

536-308 Physiology of Muscle & Exercise

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| Credit Points: | 12.50 |
| Level: | 3 (Undergraduate) |
| Dates & Locations: | 2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. |
| Time Commitment: | Contact Hours: 34 hours of lectures, 15 hours of practical work and computer-aided learning Total Time Commitment: 120 hours |
| Prerequisites: | Physiology 536-201, 536-211 and 536-222. BBiomedSc students: 521-213 and 536-250. A waiver of the prerequisite 536-222 may be considered for students who passed 536-201 and 536-211. Written requests should be made to science coordinator, Department of Physiology. |
| Corequisites: | None |
| Recommended Background Knowledge: | None |
| Non Allowed Subjects: | None |
| Core Participation Requirements: | It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit. |
| Coordinator: | Prof Gordon Lynch |
| Subject Overview: | <p>This subject will enable 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 undertake two practical experiments that will develop their abilities to design and plan experiments, and work in small teams to develop their analytical and critical skills to evaluate data. The practical components will also develop skills for writing scientific manuscripts and concise laboratory reports.</p> <p>On completion of this subject students will have:</p> <ul style="list-style-type: none"> # established a sound factual understanding of skeletal muscle structure and function and how muscle properties are changed during growth, development, exercise and ageing. The lecture series will also provide a strong understanding of cardiovascular and respiratory physiology and the response to acute and long-term exercise; # 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 current scientific literature 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. |
| Assessment: | Two written reports of up to six pages each on practical classes due during the semester (15% each); a 3-hour written examination in the examination period (70%). |
| Prescribed Texts: | None |

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| Breadth Options: | <p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2009/D09) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2009/F04) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2009/A04) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2009/M05) <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p> |
| Fees Information: | Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees |
| Notes: | <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 taking a physiology major or BBiomedSci students undertaking a specialisation in molecular and cell biology or integrated systems biology.</p> <p>The experimental approaches taught in this course are further implemented in 536-304 Advanced Experimental Physiology.</p> |
| Related Course(s): | Bachelor of Biomedical Science |
| Related Majors/Minors/Specialisations: | Anatomy Physiology |