



THE UNIVERSITY OF NEW SOUTH WALES

Faculty of Medicine

School of Medical Sciences

Health and Exercise Science

HESC 4531

Movement Rehabilitation

COURSE OUTLINE

Session 2, 2009

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HESC 4531 Course Information

Movement Rehabilitation A (HESC 4531) is a 3rd year Health and Exercise Science Course worth six Units of Credit (6 UOC). Satisfactory completion of the course is required for the award of Bachelor of Science (Health and Exercise Science) and attaining accreditation with the Australian Association for Exercise and Sports Science. The course will build upon knowledge obtained in Functional Anatomy 1 (ANAT 3131), Functional Anatomy 2 (ANAT 3141) and Muscle and Motor Control (NEUR 3101).

Course Description

This course describes the use of exercise as a clinical rehabilitation tool for humans with musculoskeletal pathologies and injuries. In addition, the course explains why impairment in motor control, repeated movements and / or sustained postures may predispose to musculoskeletal injury and perpetuate chronic pain. The course delivers information about evaluation, design and implementation of movement-based rehabilitation techniques for musculoskeletal injuries and movement impairment syndromes.

Course Objectives

To introduce and develop an understanding of

- How the movement / motor system plays a major role in the development of musculoskeletal pain.
- How repeated movements and sustained postures can contribute to the development of musculoskeletal pain.
- The consequences of injury and pain on the control of movements.
- The procedures and techniques for assessing and improving joint range of motion, flexibility, muscular strength, power and endurance, joint stabilization and motor control.
- The design and implementation of exercise-based rehabilitation programs for musculoskeletal conditions.
- Evidence-based approach to exercise rehabilitation for musculoskeletal injuries.

Course Co-ordinator and Lecturer

Course Co-ordinator: Dr. Michael Lee

Lecturer: Dr. Michael Lee

Telephone: 9385-8710

Office: John Goodsell Building, Rm235

Email: michael.lee@unsw.edu.au

Office Hrs: Monday 2-3pm
Wednesday 12-1pm

Course Structure and Teaching Strategies

This 6 UOC Course consists of:

- 3 one-hour Lectures per week
- 1 two-hour Tutorial / Practical class per week

Lectures will provide you with important concepts and theory essential for understanding the principles in the prescription and delivery of exercises as clinical tools. While the lectures will focus on theoretical aspects of exercise rehabilitation, potential new approaches to exercise implementation, contraindications to exercise, clinical considerations for special populations and areas requiring further research for more effective rehabilitation therapies will be identified and discussed.

To facilitate the development of assessment and analytical skills, tutorials and practical classes will be held. Tutorials and practical classes will encourage students to engage in a more interactive form of learning than is possible in the lectures. Tutorial activities are designed to help consolidate information presented in the lectures. The skills you will learn in tutorials and practical classes are essential to your development as an Exercise Physiologist.

Approach to Learning and Teaching

The teaching and learning strategies utilized in this course aim to create an environment, which challenges and interests students. The course will equip the students with relevant knowledge and skills to work effectively as clinical Exercise Physiologists.

Apart from lectures and tutorials, the students are encouraged to participate in self-directed learning through use of textbooks, journal articles and Web-based resources. A list of course textbooks and recommended readings is included in this course outline. Other self-directed readings and activities will be suggested to you prior to your lectures and tutorials. It is essential that you prepare for lectures and tutorials before attendance.

Student Learning Outcomes

HESC 4531 will help the students to develop attributes that UNSW has identified as important for a UNSW graduate to possess. These included;

- In depth knowledge and skills in using exercise as a rehabilitation tool
- Effective communication
- Capacity for analytical and critical thinking
- Skills involved research and inquiry
- Effective collaborative and management skills
- Ethical, professional and social understanding

On completion of this course, students should:

- Have a concrete understanding of the indications and contraindications of exercise for various common musculoskeletal conditions and injuries.

- Be able to perform functional capacity assessment and identify areas that require exercise rehabilitation
- Be able to prescribe and deliver appropriate exercise interventions to assist recovery from musculoskeletal injury.
- Be able to demonstrate their ability to work with other allied health professionals and communicate effectively.

Assessment Procedures

Web CT Quiz 1 (Week 4)	2.5%
Web CT Quiz 2 (Week 8)	2.5%
Assignment 1 (Case Report) (Due Week 6)	20%
Assignment 2 (Case Report) (Due Week 10)	35%
Final Exam (1hr short answers + 1hr MCQ)	40%

Quizzes

There will be two online quizzes to assess materials covered in lectures and tutorials between Week 1 and 3 (Quiz 1), and between Week 4 and 8 (Quiz 2). Each quiz is worth 2.5%. Assigned readings are also examinable. The quizzes are comprised of multiple choice questions (MCQ) and must be completed within the specified Week. A score of zero will be given if the quiz is not completed by the due date (Friday 5pm of the specified week). It is your responsibility to make sure that you complete the quizzes on time.

Assignments (Case Reports)

Written assignments must adhere to the following format. Any assignment not following this format, may not be marked, however these assignments **must** still be submitted. All written assignments should:

1. be typewritten in 12 pt. Times or Times New Roman font,
2. be double-spaced,
3. have at least a 2.54 cm margin on all sides,
4. use left-justification,
5. include an assignment coversheet (located on WebCT),
6. be stapled together,
7. use APA (5th Edition) formatting for citations and references when necessary,
8. include units of measure when necessary.

Paragraphs will be formatted in an academic style, which means that paragraphs should be greater than two sentences in length, new paragraphs are indicated by indenting the first line, and no blank lines should be utilized between paragraphs.

Case Reports

Case reports will be based on practical experiences with actual client encountered either at the Lifestyle Clinic or during your allocated Practicum.

Case Report 1 – Client Interview and Physical Assessment

You will be assessed on your ability to communicate, interpret and report the following information gathered from your initial assessment of your client. You should include the following information in your report:

1. Client details – e.g., occupation / sport, age
2. Injury History – mechanisms of injury, location, time course, pain level, previous injury
3. Medical History – medications, other conditions, past surgery
4. Treatment – past and current treatment
5. Symptoms – location of pain, types of pain, intensity, aggravating and relieving factors, neurological symptoms
6. Psycho-social – understanding of injury, coping strategies, emotional issues, fear, depression
7. Activity Level – current and pre-injury
8. Client Goals – work / sport / lifestyle
9. Social Barriers / Support network
10. Physical Assessment Proposal– provide rationale for the tests / assessments proposed
11. Outcome Measures
12. Contra-indication to EP Care – red flags, yellow flags
13. Any other information you feel will be pertinent in working with the client

Case Report 1 should be of less than 5 pages in total. You should include in the report information that will help yourself, other EP and allied health professionals in working with the client. This should not be a rehabilitation plan; rather it should be a presentation of facts you have gathered from your interview and a summary of your physical assessment findings.

Case report 2 – Program Design and Implementation

Case Report 2 will be a comprehensive rehabilitation plan and should be less than 5 pages in total. Your report should address the following items:

1. Exercise Prescription – rationale for the chosen exercises
2. Program Structure – you will be assessed on clarity and feasibility of the program
3. Effectiveness of Program – How will you measure effectiveness?
4. Client Education
5. Prognosis
6. Exercise progression – provide an example of how you would progress your client. How do you know when to progress?

Final Examination

The final examination for HESC 4531 will be of 2 hour duration and held during the University examination period. It will comprise of multiple choices and short answers questions. All materials presented in the lectures, tutorials and recommended readings are examinable. Materials previously examined in the quizzes are also examinable.

Textbooks

- Enoka, RM. (2008). Neuromechanics of human movement. Human Kinetics (4th Ed). ISBN: 0736066799.
- Voight, ML. (2006). Musculoskeletal interventions: techniques for therapeutic exercise. McGraw-Hill Medical. ISBN: 0071457682.
- McGill, S (2007). Low back disorders. Human Kinetics (2nd Ed). ISBN: 0736066926
- Richardson, CA et al. (2004). Therapeutic exercise for lumbopelvic stabilization: A motor control approach for the treatment and prevention of low back pain. Churchill Livingstone (2nd Ed). ISBN: 0443072930

Recommended Readings

- Sahrman, SA (2002). Diagnosis and Treatment of Movement Impairment Syndromes. St. Louis, Mosby. ISBN: 9780801672057
- Hamill and Knutzen (2009). Biomechanical basis of human movement. Lippincott Williams and Wilkins (3rd Ed). ISBN: 9780781791281.
- Kendall, FP et al (2005). Muscles: Testing and function, with posture and pain. Lippincott, Williams and Wilkins (5th Ed). ISBN: 0781747805
- Shumway-Cook and Woollacott (2007). Motor Control: Translating research into clinical practice. Lippincott Williams and Wilkins (3rd Ed). ISBN: 9780781766913.

Course Evaluation and Development

The Course and Teaching Evaluation and Improvement (CATEI) Process of the UNSW is designed to evaluate feedback from students about the course. Constructive feedback will be considered carefully and continual improvements of the course are made based on this feedback.

General Information

Health and Exercise Science is part of the School of Medical Sciences (SOMS) and is within the Faculty of Medicine. It is located on Level 2 of John Goodsell Building. General enquiries are directed to the **Program Officer** Sue Cheng (sue.cheng@unsw.edu.au) at the Health and Exercise Reception, located in Room 233 in John Goodsell Building (Office hours are generally between 9-5pm)

Head of School – Prof. Nick Hawkins	N.Hawkins@unsw.edu.au
Program Authority - Dr. Ben Barry (Room 243)	ben.barry@unsw.edu.au
Year 1 Tutor – Dr. David Bentley (Room 237)	d.bentley@unsw.edu.au
Year 2 Tutors – Dr. Maria Matuszek (Room 248)	m.matuszek@unsw.edu.au
Dr. Gail Trapp (Room 241)	e.trapp@unsw.edu.au
Year 3 Tutor – Dr. Cindy Lin (Room 239)	c.lin@unsw.edu.au
Year 4 Tutor – Dr. Yati Boutcher (Room 252)	y.boutcher@unsw.edu.au

Practicum Co-ordinator – Kim Denic (Room 244) k.denic@unsw.edu.au

SOMS Student Advisor – Carmen Robinson (MG14, Wallace Wurth Building)

Carmen.robinson@unsw.edu.au

Official Communication by Email

Please note that email is now the official means by which the School of Medical Sciences at UNSW communicate with you. All email messages will be sent to your UNSW email address. If you do not wish to use the University email system, you **MUST** arrange for your official email to be directed to your preferred email address. The University recommends that you check your email regularly (at least every other day). Facilities for checking email are available in the School of Medical Sciences and in the Library. Further assistance and information is available from DIS-Connect (TEL: 9385 1777). Free email courses are run by the UNSW Library.

Attendance Requirements

Attendance at tutorials / practical classes is compulsory, and must be recorded in the class roll on the day of the class. Satisfactory completion of the task set for each tutorial is mandatory. Non-attendance for other than documented medical conditions (need to provide a medical certificate, see **Medical Certificate** section) or other unforeseen circumstances, or unsatisfactory performance, for more than 1 tutorial during the session may result in ineligibility to pass the course.

Expectations in Tutorials

It is expected that all students behave in a social, ethically responsible and professional manner during the entirety of the tutorial. The students must:

- Arrive on time
- Turn off mobile phones before entering the class and must not use mobile phones during the class
- Wear proper clothing that allows demonstration and participation of various types of exercises
- Must return all equipments and furniture to the appropriate location at the completion of the class

Medical Certificates

Students who missed tutorials due to illness or other reasons must submit a copy of medical certificate (or other relevant documents) to the Course Co-ordinator **Dr. Michael Lee** in **Room 235, John Goodsell Building**. Certificates should be lodged **within 7 days** after an absence. Certificates lodged **after 7 days** *will not be accepted*.

The following information must be submitted along with the certificate:

- Student Name

- Student Number
- Date of class missed
- Name of class missed

You must supply adequate documentation to be considered for any supplementary quiz. Tutorials will not be repeated for students who missed scheduled tutorials for any reason.

Special Consideration

If you believe that your performance in a course, either during session or in an examination, has been adversely affected by illness or any other reasons, you should notify the Registrar and apply for Special Consideration in the determination of your results. Such request must be made as soon as possible after the incident occurred. Application made **more than 3 days after** an examination will only be considered in exceptional circumstances.

Special consideration application form is available from the Student Centre in the Chancellery and from Course Offices. In exceptional circumstances further assessment may be given. If you believe you may be eligible for further assessment, you should contact the Course Authority or the relevant Course Office as soon as possible. Please refer to UNSW Student Gateway at www.student.unsw.edu.au for further information regarding Special Consideration.

Missed Exam

If you miss an exam (without medical reasons) you will be given an absent fail. If you arrive late to an exam you will not be granted time extension. It is your responsibility to check exam timetable to ensure you arrive with sufficient time. If you miss an exam due to unforeseen circumstances, you must notify the Registrar and contact the Course Co-ordinator and relevant Course Offices immediately. If you miss an exam for medical reasons, you must lodge a medical certificate with New South Q within 3 days (refer to UNSW Student Gateway at www.student.unsw.edu.au for further information).

Student Support and Services

Students with disability who requires modifications in their teaching or learning environment are encouraged to discuss their requirements with the Course Co-ordinator or the Equity and Diversity Unit (EADU, 9385 4734) prior to, or at the commencement of their course,

Plagiarism and Academic Misconduct

Plagiarism is when one presents work or thoughts of another and claiming as one's own. All forms of plagiarism will not be tolerated. Please refer to the Learning Centre website for further information on Student Misconduct & UNSW Guidelines and Rules on Student Plagiarism (www.lc.unsw.edu.au/plagiarism) and UNSW Policy on Academic Misconduct (<https://my.unsw.edu.au/student/academiclife/assessment/AcademicMisconductStudentMisconduct.html>).

Student Rights and Responsibilities

Please refer to UNSW Student Gateway – www.student.unsw.edu.au

Timetable

Case Report Marking Criteria

Criteria	High Distinction	Distinction	Credit	Pass/Fail
Client Description & History	Provides a comprehensive description and history of client	Provides an adequate description and history of client	Provides basic description and history of client	Provides incomplete description and history of client
Injury Description & History	Provides a comprehensive description and history of injury	Provides an adequate description and history of injury	Provides basic description and history of injury	Provides incomplete description and history of injury
Physical assessment	Comprehensive analysis of physical factors affecting program	Adequate analysis of physical factors affecting program	Basic analysis of physical factors affecting program	Incomplete analysis of physical factors affecting program
Psychological assessment	Comprehensive analysis of psychological factors affecting program	Adequate analysis of psychological factors affecting program	Basic analysis of psychological factors affecting program	Incomplete analysis of psychological factors affecting program
Social assessment	Comprehensive analysis of social factors affecting program	Adequate analysis of social factors affecting program	Basic analysis of social factors affecting program	Incomplete analysis of social factors affecting program
Educational Program	Provides a comprehensive education program for the client	Provides an adequate education program for the client	Provides a basic education program for the client	Provides an incomplete education program for the client
Physical Rehabilitation Program	Provides a comprehensive physical rehabilitation program for the client	Provides an adequate physical rehabilitation program for the client	Provides a basic physical rehabilitation program for the client	Provides an incomplete physical rehabilitation program for the client
Identification of contraindications and red flags	Comprehensive awareness of potential contraindications and red flags	Adequate awareness of potential contraindications and red flags	Basic awareness of contraindications and red flags	Poor awareness of contraindications and red flags
Appendices	Excellent tables & figures and overall presentation	Good tables & figures and overall presentation	Some tables & figures and average overall presentation	No tables & figures and poor overall presentation