



Faculty of Medicine
School of Medical Sciences

HESC3581

PHYSICAL ACTIVITY AND SPECIAL POPULATIONS

COURSE OUTLINE

TERM 2, 2019

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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)

HESC3581 Course Information

Physical Activity for Special Populations (HESC3581) is a 4th year Exercise Physiology core course. The course is part of study for the degree of Bachelor of Exercise Physiology. 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.

Credit Points: 6 UOC

Course Pre-requisites: HESC3504 and HESC3541

COURSE CONVENOR and LECTURERS

Course Convenor, and Head of Department:

A/Prof Jeanette Thom j.thom@unsw.edu.au
Phone: 9385 1090
Room 220 Wallace Wurth Building West

Co-convenor:

Meg Letton m.letton@unsw.edu.au

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

Program Authority:

Dr Rachel Ward rachel.ward@unsw.edu.au

Lecturers:

Dr Ria Arnold ria.arnold@unsw.edu.au
Dr Oscar Lederman o.lederman@unsw.edu.au
A/Prof Carolyn Broderick c.broderick@unsw.edu.au
Nancy van Doorn n.vandoorn@unsw.edu.au
... plus guest lecturers *see timetable*

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.

Technical Officer:

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

OBJECTIVES OF THE COURSE

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

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

- Describe the effects of physical activity on a variety of clinical conditions/special populations, having an appreciation and understanding of the implications of exercise in these conditions
- Demonstrate an ability to design safe, appropriate and effective lifestyle programs/exercise intervention strategies for a range of special populations that consider the available scientific evidence, treatment goals and specific population needs
- Have an appreciation and understanding of the implications of individual differences in responses to physical activity training
- Gain experience of what the role of an Exercise Physiologist does across a variety of clinical conditions/special populations and be able to reflect on their own role and how they should adapt in these environments for effective intervention strategies

STUDENT LEARNING OUTCOMES

HESC3581 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

On completion of this course students should:

1. Demonstrate a foundational knowledge of specific populations/diseases and comorbidities in a multidisciplinary environment, including chronic kidney disease, mental health, children, conditions in women and different cultural backgrounds
2. Describe the effects of regular physical activity on a variety of clinical conditions/special populations

3. Demonstrate an ability to design safe, appropriate and effective lifestyle programs/exercise intervention strategies for a range of special populations that consider the available scientific evidence, treatment goals and specific population needs
4. Demonstrate an understanding of the implications of individual differences in responses to physical activity training
5. Gain experience in the role of an Exercise Physiologist across a variety of clinical conditions/special populations and be able to reflect on their own role and how they should adapt in these environments for effective intervention strategies

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 to prepare students for future careers.

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 (see below in STUDENT RESOURCES section) 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. 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.

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.

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

Learning activities occur on the following days and times:

- Lectures: 2/week
- Case study Tutorials: 2/week
- Experiences: various times/days

Students are expected to attend all scheduled activities for their full duration (2 hours of lectures per week, and 2 hours of case study tutorial sessions per week). Students are also expected to attend approx. 2-6 hours observing placements across the term. 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 40 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.

Lectures will provide you with the concepts and theory essential for understanding how physical activity impacts on the health of special populations. In the lectures the aetiology of lifestyle diseases will be outlined and a description of the effects of exercise on risk factors will be given. Lectures will examine the current research regarding exercise and a variety of diseases and special populations.

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 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. **The case study tutorials are compulsory and follow on directly from the preceding lectures.**

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 special populations. The impact of physical activity on a range of special populations are summarised (e.g., including chronic kidney disease, mental health, children, conditions in women and different cultural backgrounds). The course also covers lifestyle prescription for these special 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 4-6 pm	- lecture 4-5 pm, compulsory tutorial 5-6 pm
Fridays 3-5 pm	- lecture 3-4 pm, compulsory tutorial 4-5 pm

ASSESSMENT PROCEDURES

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

Full submission guidelines (including dates) and marking criteria for these assessment tasks are available through the “Assessments” section of Moodle.

ASSESSMENT TASK 1 – FULL PRESCRIPTION WRITE-UPS

Two exercise/lifestyle prescription write-ups will be required. There will be a 1,500 word limit for each prescription not including figures, diagrams and references. Scenario 1 is on a compulsory topic **due Monday 9 am Week 4**. A choice of scenarios will be provided for the second write-up based on one of the special populations relevant to the course content of HESC3581 **due Monday 9 am Week 9**. Prescriptions must be submitted to Moodle. See marking criteria, rubric and a full description of the special population write-ups assessment details on Moodle. Examples for writing up are included in a case study portfolio that can also be accessed through Moodle.

Learning outcomes

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 special population information. Covers Learning Outcomes 1-5.

ASSESSMENT TASK 2 – ONLINE QUIZZES

You will be required to log onto Moodle and complete 4 different short quizzes based on the lectures and tutorials in the preceding weeks.

Learning Outcomes

- Demonstrate a foundational knowledge of these specific populations/clinical conditions and comorbidities in a multidisciplinary environment
- Describe the effects of regular physical activity on a variety of clinical conditions/special populations
- Demonstrate an understanding of the implications of individual differences in responses to physical activity training

Marking criteria

Quiz	Content covered	Quiz open	Due date (Quiz closed)	Questions	Marks
1	Weeks 1-2	Week 3	Tuesday 18 th June 9 am	6	3
2	Weeks 3-4	Week 5	Tuesday 2 nd July 9 am	6	3
3	Weeks 5-7	Week 8	Tuesday 23 rd July 9 am	12	6
4	Weeks 8-10	Week 10	Tuesday 13 th August 9 am	6	3

The quizzes will be worth a total of 15 marks. For each quiz you need to complete the 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.

ASSESSMENT TASK 3 – E-Portfolio reflections (10%)

The e-Portfolio is part of your course assessment and encourages you to reflect on different aspects of your learning journey in this course. You will be asked to make 2 entries into a 'blog' by answering prompt questions from ONE "experience" of an organised placement that you have attended during the term and ONE from your reflections from a case study tutorial from the course. A range of organised placements relevant to the course will be announced at the start of the term for which you will be required to attend a minimum of **ONE**. Some places will have limited number of student availability and/or days/times on which you could attend. You may not be able to get your first choice of preferences. The range of places may cover:

- Children
- Mental health
- Cancer patients

You will be required to post the reflection entries to via Moodle (via Turnitin for originality checks and marking). See marking criteria and choices with available dates/times on Moodle.

Assessment of e-Portfolio will be based on the following criteria: demonstration of engagement with the e-Portfolio; reflective practice; building an awareness of the skills you have developed and would need to further develop for future employability or work experience (including course-related skills, professional development skills, transferrable skills); development of awareness and skills for working in a multidisciplinary environment; personal values; strengths and weaknesses. **DUE Monday 5th August 9 am.**

Learning Outcomes for the E-portfolio Reflections

- Demonstrate a foundational knowledge of specific populations/diseases and comorbidities in a multidisciplinary environment, including chronic kidney disease, mental health, children, conditions in women and different cultural backgrounds
- Describe the effects of regular physical activity on a variety of clinical conditions/special populations

- Demonstrate an understanding of the implications of individual differences in responses to physical activity training
- Gain experience in the role of an Exercise Physiologist across a variety of clinical conditions/special populations and be able to reflect on their own role and how they should adapt in these environments for effective intervention strategies

ASSESSMENT TASK 4 – END OF SESSION EXAMINATION

This assessment task will be held during the final examination period in August, and will cover ALL material presented in lectures and tutorials from the ENTIRE term.

Learning Outcomes for the End of Session Examination

- Demonstrate a foundational knowledge of specific populations/ diseases and comorbidities in a multidisciplinary environment, including chronic kidney disease, mental health, children, conditions in women and different cultural backgrounds
- Describe the effects of regular physical activity on a variety of clinical conditions/special populations
- Demonstrate an ability to design safe, appropriate and effective lifestyle programs / exercise intervention strategies for a range of special populations that consider the available scientific evidence, treatment goals and specific population needs
- Demonstrate an understanding of the implications of individual differences in responses to physical activity training
- Gain experience in the role of an Exercise Physiologist across a variety of clinical conditions / special populations and be able to reflect on their own role and how they should adapt in these environments for effective intervention strategies

The specific date, time and location of the Examination will be released by the UNSW Examinations Office.

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.

TEXTBOOKS AND OTHER RESOURCES

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

- Skinner, J. (2005). *Exercise Testing and Exercise Prescription for Special Cases: Theoretical basis and clinical application*. 3rd Edition. Lippincott Williams & Wilkins, USA.
- Williamson, P. (2010; 2nd Ed 2018). *Exercise for Special Populations*. Wolters Kluwer, USA.
- John Buckley (2008). *Exercise Physiology in Special Populations*. Elsevier/Churchill Livingstone
- Ehrman, J.K., Gordon, P.M., Visich, P.S., Keteyian, S.J. (3rd Edition 2013; 4th Edition 2019). *Clinical Exercise Physiology*. 3rd Edition. 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*. 2nd Edition. Human Kinetics, USA.

Extra reading/Manuals 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

COURSE EVALUATION AND DEVELOPMENT

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.

Student feedback from the delivery of **HESC3581 in 2018** demonstrated that students were very satisfied with the newly structured course (5.19/6 and 95% agreement). Students enjoyed the engaging guest lecturers, the variety of relevant topics covered and their relevance to exercise physiology. Students liked having the tutorials straight after the lectures. They

enjoyed the assessments: the experiences, the case study write-ups and they also enjoyed the online quizzes which we introduced in 2018 from student feedback the year before. Though students thought exercise prescription write-ups should be worth more (now worth 20% each) and that only 2 were required (changed for 2019). We will also provide more detailed feedback and marking criteria for the assessments as asked for in 2018.

GENERAL INFORMATION

Official Communication

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

Attendance Requirements

Attendance is expected at all lectures, 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) 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. Although lectures will be available on Moodle, 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

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

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](#)

Health and Safety

Class activities must comply with the NSW *Work Health and Safety Act 2011*, the *Work Health and Safety Regulation 2011*, 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 Disability Support Services (previously known as SEADU) (9385 4734). Further information for students with disabilities is available at www.student.unsw.edu.au/disability

Student Support Services

Student support services: [Educational Support Services](#).

Counselling support services: [Counselling and Psychological Services](#).

Appeal Procedures

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