



92553 Complex Exercise Management

Warning: The information on this page is indicative. The subject outline for a particular session, location and mode of offering is the authoritative source of all information about the subject for that offering. Required texts, recommended texts and references in particular are likely to change. Students will be provided with a subject outline once they enrol in the subject.

Subject handbook information prior to 2024 is available in the [Archives](#).

UTS: Health

Credit points: 6 cp

Subject level: Undergraduate

Result type: Grade and marks

Requisite(s): [92523 Strength and Conditioning](#)

These requisites may not apply to students in certain courses.

There are course requisites for this subject. See [access conditions](#).

Description

This subject examines the aetiology of lifestyle and clinically relevant diseases with a focus on physical activity and exercise. It presents information relating to the physical and cognitive health benefits of physical activity and exercise for health under various physiological and metabolic conditions. Students develop an understanding of the factors that determine, influence and modify the physical activity habits of individuals and whole populations who may present with, or be at risk of, various disease states. This subject reinforces principles and practice of technical skills required of the exercise scientist. Students develop competencies in the assessment of cardiorespiratory health, muscular and orthopaedic performance and clinical exercise testing central to professional practice in the health and fitness setting.

Subject learning objectives (SLOs)

Upon successful completion of this subject students should be able to:

- A. Critically analyse the factors underpinning the development of chronic diseases
- B. Identify appropriate assessments of physical performance for clients at risk of, or with known disease
- C. Prioritise the requirement for collaborative partnerships in supporting clients with complex exercise needs
- D. Evaluate the barriers to physical activity participation and develop methods to promote exercise in individuals with complex needs
- E. Recognise the diversity of Indigenous Australians and integrate this knowledge into health, sport and exercise management

Course intended learning outcomes (CILOs)

This subject also contributes specifically to the following graduate attributes:

- Lead, manage and inspire within the fields of sport, exercise and health; (1.0)
- Take personal, social and ethical responsibility for their contribution to sport, exercise and health (2.0)
- Engage in research and critical thinking to integrate diverse knowledge and develop creative, effective and evidence-based solutions (4.0)
- Adapt to diverse industry contexts to enable optimal and sustainable sport, exercise and health outcomes (5.0)
- Demonstrate the ability to communicate effectively and sensitively with diverse populations to enable positive change (6.0)
- Demonstrate professional cultural competency which contributes to the health and wellbeing of Indigenous Australians, inclusive of physical, social, emotional and spiritual wellness (7.0)

Teaching and learning strategies

This subject incorporates a range of learning activities to engage students with the content.

Blended learning strategies used on the Canvas learning platform provide students with an array of foundation material in the area of clinical exercise physiology. There are many different chronic conditions that are outlined in this subject, so material is designed to instill an understanding of each condition with a view to expanding on this information in tutorial classes. This material will be in the form of short videos, short lectures, written material and journal manuscripts. The variety of delivery mediums via Canvas ensure that students can interact with the subject content each week at a time that is convenient to them, in a location in which they are comfortable, and at their own speed.

For each condition that is addressed in this subject, lectures and other online content will include a background of the disease, discussion of methods to manage the condition, medications and lifestyle interventions aimed to address the symptoms, assessment of individuals who present with related signs and symptoms, and the exercise prescription for each condition.

The tutorial sessions are generally practice-oriented laboratory sessions that involve a variety of testing procedures centred around chronic disease. Students gain experience in client relationships and expand their skillset through an introduction to what it means to become a practitioner in the area of clinical exercise physiology. The tutorial sessions also involve brainstorm sessions, facilitated discussions, small-group work problem solving tasks and case studies. Some tutorials are delivered in online mode where students are required to watch or read relevant material and undertake relevant tasks as outlined in the Lab Manual. This method of delivery enables students to undertake the required activities in their own environment and at their own speed.

Along with a comprehensive final exam, a major component of the assessment for the subject is a task that requires a multidimensional approach to client care in the clinical exercise physiology setting, which is directly linked to industry practice. This is enable students to attain deep knowledge in a variety of components related to patient care.

Content (topics)

- Safe exercise prescription and management for individuals with cardiopulmonary, musculoskeletal, neurological and metabolic diseases.
- Understanding the specific exercise modality and equipment requirements for individuals with chronic diseases.
- Appropriate knowledge and implementation of safety elements and exercise contraindications when considering exercise for individuals with chronic disease.
- Knowledge of, and assessment of factors that influence exercise adherence with a view to enhancing adherence through behaviour modification.
- Understand the relationship between sedentary behaviour and physical activity in the aetiology, prevention and management of lifestyle-related chronic diseases.
- Describe the aetiology of obesity and explain the metabolic and chronic health consequences of the condition.
- Development of appropriate physical activity interventions for at-risk sub-populations.
- Perform appropriate risk assessment, pre-screening and laboratory assessment of clinical issues associated with chronic diseases including blood chemistry, electrocardiogram, functional performance and physical activity monitoring.
- Outline the commonly prescribed medications which may influence physiological systems and the response to exercise in common pathologies.
- Understand the exercise management and health issues for individuals with physical or cognitive disabilities.
- Identify the exercise management and health issues for Indigenous Australians.
- Describe the role of public policy in physical activity promotion and explore population-based methods to overcome sedentary behaviour.
- Integration of knowledge and skills in exercise prescription, human physiology and health with other areas of exercise science and identify the need for collaboration with appropriate health professionals.
- Describe the effects of ageing on the physiological systems of the body.

Assessment

Assessment task 1: Mid-Session Examination

Intent: This exam is designed to assess students understanding of the content delivered in the first half of the session. This includes content relating to the development of chronic disease, assessment of chronic disease and the role of exercise in the treatment of chronic disease.

Objective(s): This assessment task addresses subject learning objective(s):

A, B and D

This assessment task contributes to the development of graduate attribute(s):

2.0 and 4.0

Type: Examination

Groupwork: Individual

Weight: 30%

Assessment task 2: Exercise Management Project

Intent: This assessment task is designed to assess student understanding of the range of issues that encompass chronic disease. They are required to compile a detailed appraisal of one chronic disease and demonstrate how exercise can be integrated into a healthcare plan.

Objective(s): This assessment task addresses subject learning objective(s):

A, B, C and D

This assessment task contributes to the development of graduate attribute(s):

1.0, 2.0, 5.0 and 6.0

Type: Project

Groupwork: Group, group assessed

Weight: 30%

Assessment task 3: Final Examination

Intent: This exam is designed to assess students understanding of the content delivered across the entire session. This includes content relating to the development of chronic disease, assessment of chronic disease and the role of exercise in the treatment of chronic disease. Students will be required to respond to a range of physiological issues associated with cases of chronic disease.

Objective(s): This assessment task addresses subject learning objective(s):

A, B, C, D and E

This assessment task contributes to the development of graduate attribute(s):

1.0, 4.0, 5.0 and 7.0

Type: Examination

Groupwork: Individual

Weight: 40%

Length: 120 minutes

Required texts

Ehrman, J. K. Gordon, P. M. Visich, P. S. & Keteyian, S. J. 2019, *Clinical Exercise Physiology*, 4th edn, Human Kinetics, Champaign, IL, USA.

Students are advised to acquire their own copies of this text. Copies of this text is available at the UTS library on closed reserve.

All additional readings, other than textbooks, will be available via links from within Canvas. The required weekly readings for this subject will be advised on Canvas.

NB: It is essential that students complete all required readings. The required readings will be considered assumed knowledge for tutorial classes and the examinations.

References

Books

American College of Sports Medicine 2017, *Guidelines for Exercise Testing and Prescription*, 10th edn, Lippincott, Williams & Wilkins, Philadelphia, USA.

American College of Sports Medicine 2013, *ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription*, 7th edn, Lippincott, Williams & Wilkins, Philadelphia, USA.

Clarke, J. 2006, *A Clinical Guide to Inherited Metabolic Diseases*, Cambridge University Press, London, UK.

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

Durstine, J.L., Moore, G.E., Painter, P.L. & Roberts, S.O. 2016, *ACSM's Exercise Management for Persons with Chronic Diseases and Disabilities*, 4th edn, Lippincott, Williams & Wilkins, Philadelphia, USA.

Hertling, D. & Kessler, R. 2005, *Management of Common Musculoskeletal Disorders: Physical Therapy Principles and Methods*, 4th edn, Lippincott, Williams & Wilkins, Philadelphia, USA.

LeMura, L. & von Duvillard, S. 2006, *Clinical Exercise Physiology: Application and Physiological Principles*, Lippincott, Williams & Wilkins, Philadelphia, USA.

McArdle, W.D., Katch, F.I. & Katch, V.L. 2014, *Exercise Physiology: Energy, Nutrition and Human Performance*, 8th edn, Lippincott, Williams & Wilkins, Philadelphia, USA.

Other resources

UTS Student Centre

Building 10

Monday to Friday: 9am - 5pm

Tel: 1300 ASK UTS (1300 275 887)

Details for student centres: www.uts.edu.au/current-students/contacts/general-contacts

For other resources/ information refer to the Faculty of Health website (www.uts.edu.au/about/faculty-health) and Canvas at: <https://canvas.uts.edu.au/>.

UTS Library

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Improve your academic and English language skills

Marks for all assessment tasks such as assignments and examinations are given not only for what you write but also for how you write. If you would like the opportunity to improve your academic and English language skills, make an appointment with the HELPS (Higher Education Language & Presentation Support) Service in Student Services.

HELPS (Higher Education Language & Presentation Support)

HELPS provides assistance with English language proficiency and academic language. Students who need to develop their written and/or spoken English should make use of the free services offered by HELPS, including academic language workshops, vacation intensive courses, drop-in consultations, individual appointments and Conversations@UTS (www.ssu.uts.edu.au/helps). HELPS staff are also available for drop-in consultations at the UTS Library. Phone (02) 9514 9733.

Please see www.uts.edu.au for additional information on other resources provided to students by UTS.

The Accessibility and Financial Assistance Service

The Accessibility Service can support students with disabilities, medical or mental health conditions, including temporary injuries (e.g., broken limbs). The Accessibility Service works with **Academic Liaison Officers** in each Faculty to provide 'reasonable adjustments' such as exam provisions, assistive technology, requests and strategies for managing your studies alongside your health condition. If you're unsure whether you need assistance, we recommend getting in touch early and we can provide advice on how our service can assist you. Make an appointment with an Accessibility Consultant (AC) on +61 2 9514 1177 or Accessibility@uts.edu.au.

The Financial Assistance Service can assist you with financial aspects of life at university, including Centrelink information, tax returns and budgeting, interest-free student loans and grants to assist with course-related costs. Check eligibility and apply online and make an appointment on +61 2 9514 1177 or Financial.assistance@uts.edu.au.

