Exercise Physiology Virtual Labs Task 3: BP Task 4: HR (each task 1.25%) <i>(complete by Mon 9 May; 9am)</i>		<b>Groups 1 to 8</b> 1: Mon 11-1pm *      5: Wed 9-11am 2: Mon 2-4pm *      6: Thurs 9-11am 3: Tues 11-1pm      7: Thurs 2-4pm 4: Tues 2-4pm      8: Fri 10-12pm
9	2 May	L15 – Exercise Physiology: cardiovascular assessment <b>AK 4 May</b>	L16 – Exercise across the lifespan: motor control changes <b>BB 5 May</b>			<b>Groups 9 to 15</b> 9: Mon 11-1pm      13: Wed 9-11am 10: Mon 2-4pm      14: Thurs 9-11am 11: Tues 11-1pm    15: Fri 10-12pm 12: Tues 2-4pm	
10	9 May	L17 – Exercise in childhood: growth and maturation <b>CB 11 May</b>	L18 – Exercise in childhood: sports performance <b>CB 12 May</b>	Lab 4 – Measuring cardiovascular response to exercise <b>AK, MJ, NK, DM</b>		<b>Groups 1 to 8</b> 1: Mon 11-1pm      5: Wed 9-11am 2: Mon 2-4pm      6: Thurs 9-11am 3: Tues 11-1pm      7: Thurs 2-4pm 4: Tues 2-4pm      8: Fri 10-12pm	
<b>Clinical Experience Report (20%) due via Turn-It-In on Moodle; Monday 16<sup>th</sup> May, 9am</b>							
11	16 May	L19 – Exercise in older age <b>MB 18 May</b>	L20 – Exercise in childhood: case studies <b>KM 19 May</b>				<b>Groups 9 to 15</b> 9: Mon 11-1pm      13: Wed 9-11am 10: Mon 2-4pm      14: Thurs 9-11am 11: Tues 11-1pm    15: Fri 10-12pm 12: Tues 2-4pm
12	23 May	L21 – Exercise Psychology: introduction <b>SB 25 May</b>	L22 - Exercise Psychology: barriers to exercise and healthy behaviours <b>SB 26 May</b>	Lab 5 – Client interaction and OSCE preparation <b>NvD, MJ, NK, DM</b>			<b>Groups 1 to 8</b> 1: Mon 11-1pm      5: Wed 9-11am 2: Mon 2-4pm      6: Thurs 9-11am 3: Tues 11-1pm      7: Thurs 2-4pm 4: Tues 2-4pm      8: Fri 10-12pm
13	30 May	L23 – Exercise Psychology: motivational strategies <b>SB 1 Jun</b>	<b>Review</b> <b>NvD, AK 2 Jun</b>				<b>Groups 9 to 15</b> 9: Mon 11-1pm      13: Wed 9-11am 10: Mon 2-4pm      14: Thurs 9-11am 11: Tues 11-1pm    15: Fri 10-12pm 12: Tues 2-4pm

NvD: Nancy van Doorn (AEP)  
MB: Martin Bending (AEP)  
MJ: Matthew Jones (AEP)

AK: Andrew Keech  
MM: Maria Matuszek  
NK: Natalie Kwai (AEP)

RW: Rachel Ward  
CT: Chris Tzarimas (AEP)  
DM: David Mizrahi (AEP)

BB: Ben Barry (AEP)  
KM: Kelly McLeod (AEP)

CB: Carolyn Broderick  
SB: Steve Boutcher