



Faculty of Medicine and Health  
School of Health Sciences

# HESC3581

## EXERCISE PRESCRIPTION IN DIVERSE POPULATIONS

COURSE OUTLINE

TERM 2, 2021

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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))

## HESC3581 Course Information

This course focuses on the role of engaging diverse populations in physical activity and exercise. Students are provided with the opportunity to develop an understanding of specific needs for engaging in physical activity, including specific limitations, considerations, individualisation of testing and training procedures. This course examines current literature regarding the impact of physical activity on the health status of a diverse range of populations. Target populations covered in this course include children, corporate health, women's health issues (menopause, pregnancy, gestational diabetes) and indigenous populations; as well as people with cancer, chronic kidney disease, mental health disorders, and sleep disorders. This course offers a mixture of traditional and interactive (case study) approaches to learning. Lectures will build on material presented in HESC3504 (Physical Activity and Health) and HESC3541 (Clinical Exercise Physiology) and in-depth knowledge on these diverse populations will be provided.

**Credit Points:** 6 UOC

**Course Pre-requisites:** HESC3504 and HESC3541

### **COURSE CONVENOR and LECTURERS**

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**Course Convenor, and Head of Department:**

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Meg Letton

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Students wishing to see the course convenors or other staff should make an appointment via email as our offices are not readily accessible.

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**Exercise Physiology Coordinator:**

Ina Ismail

<http://unsw.to/webforms>

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

## **OBJECTIVES OF THE COURSE**

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This course examines the effect of physical activity on diverse populations. The impact of physical activity on a range of diverse populations are summarised (e.g., mental health, kidney disease, children). The course also covers lifestyle prescription for these diverse populations.

It is intended that at the end of the course you will be able to:

- Demonstrate foundational knowledge of diverse populations (including children, women's health issues, different cultural backgrounds) and other conditions (including people with chronic kidney disease, mental health disorders) and their exercise needs,
- Describe the effects of regular physical activity on health outcomes in a diverse range of populations
- Demonstrate an ability to design safe, evidence-based and culturally appropriate lifestyle interventions for a range of diverse populations, including exercise interventions, treatment goals and specific needs for the target conditions
- Demonstrate an understanding of individual differences in response to physical activity and exercise, and their implications
- Describe the role of an Exercise Physiologist in delivering multidisciplinary care across a variety of diverse populations for effective exercise-based intervention strategies

## **STUDENT LEARNING OUTCOMES**

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HESC3581 will develop those attributes that the Faculty of Medicine & Health 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

On completion of this course students should:

1. Demonstrate foundational knowledge of diverse populations (including children, women's health issues, different cultural backgrounds) and other conditions (including people with chronic kidney disease, mental health disorders) and their exercise needs
2. Describe the effects of regular physical activity on health outcomes in a diverse range of populations

3. Demonstrate an ability to design safe, evidence-based and culturally appropriate lifestyle interventions for a range of diverse populations, including exercise interventions, treatment goals and specific needs for the target conditions
4. Demonstrate an understanding of individual differences in response to physical activity and exercise, and their implications
5. Describe the role of an Exercise Physiologist in delivering multidisciplinary care across a variety of diverse populations for effective exercise-based intervention strategies

## **APPROACH TO LEARNING AND TEACHING**

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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 to prepare students for future careers.

**Online Lectures** – This approach is used to present relatively large amounts of information at a time on specific topics throughout the course. PDF copies of the lecture notes will USUALLY (some guest lecturers may choose not to make their notes available) be available on Moodle prior to 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. You should take these opportunities to think about the information that has been presented and ask questions to enhance your understanding.

**Tutorials**– This format provides a more informal learning environment than a lecture. Sessions will be structured via case studies to encourage your participation in activities and discussions designed to enhance your learning. You will benefit most if you do some preparation prior to attending the session. The facilitator will also try to allow some time for interaction and activities in each tutorial to provide you with an opportunity to clarify or reinforce the ideas that have been presented.

**Discussion forums** – This format, similar to the tutorials, provides a more informal learning environment than a lecture. Lecturers/experts in the field will attend these sessions, during which they will both present additional information and run a ‘question & answer’ forum, where you will have a chance to ask questions relating to course content. You will benefit most if you watch the online lectures and do some preparation prior to attending the session.

**Independent study** – There is insufficient time in the lectures, tutorials and practical 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.

**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.

## **COURSE STRUCTURE and TEACHING STRATEGIES**

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Learning activities occur on the following days and times:

- Online lectures (asynchronous): 1-3 hours/week
- Case study Tutorials: 1½ hours/week
- Discussion forums: 1 hour/week

Students are expected to attend all scheduled activities for their full duration (1 hour of discussion forums per week, and 1½ hours of tutorial sessions per week). 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 36 hours throughout the term and students are expected (and strongly recommended) to do double the number of hours of additional study. The time spent reading the articles provided and designing lifestyle change programs will add to this time commitment.

**Online lectures** will provide you with the concepts and theory essential for understanding how physical activity impacts on the health of diverse populations. Lectures will include the aetiology of target conditions, strategies for effective clinical management, and the effects and implications of exercise on risk factors. Lectures will examine the current research regarding the impact of physical activity on the health status of a diverse range of populations

The lectures and tutorials will be complemented by '**Discussion forums**' which are a mix of additional information and a chance to ask questions to the lecturers/experts.

To assist in the development of prescriptive skill, problem-based learning sessions (case studies) will be held. These tutorial sessions will allow students to engage in a more interactive form of learning than is possible in the online lectures. The skills you will learn in your involvement in planning and implementing a lifestyle change program are relevant to your development as a professional Exercise Physiologist. **Discussion forums will be recorded and available online after the session. The case study tutorials are compulsory and content directly relates to the preceding online lectures and discussion forums. Case study tutorials will NOT be recorded.**

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

This course is designed for prospective Exercise Physiologists who want to design lifestyle change programs for a diverse range of populations. The impact of physical activity on a diverse range of populations are summarised (e.g., including chronic kidney disease, mental health, children, and different cultural backgrounds). The course also covers lifestyle prescription for a range of diverse populations. The course will be particularly suited to students involved with lifestyle prescription focused on physical activity.

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

The course will build on the information you have gained in Physical Activity and Health (HESC3504) and Clinical Exercise Physiology (HESC3541) as well as Pharmacology (PHAR3111). Concepts gained in courses such as Exercise Physiology (HESC2501), anatomy, human physiology, biomechanics, and behavioural science will contribute to your learning in this course.

**TIMETABLE:** will be posted on Moodle

|                       |  |
|-----------------------|--|
| Thursdays 9-10 am     | - Discussion forum                           |
| Thursdays 10-11:30 am | - Case study tutorial (Group A) (compulsory) |
| Fridays 2-3:30 pm     | - Case study tutorial (Group B) (compulsory) |
| Fridays 3:30-5 pm     | - Case study tutorial (Group C) (compulsory) |

**NOTE: the discussion forums and tutorials will vary between being online and face-to-face. This is due mainly from feedback from previous students and the availability of the lecturers. Check the Course Schedule on Moodle for class delivery mode each week.**

## **COURSE SCHEDULE**

| <b>Week w/c</b> | <b>Online lectures</b>  | <b>Discussion forum</b>   | <b>Case Study Tutorials</b>  |
|-----------------|---|---|--|
| 1<br>31/5       | Course Introduction<br>Exercise and mental illness 1 (diagnosis, symptoms, mental health, treatment)  | Exercise and mental illness 1   | Mental health and Exercise 1   |
| 2<br>7/6        | Corporate Health<br>Type 1 diabetes (T1D)<br>Sleep apnoea   | Corporate health / Sleep apnoea / T1D & Assessment information session    | Writing Exercise Prescriptions   |
| 3<br>14/6       | Exercise for eating disorders<br>Exercise and mental illness 2 (evidence for exercise, role of EP's & communication)  | Exercise and eating disorders   | Mental health and Exercise 2   |
| 4<br>21/6       | Children: sports performance with age & maturation<br>Exercise testing & prescription in paediatric populations (healthy & clinical)<br>Exercise for paediatric intellectual disability | Exercise prescription in children: healthy & with intellectual disability | Exercise prescription in healthy children & in clinical paediatric populations |
| 5<br>28/6       | Exercise and cancer survivors (children's cancers)<br>Exercise Oncology x3 (breast, prostate, colorectal)   | Exercise oncology   | Exercise oncology case studies   |
| 6<br>5/7        | <i>Flexibility week</i>   |   |  |
| 7<br>12/7       | Fundamentals of CKD Chronic Kidney Disease<br>Diabetic nephropathy, complex CKD cases & comorbidities<br>Exercise Prescription in CKD part A & B  | Evidence of exercise in CKD   | CKD 1  |
| 8<br>19/7       | Aboriginal health & history modules 1 & 2<br>Role of AEP's in Indigenous Health   | Indigenous health   | CKD 2: exercise prescription in CKD  |
| 9<br>26/7       | Maternal exercise guidelines<br>Exercise and pregnancy/post-partum  | Exercise and pregnancy  | Exercise and pregnancy & post-partum   |
| 10<br>2/8       | Exercise prescription in gestational diabetes<br>PCOS<br>Menopause  | Exercise prescription in gestational diabetes case study                  | Exercise prescription in PCOS / Menopause case studies                         |

Please refer to Moodle for further details of the schedule

## ASSESSMENT PROCEDURES

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| Summary of Assessments          | Weight | Due Date                   |
|---------------------------------|--------|----------------------------|
| Exercise prescription write-ups | 40%    | Weeks 5 and 10             |
| Online Quizzes (x 4)            | 15%    | Week 3, 6, 9, 11           |
| e-Portfolio Reflections         | 10%    | Week 8                     |
| End of Session Examination      | 35%    | End of session exam period |

Full submission guidelines (including submission dates) and marking criteria are available through the 'Assessments' section of Moodle.

### ASSESSMENT TASK 1 – Full Prescription Write-Ups (40%)

Two exercise/ lifestyle prescription write-ups will be required. There will be a 1,000 word limit for each prescription not including figures, diagrams and references. Scenario 1 is on a compulsory topic **due in Week 5**. A choice of scenarios will be provided for the second write-up based on one of the populations relevant to the course content of HESC3581, which is **due in Week 10**. A full description of this assessment task can be found on the 'Assessments' section on Moodle.

#### Learning outcomes

Assessment Task 1 will help develop research, inquiry, and analytical thinking abilities through the process of creating a lifestyle change intervention program. It will also enhance information literacy by developing the skills to locate, evaluate, and use relevant information. Assessment task 1 covers learning outcomes 1-4.

### ASSESSMENT TASK 2 – Online Quizzes (15%)

There will be 4 quizzes, based on the lectures and tutorials in the preceding weeks. The quizzes will be worth a total of 15% of the course grade. You need to complete each quiz within the timeframe nominated for that quiz. You **MUST** gain full marks for each quiz to be awarded the marks for that quiz. There are no part marks. You may attempt each quiz multiple times within the allotted period, though each attempt may have different questions.

| Quiz | Content covered | Quiz open | Due date (Quiz closed) | Questions | Marks |
|------|-----------------|-----------|------------------------|-----------|-------|
| 1    | Weeks 1-2       | Week 2    | Tuesday 15 June 9 am   | 6         | 3     |
| 2    | Weeks 3-5       | Week 5    | Tuesday 6 July 9 am    | 12        | 6     |
| 3    | Weeks 7-8       | Week 8    | Tuesday 27 July 9 am   | 6         | 3     |
| 4    | Weeks 9-10      | Week 10   | Tuesday 10 August 9 am | 6         | 3     |

## Learning Outcomes

Assessment task 2 covers learning outcomes 1, 2 & 4.

### **ASSESSMENT TASK 3 – e-Portfolio Reflections (10%)**

The e-Portfolio Reflection encourages you to reflect on different aspects of your learning journey in this course. You will be invited to **attend an information evening on Friday 2 July** along with a range of experts relevant to the course, to discuss what it is like as an AEP to work with these diverse populations. You will be asked to reflect on what it is like working as an Exercise Physiologist with diverse populations by asking questions to the Exercise Physiologists that work in the different populations covered in this course. More detailed information will be provided on Moodle under the 'Assessments' section. You will be required to submit the reflection entry to Moodle (via Turnitin for originality checks and marking).

## Learning Outcomes

Assessment task 3 covers learning outcomes 3-5.

### **ASSESSMENT TASK 4 – End of Session Examination (35%)**

The end of session examination will be an online examination held during the final examination period in August, and will cover ALL material presented in lectures and tutorials from the ENTIRE term.

## Learning Outcomes

Assessment Task 4 covers learning outcomes 1, 2 & 4.

The exam period for Term 2, 2021 is Friday, 13 Aug to Thursday, 26 Aug. The specific date and time of the Examination will be released by the UNSW Examinations Office. Supplementary exam period for Term 2, 2021 is Monday, 6 September to Friday, 10 September.

### **Penalties for Late Submission of Assignments**

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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.

### **TEXTBOOKS AND OTHER RESOURCES**

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#### **Moodle**

Information about the course as well as lecture material 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.

Home page: <https://www.library.unsw.edu.au/study/information-resources>

## Suggested texts

- Williamson, P. (2<sup>nd</sup> Ed 2018). ***Exercise for Special Populations***. Wolters Kluwer, USA.
- Ehrman, J.K., Gordon, P.M., Visich, P.S., Keteyian, S.J. (4<sup>th</sup> Edition 2019). ***Clinical Exercise Physiology***. Human Kinetics, USA.
- LeMura, L.M., von Duvillard, S.P. (2004). ***Clinical Exercise Physiology***. Lippincott, Williams & Williams, USA.
- Bouchard, C., Blair, S.N., & Haskell, W.L. (2012). ***Physical Activity and Health. 2<sup>nd</sup> Edition***. Human Kinetics, USA.
- Skinner, J. (2005). ***Exercise Testing and Exercise Prescription for Special Cases: Theoretical basis and clinical application***. 3<sup>rd</sup> Edition. Lippincott Williams & Wilkins, USA.

Extra reading/resources will be available on Moodle

## UNSW Learning Centre

The Learning Centre offers academic skills support to all students across all years of study enrolled at UNSW. This includes assistance to improve writing skills and approaches to teamwork. See [www.lc.unsw.edu.au](http://www.lc.unsw.edu.au)

## COURSE EVALUATION AND DEVELOPMENT

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Each year feedback is sought from students about the course and continual improvements are made based on this feedback. The Course and Teaching Evaluation and Improvement (myExperience) Process of UNSW is the way in which student feedback is evaluated and significant changes to the course will be communicated to subsequent cohorts of students.

Student feedback is welcome and taken seriously. The myExperience survey will be provided in the final weeks of the course to formally gather student feedback. The feedback received will be used to enhance all aspects of the course in its future delivery.

### Previous students told us:

Students have previously told us that they really enjoyed this course and that the course provided them with knowledge and skills that they can apply/were clinically relevant and that the assessments were relevant. Students really enjoyed the specialist guest lecturers, the interesting different conditions not covered before and thought that the quizzes were great, and there were great online resources.

In 2020 the course went online, and we had a mixed response from students that:

- Really enjoyed the flexibility of being online and not having to travel to Uni
- Wanted more face-to-face learning as it was harder to be engaged online

Students also wanted each week to be more equitable with the amount of content provided and that they wanted more variety in how the case study tutorials were delivered (including ensuring that all students became involved). Students also thought the 2-hour tutorials were too long.

### **We have responded to this feedback by:**

In 2021 we will have a **MIX of face-to-face and online teaching** and increase the variety in the tutorials. We have also decreased the tutorial time to 1½ hours and will aim to ensure more students are engaged throughout. We have also streamlined the online content across the weeks and will provide new online lectures this year.

We are also initiating a new experience this year -having an information evening where a variety of experts will come in to speak to you about what it is like working as an AEP in diverse populations. This will provide students with more face-to-face interaction and opportunities for you to ask questions.

## **GENERAL INFORMATION**

### **Official Communication**

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

### **Attendance Requirements**

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Attendance is expected at all sessions, and compulsory for the tutorials and examinations for this course. Attendance at all tutorials and examinations 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 to Jeanette Thom ([j.thom@unsw.edu.au](mailto:j.thom@unsw.edu.au)) within 24 hours of the time period of the certificate's expiry. No consideration will be given after this time except for truly exceptional circumstances.

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

### **Special Consideration**

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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. For more information about Special Consideration, please follow this link: <https://student.unsw.edu.au/special-consideration>

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:

[my.unsw.edu.au/student/academiclife/assessment/AssessmentPolicyNew.html](https://my.unsw.edu.au/student/academiclife/assessment/AssessmentPolicyNew.html)

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

### **Academic Integrity and Plagiarism**

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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](#)

## **Health and Safety**

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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](http://www.safety.unsw.edu.au)

## **Student Conduct**

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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](http://www.student.unsw.edu.au/conduct)

## **Student Equity and Diversity Issues**

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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 (previously known as SEADU). Further information for students with disabilities is available at <https://student.unsw.edu.au/els>

## **Student Support Services**

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- Key Dates <https://student.unsw.edu.au/dates>
- Transitioning to Online Learning <https://www.covid19studyonline.unsw.edu.au/>
- Guide to Online Study <https://student.unsw.edu.au/online-study>
- UNSW Student Life Hub <https://student.unsw.edu.au/hub#main-content>
- Student Support and Development <https://student.unsw.edu.au/support>
- IT, eLearning and Apps <https://student.unsw.edu.au/elearning>
- Student Support and Success Advisors <https://student.unsw.edu.au/advisors>

## **Appeal Procedures**

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