PHYS30005 Muscle and Exercise Physiology

Credit Points:	12.5
Level:	3 (Undergraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 24 hours of lectures, 12 hours of computer-aided learning (total contact hours: 36) Total Time Commitment: 170 hours
Prerequisites:	**Bachelor of Science (2009 onwards)** **Subject** / **Study Period Commencement:** / **Credit Points:** PHYS20008 Human Physiology — Semester 1, Semester 2 — 12.50 plus one of: **Subject** / **Study Period Commencement:** / **Credit Points:** PHYS20009 Research-Based Physiology — Semester 1, Semester 2 — 12.50 ZOOL20006 Comparative Animal Physiology — Semester 2 — 12.50 PHYS20009 may also be taken concurrently. **Bachelor of Biomedicine** **Subject** / **Study Period Commencement:** / **Credit Points:** BIOM20002 Human Structure and Function — Semester 2 — 25 Prior to 2009: **Bachelor of Science:** 536-201 Principles of Physiology and 536-211 Physiology: Control of Body Function and 536-222 Experimental Physiology
Corequisites:	None
Recommended Background Knowledge:	Physiology, Biochemistry
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Prof Gordon Lynch

Contact:	Subject Coordinator Prof Gordon Lynch **gsl@unimelb.edu.au (mailto:gsl@unimelb.edu.au)** Administrative Coordination **BiomedSci-AcademicServices@unimelb.edu.au (mailto:BiomedSci-AcademicServices@unimelb.edu.au)**
Subject Overview:	This subject enables students to comprehend aspects of normal muscle development and growth, neuromuscular transmission, the control of human movement as well as the adaptation of skeletal muscle to interventions such as acute and long-term endurance and resistance training. Students will study exercise metabolism, cardiovascular and respiratory responses to exercise, intracellular signalling, and the underlying bases of muscle fatigue. Students will study how ageing affects muscle structure and function, the underlying cellular mechanisms involved in disuse atrophy, muscle damage and repair, as well as how muscle responds to different pharmacological interventions, including anabolic steroids. Students will learn about current research and research practices in muscle and exercise.
Learning Outcomes:	# to establish a sound factual understanding of skeletal muscle structure and function and how muscle properties are changed during growth, development, exercise, ageing and pharmacological interventions. # to establish a strong understanding of metabolic, cardiovascular and respiratory physiology and the acute and long-term responses to exercise.
Assessment:	Two 50 min mid-semester tests (2 x 15%) One written report (10%) One 2 hr end-of-semester examination (60%)
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	# developed skills to predict how skeletal muscle will adapt to altered functional demands, including those with clinical application; # developed skills in reading, analysing and evaluating research in the field of skeletal muscle and exercise physiology; and # awareness of current directions in skeletal muscle and exercise physiology research, especially in relation to health and disease
Notes:	This subject is available to students enrolled in the NG BSc, BBioMed, pre-2008 BSc or BBiomedSc. Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject. This subject is recommended for BSc students and Bachelor of Biomedicine students taking a physiology major with a specialisation in molecular and cell biology or integrated systems biology. Resources provided: LMS including Lectopia recordings, lecture notes, study guides, etc
Related Majors/Minors/ Specialisations:	Anatomy (pre-2008 Bachelor of Science) Human Structure and Function Physiology Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED