

PHYS30005 Muscle and Exercise Physiology

Credit Points:	12.50																								
Level:	3 (Undergraduate)																								
Dates & Locations:	2012, 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: 120 hours																								
Prerequisites:	<p>New Generation Bachelor of Science</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PHYS20008 Human Physiology</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p>plus one of:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PHYS20009 Research-Based Physiology</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p>or</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ZOOL20006 Comparative Animal Physiology</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p>New Generation Bachelor of Biomedicine</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BIOM20002 Human Structure and Function</td> <td>Semester 2</td> <td>25</td> </tr> </tbody> </table> <p>Prior to 2009: Bachelor of Science: 536-201 Principles of Physiology and 536-211 Physiology: Control of Body Function and 536-222 Experimental Physiology Bachelor of Biomedical Science: 521-213 Integrated Biomedical Science I and 536-250 Integrated Biomedical Science II</p>	Subject	Study Period Commencement:	Credit Points:	PHYS20008 Human Physiology	Semester 1, Semester 2	12.50	Subject	Study Period Commencement:	Credit Points:	PHYS20009 Research-Based Physiology	Semester 1, Semester 2	12.50	Subject	Study Period Commencement:	Credit Points:	ZOOL20006 Comparative Animal Physiology	Semester 2	12.50	Subject	Study Period Commencement:	Credit Points:	BIOM20002 Human Structure and Function	Semester 2	25
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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 Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/																								

Coordinator:	Prof Gordon Lynch
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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.
Objectives:	<ul style="list-style-type: none"> # 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:	<ul style="list-style-type: none"> # 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:	<p>This subject is available to students enrolled in the NG BSc, BBioMed, pre-2008 BSc or BBioMedSc.</p> <p>Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject.</p> <p>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.</p> <p>Resources provided: LMS including Lectopia recordings, lecture notes, study guides, etc</p>
Related Course(s):	Bachelor of Engineering (Biomedical)Biocellular
Related Majors/Minors/ Specialisations:	<p>Anatomy (pre-2008 Bachelor of Science)</p> <p>Human Structure and Function</p> <p>Physiology</p> <p>Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses</p> <p>Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.</p>