BMEN90007 Anatomy & Physiology for Engineers

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 36 hours Total Time Commitment: 120 hours for the semsester
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
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:	Dr Chris Briggs
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Subject Overview:	This subject introduces engineering students to the microscopic appearance of cells and tissues and the digital imaging techniques used to display them; the appearance of bone and cartilage, as well as the organisation of dense connective tissues; skeletal muscle structure and function and the effects of training and disuse; the principles of excitable tissues; the structure and function of the human eye and the processes involved in vision; the ear and the mechanism of hearing; physiological limits to exercise performance and the principles of exercise metabolism; the autonomic nervous system; principles of sensory motor control; cardiac mechanics and cardiac biophysics; the principles of nerve injury and repair.
Objectives:	By the end of this subject students should # Comprehend the terminology used to describe anatomical structures; the organisation of cells and tissues and the digital imaging techniques used to display them; the principles relating to the structure of connective tissues, skeletal muscle, bones and joints and the changes in skeletal muscle during training and following disuse; the principles of exercise metabolism and the physiological limits of exercise performance; the principles of excitable tissues; the structure and function of the human eye and ear and the mechanism of vision and hearing; the autonomic nervous system and the principles of sensorimotor control; cardiac mechanics and cardiac biophysics; the principles of nerve injury and repair # Develop communication skills (oral and written) to describe the structure and function of the human body # Appreciate the scientific basis of the knowledge of human structure and function

Assessment:	Three hour end of semester examination (60%)One 2000 word assignment due at the end of semester (40%)
Prescribed Texts:	To be advised by individual lecturers
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:	# Capacity for independent critical thought, rational inquiry and self-directed learning # Ability to communicate effectively, with the engineering team and with the community at large # High level of development of written skills; time management skills and ability to analyse problems # High level of development in teamwork to interpret and analysis new information
Related Course(s):	Graduate Certificate in Engineering (Environmental Engineering) Master of Biomedical Engineering Postgraduate Certificate in Engineering