



Faculty of Medicine
School of Medical Sciences

HESC3532

Movement Rehabilitation

COURSE OUTLINE

Term 3, 2019

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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 medicalsciences.med.unsw.edu.au)

HESC3532 Course Information

This course explores the use of evidence-based exercise interventions in the treatment and management of a wide range of musculoskeletal pain conditions. The emphasis is on developing student competency with assessment and exercise prescription for chronic musculoskeletal conditions consistent with a biopsychosocial treatment approach. Considerable attention is given to developing clinical reasoning and skills and the translation of theoretical knowledge to clinical practice to prepare students for professional practice in musculoskeletal rehabilitation. This will be achieved through student centred teaching and learning modalities including team-based learning, clinical laboratories, flipped classrooms and online learning activities. This course also provides students opportunity to further develop their knowledge and skills with musculoskeletal rehabilitation prior to commencing clinical practicum.

Credit Points: 6 UOC

Course Pre-requisites:

HESC2452 Movement Assessment & Instruction
NEUR3101 Muscle and Motor Control

OBJECTIVES OF THE COURSE

This course aims to:

1. Develop a thorough understanding of the use of exercise and movement for musculoskeletal pain rehabilitation within a contemporary pain rehabilitation framework.
2. Attain competencies with assessment and exercise prescription for a range of musculoskeletal pain conditions.
3. Build competency in problem solving skills and clinical reasoning.
4. Engage students in independent and reflective learning for the betterment of professional clinical practice.
5. Develop effective communication skills for patients and other allied health professions.
6. Nurture a belief in evidence-based and ethical clinical practice.

COURSE CONVENORS and INDUSTRY EXPERTS

Course Convenors:

Ms Jessica Bellamy j.bellamy@unsw.edu.au

Rm 203 Wallace Wurth Building West Lvl 2 ph: 9385 8710

Office Hours: Mon, Tues, Thurs & Fri 9.00am – 4:30pm

Dr John Booth john.booth@unsw.edu.au

Rm 203 Wallace Wurth Building West Lvl 2 ph: 9385 8710

Office Hours: Tuesday 9:00am – 4:00pm

Students wishing to see the course coordinators should make an appointment via email as our offices are not readily accessible. We will organise to meet you in a convenient location elsewhere in the building.

Guest Lecturers:

- A/Prof Jeanette Thom j.thom@unsw.edu.au
School of Medical Sciences
- A/Prof David Simar d.simar@unsw.edu.au
School of Medical Sciences

Demonstrators and markers:

- Mr Aidan Cashin AEP a.cashin@unsw.edu.au
School of Medical Sciences
- Mr Adrian Ram AEP adrian.ram@unsw.edu.au
School of Medical Sciences
- Ms Kelly McLeod AEP k.mcleod@unsw.edu.au
- UNSW Medicine Lifestyle Clinic

Program Officer:

School of Medical
Sciences

Students are to submit all enquires via a web form at the
UNSW Student Portal Web Forms: <http://unsw.to/webforms>
Students to login with zID and zPASS
Ph: 9385 2557

COURSE STRUCTURE and TEACHING STRATEGIES

HESC3532 consists of the following weekly class schedule:

- Online learning activity. Note: some weeks may present part a) & part b)
- Online flipped classroom preparation
- Face-to face flipped classroom workshop (Thursday 5-6pm Wallace Wurth LG03)

Laboratories are run from week 3 – 8 (inclusive). All labs are run on Tuesdays (ExPhys CSEP) at the following times: 9am – 11am; 11am – 1pm; 1pm – 3pm; 3pm – 5pm; 5pm – 7pm. **Note:** 100% attendance is required for all laboratories. Arrival more than 15 minutes after the start of the class will be recorded as non-attendance.

Team-based learning (TBL) tutorial workshops are run:

- Week 4 Thursday 10th October (9-10:30am; 10:30am-12pm; 12-1:30pm)
- Week 6 Thursday 24th October (9-10:30am; 10:30am-12pm; 12-1:30pm)
- Week 8 Thursday 7th November (9-10:30am; 10:30am-12pm; 12-1:30pm)

Note: 100% attendance is required for all TBLs. Arrival more than 15 minutes after the start of the class will be recorded as non-attendance.

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 72 hours throughout the semester and students are expected (and strongly recommended) to do at least the same number of hours of additional study.

Course Philosophy and design

This course offers a blended learning teaching approach with emphasis on the application of theoretical knowledge to AEP professional practice. By completing this unit, students will begin to develop the knowledge and skills required by Exercise & Sports Science Australia (ESSA) to provide exercise prescription for the prevention and management of chronic musculoskeletal conditions. Students will be required to take this knowledge and further develop their competence in assessment and exercise prescription in musculoskeletal rehabilitation within their practicum experience.

Rationale for the inclusion of content and teaching approach

How the course relates to the Exercise Physiology profession

Exercise interventions are commonly used in daily clinical practice to treat and manage a wide range of musculoskeletal injuries and disease. Clinical Exercise Physiology is a developing field and this course is concerned with developing the clinical skills and competencies required by practicing Exercise Physiologists. This course develops student understanding of the use of active modalities for the treatment, prevention and management of musculoskeletal injury and disease. The cause, underlying pathology and treatment of a range of musculoskeletal injuries and chronic diseases relevant to clinical Exercise Physiology are considered.

There is an emphasis on developing competency with assessment and exercise prescription for a range of musculoskeletal conditions routinely encountered in clinical practice. In addition to the physical origins of injury and pain, the contribution of psychosocial factors to the cycle of pain and disability are also considered and the application of cognitive behavioural exercise interventions developed.

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

The course will draw heavily on your knowledge of biomechanics (BIOM2451) and functional anatomy (ANAT2451) and will build upon your understanding of the role of the nervous system in the control of movement developed in Muscle and Motor Control (NEUR3101). Knowledge of and application of motor learning theories is heavily drawn upon in relation to instruction and prescription of effective exercise (HESC2452). Case study tutorial method is designed as preparation for the 4th year clinical practicum, which includes placements working with musculoskeletal disorders.

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.

Online Learning Activities & Flipped Classroom Preparation:

Please note that online learning activities include lectures and preparation for flipped classes. It is important that you allocate time each week (2-3 hours) to complete the online learning activities. Please remember that the time replaces time that has traditionally allocated to physically attending lectures.

Flipped Classroom Workshop (1hr/week):

The flipped classroom workshop describes a reversal of traditional teaching where students gain first exposure to new material outside of class, usually by reading or watching lecture videos, and then class time is used to do harder work of assimilating that knowledge through strategies such as problem-solving, discussion or debates. **To optimise the flipped classroom learning experience, it is essential that students have completed the pre-learning material related to each class.** Completing the pre-learning for each class will allow you to make a positive contribution to the class and help foster a better learning experience.

Laboratories:

The purpose of the practical components of the course are twofold. The first purpose is to help you to develop musculoskeletal rehabilitation skills relevant to an Exercise Physiologist in clinical practice. The laboratories promote competency with these skills by providing a practical and hands on learning experience and prepare you for clinical placement. The second purpose is practical application of theoretical content covered in lectures. **Students are required to attend all laboratories.**

Team-based Learning (TBL) Workshops:

TBLs are structured form of small group learning that emphasises student preparation outside of class, and application of knowledge in class. Students are organised into diverse teams of 5-7 students that work together throughout the 1.5-hour tutorial workshop. Before each TBL, students are required to complete compulsory online learning activities. Poor preparation will translate to poor performance in the TBL, impacting individual and team marks. At the start of each TBL, student preparation will be tested through an individual multiple-choice quiz with that same quiz then repeated as a group. Both the individual and the group scores will contribute to student TBL grades. This will be followed by a case study presentation by TBL facilitators, with students responding to case study specific questions and presenting their answers to the whole for discussion in the form of poster presentations, oral contribution and class discussion.

At the completion of the TBL, the TBL facilitators will summarise the key concepts discussed during the class.

There will be “expert” AEPs on the floor with to assist students with problem solving and clarifying key concepts during the TBL. In addition to marks for the quiz, individual marks will be provided through self-reflection and peer assessment. Each TBL tutorial will be weighted to 10% for a total contribution of 30%. Feedback on each group’s contribution will be provided by the experts on the day, with peers required to provide individual feedback.

Independent study:

There is insufficient time in the online activities, flipped classrooms, team-based learning workshops and laboratories for you to develop a thorough understanding of the concepts covered in this course. In order for you to achieve the learning outcomes that will be assessed, material presented in the course must be revised regularly. Students are also required to cover the readings and resources accompanying each lecture to enhance their understanding of lecture material and as a requirement for case study participation.

Assessment:

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.

TEXTBOOKS AND OTHER RESOURCES

Moodle

Information about the course as well as lectures, laboratory notes and information regarding Team-Based Learning workshops and assignments 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 notes, access your grades, find reference material in the course (such as this document), and communicate with the course convenors and your peers. Please see the course convenors 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. Homepage: <https://www.library.unsw.edu.au/>

These resources will take the form of text books, journal articles or web-based resources. If available, links to the electronic form of these resources will be put on the course Moodle page. In each week's online learning activities (available through Moodle), students are directed to specific readings associated with that week's content and desired learning outcomes.

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

See also medalsciences.med.unsw.edu.au/students/undergraduate/learning-resources

Suggested Reference Books

- Houglum, Peggy A. (2010). *Therapeutic exercise for musculoskeletal injuries*. Human Kinetics
- Voight, M. L., B. J. Hoogenboom and WE Prentice (2014). *Musculoskeletal interventions: techniques for therapeutic exercise 3rd edition*. McGraw-Hill.
- McGill, S. (2016). *Low back disorders: evidence-based prevention and rehabilitation*. Human Kinetics.
- Butler, D.S., & Moseley, L.G. (2013). *Explain pain Second Edition*. Noigroup publications.
- Moseley, L.G., & Butler, D.S. (2017). *Explain Pain Supercharged*. Noigroup publications.
- Waddell G (2005). *The back pain revolution*. Churchill Livingstone.

STUDENT LEARNING OUTCOMES

HESC3532 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.

Exercise Physiology Program Learning Outcomes

1. Develop a thorough understanding of the relationship between physical activity and health.
2. 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.
3. Attain skills and detailed clinical knowledge relevant to cardiopulmonary, metabolic, musculoskeletal and neuromuscular rehabilitation.
4. Develop advanced problem-solving skills and a capacity for critical thinking.
5. Develop an ability to engage in independent and reflective learning for the betterment of professional clinical practice.
6. 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 or ethical practice.

HESC3532 Course Learning Outcomes

1. Demonstrate evidence-based assessment of patients with chronic musculoskeletal conditions.
 2. Prescribe evidence-based exercise for chronic musculoskeletal conditions.
 3. Demonstrate sound clinical reasoning with assessment and exercise prescription for chronic musculoskeletal conditions.
 4. Demonstrate a high level of oral and written communication to other health professions.
 5. Apply a biopsychosocial treatment approach to exercise interventions for chronic musculoskeletal conditions.
 6. Provide targeted therapeutic pain education specific to patient presentation.
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Penalties for Late Submission of Assignments

In cases where an extension has NOT been granted, the following penalties will apply: For assignments (including peer assessment marks & feedback) submitted after **5:00pm** 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.

COURSE EVALUATION AND DEVELOPMENT

For course evaluation, feedback has been gathered at the completion of the course, using among other means, UNSW's Course and Teaching Evaluation and Improvement Process and myExperience. Student feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

In 2018 students were satisfied with the delivery of this course (88%). Through MyExperience feedback students enjoyed the blended learning delivery approach, particularly the face-to-face flipped classroom workshops. Students reported to enjoy the interactive nature of all laboratories and the challenge of being prompted to provide clinical reasoning for their decisions in assessment and prescriptive design.

Due to 2018 student feedback, assessment through the team-based learning (TBL) workshops has been incorporated into the 2019 HESC3532 delivery design. Student's felt as though previous assessment tasks did not allow for individualised feedback of appropriate case study answers. Therefore, convenors have significantly modified the assessment delivery and facilitation to incorporate immediate individualised feedback, assistance in appropriate exercise prescription and formalisation of GP report structure.

GENERAL INFORMATION

Attendance Requirements

For details on the Policy on Class Attendance and Absence see [Advice for Students](#) and the [Policy on Class Attendance and Absence](#).

Attendance at **laboratories and Team-based learning workshops is compulsory** and must be recorded in the class roll at the start of each class. Arrival more than 15 minutes after the start of the class will be recorded as non-attendance. It is your responsibility to ensure that the demonstrator records your attendance and no discussions will be entered into after the completion of the class. Satisfactory completion of the work set for each class is essential. It should be noted that non-attendance for other than documented medical or other serious reasons, or unsatisfactory performance, may result in an additional practical assessment exam or ineligibility to pass the course. Students who miss practical classes due to illness or for other reasons must submit a copy of medical certificates or other documentation to the course convenor and apply for special consideration within 24hrs hours.

Special Consideration

Please see [UNSW-Special Consideration](#) and [Student Advice-Special Consideration](#)

If you unavoidably miss the progress exam in HESC3532, you must lodge an application with UNSW Student Central for special consideration. If your request for consideration is granted an alternative assessment will be organised which may take the form of a supplementary exam or increased weighting of the final exam.

See: [Student-Advice-Reviews and Appeals](#)

Student Support Services

See: [Student Advice-Student support services](#).

Academic Integrity and Plagiarism

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](#)

COURSE TIMETABLE

	Online Learning Activities	Flipped Classroom Preparation (online)	Flipped Classroom (face-to-face)	TBL	Clinicals
	<i>Online</i>		<i>Wallace Wurth LG03</i>	<i>Mathews 228</i>	<i>ExPhys Clinical Space</i>
Week 1 (16-20 Sept)	Persisting pain – how does it work now?	Biopsychosocial treatment	Biopsychosocial treatment (Dr John Booth)		
Week 2 (23-27 Sept)	Patient assessment & communication	Pain – How does it work?	Pain – How does it work? (Dr John Booth)		
Week 3 (30 Sept – 4 Oct)	Rehab for the lumbar spine	Rehab for the lumbar spine	Rehab for the lumbar spine (Dr John Booth)		Assessing & screening patients – explaining pain
Week 4 (7-11 Oct)	Key concepts in pain neuroscience education (PNE)	PNE in clinical practice	PNE in clinical practice (Dr John Booth)	Chronic low back pain (Dr John Booth & Jessica Bellamy)	Assessment & prescription for the lumbar spine
Week 5 (14-18 Oct)	Rehabilitation of the cervical and thoracic spine	Exercise rehabilitation for the shoulder	Exercise rehabilitation for the shoulder (Jessica Bellamy)		Shoulder rehabilitation
Week 6 (21-25 Oct)	Arthritis – assessments & exercise considerations	Hip & knee replacement – post operative exercises	Exercise rehab for the lower extremity (Kelly McLeod)	Shoulder rehabilitation (Dr John Booth & Jessica Bellamy)	Rehab for the cervical spine
Week 7 (28 Oct – 1 Nov)	Osteoporosis – assessment & exercise considerations	Exercise rehab following spinal surgery	Exercise rehab following spinal surgery (Dr John Booth)		Rehab for the lower extremity
Week 8 (4-8 Nov)	Commonly used medications in chronic pain – exercise considerations	Complex pain conditions	Rx for patients with ↑ functional sensitivity (Dr John Booth)	Knee rehabilitation (Dr John Booth & Jessica Bellamy)	Complex pain conditions
Week 9 (11-15 Nov)	Neurological assessment of the upper & lower extremity	Targeting exercise and education	Targeting exercise and education (Dr John Booth)		
Week 10 (18-22 Nov)	Rehabilitation for the deep abdominal muscles and pelvic floor		VIVA survivor (Jessica Bellamy)		

ASSESSMENT TASKS

Assessment of your learning in the course will be achieved through examinations (oral viva, multiple choice questions, clinical skills assessment), participation in the team-based learning workshops. The examination format tests your ability to apply and communicate knowledge to the management of musculoskeletal conditions in a time-constrained context.

These requirements are similar to those encountered when dealing with a patient in a face-to-face setting, communicating with a clinician or colleague or during a job interview. The examinations will be designed to determine how well you have achieved the general learning outcomes that are outlined above, and the specific learning outcomes outlined in each learning experience. The emphasis will be the application of course content to clinical practice.

The team-based learning workshops will be concerned with developing your clinical reasoning skills regarding the detailed management plans for patients with specific musculoskeletal conditions. Student preparation will be tested through an individual multiple-choice quiz with that same quiz then repeated as a group. Both the individual and the group scores will contribute to student team-based learning grades. Peer assessment will also contribute to student team-based learning grades.

Note the last day to drop a T3 course without financial penalty is 29th September 2019.

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

Summary of Assessments	% Total Marks	Due Date
TASK 1 – TEAM-BASED LEARNING (TBL) WORKSHOP	30%	Week 4, 6 & 8
TASK 2 – QUIZ 1	15%	Week 4
TASK 3 – QUIZ 2	25%	Week 10
TASK 4 – VIVA (CLINICAL SKILLS ASSESSMENT)	30%	Exam period

Task 1: Team-Based Learning (TBL) Workshop (30%) – weeks 4, 6 & 8

Team-Based Learning (TBL) workshops will be held three (3) times during the term. Students will be required to actively participate (through poster presentation, oral contribution and class discussion) as a group during this in-class tutorial. Understanding of the pre-learning material will be assessed at the start of each TBL through a 10-question multiple choice quiz. Students will first complete this quiz as an individual (10 marks), and then complete the same quiz as a group (10 marks). Marks for individual contribution during each TBL will be allocated through peer assessment (10 marks). Total marks per TBL = 30. Each TBL workshop will be weighted to 10% for a total course contribution of 30%. Individualised feedback is provided to all students within 10 business days.

Learning Outcomes

- Demonstrate evidence-based assessment of patients with chronic musculoskeletal conditions.
- Prescribe evidence-based exercise for chronic musculoskeletal conditions.
- Demonstrate sound clinical reasoning with assessment and exercise prescription for chronic musculoskeletal conditions.
- Demonstrate a high level of oral and written communication to other health professions.

Task 2: Quiz 1 (15%) – week 4

Quiz 1 is a multiple-choice exam assessing student understanding and practical application of key concepts covered in the course during weeks 1-3 inclusive. Individualised feedback is provided to all students within 10 business days

Learning Outcomes:

- Demonstrate sound clinical reasoning with assessment and exercise prescription for chronic musculoskeletal conditions.
- Apply a biopsychosocial treatment approach to exercise interventions for chronic musculoskeletal conditions.
- Provide targeted therapeutic pain education specific to patient presentation.

Task 3: Quiz 2 (25%) – week 10

Quiz 2 is a multiple-choice exam assessing student understanding and practical application of key concepts covered in the course during weeks 4-10 inclusive. Individualised feedback is provided to all students within 10 business days.

Learning Outcomes:

- Demonstrate sound clinical reasoning with assessment and exercise prescription for chronic musculoskeletal conditions.
- Apply a biopsychosocial treatment approach to exercise interventions for chronic musculoskeletal conditions.
- Provide targeted therapeutic pain education specific to patient presentation.

Task 4: VIVA Clinical Skills Assessment (30%) – during the exam period

The VIVA assesses the practical application of the knowledge and skills covered in the course. It involves a 40-minute oral and skills assessment specific to Exercise Physiology clinical practice in musculoskeletal rehabilitation. The oral assessment involves responses to questions posed by the examiner. The clinical skills assessment requires students to perform a physical assessment and/or exercise prescription technique commonly used by Exercise Physiologists in musculoskeletal rehabilitation. Before commencing the assessment, students will be given 15-minutes to read their allocated case study and consider the specific questions and skills that will be addressed. The marking rubric for the VIVA will be made available on the Moodle homepage. There are three (3) academic markers who will provide verbal feedback to the students immediately following the VIVA. **This assessment is a hurdle requirement for completing this course.**

Learning Outcomes:

- Demonstrate evidence-based assessment of patients with chronic musculoskeletal conditions.
- Prescribe evidence-based exercise for chronic musculoskeletal conditions.
- Demonstrate sound clinical reasoning with assessment and exercise prescription for chronic musculoskeletal conditions.
- Demonstrate a high level of oral and written communication to other health professions.
- Apply a biopsychosocial treatment approach to exercise interventions for chronic musculoskeletal conditions.
- Provide targeted therapeutic pain education specific to patient presentation.