PHYS30001 Cardiovascular Health: Genes & Hormones

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: three x 1 hour Lectures per week plus six x 2 hour workshops per fortnight Total Time Commitment: 120 hours
Prerequisites:	New Generation Bachelor of Science: **Subject** / **Study Period Commencement:** / **Credit Points:** PHYS20008 Integrative Human Physiology — Semester 1, Semester 2 — 12.50 and **Subject** / **Study Period Commencement:** / **Credit Points:** PHYS20009 Research-Based Physiology — Semester 2 — 12.50 or **Subject** / **Study Period Commencement:** / **Credit Points:** ZOOL20006 Comparative Animal Physiology — Semester 2 — 12.50 New Generation Bachelor of Biomedicine: **Subject** / **Study Period Commencement:** / **Credit Points:** BIOM20002 Integrated 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 Bachelor of Biomedical Science: 521-213 Integrated Biomedical Science I and 536-250 Integrated Biomedical Science II
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:	Prof Lea Delbridge
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Subject Overview:	This subject focuses on the physiology of cardiovascular health with an emphasis on cardiac, vascular, renal and endocrine homeostasis. Students should develop an understanding of how genes and environment interact in early development and at maturity to shape cardiovascular health in populations and individuals. Studies will follow the programmed development of the cardiovascular system from gene to cell and organ. Three themes of study are presented. Theme 1 'Systemic Set Points' examines the mechanisms involved in the homeostatic control of whole body bloody pressure and considers how dysfunctional components of this system can contribute to hypertension. Theme2 'Cardiac Pump Function' is concerned with whole heart and heart muscle cell mechanical and electrical responses to circulatory demand and to changing hormonal influence. Theme 3 'Cardiovascular Programming' deals with the relationship between early cardiovascular modeling influences (maternal and environmental) and adult cardiovascular functional outcomes. Students will be introduced to experimental approaches and models in physiology and current controversies in cardiovascular research. Disturbances in physiological function will be studied to gain insight into the molecular and cellular bases of disease processes. The role of nutrition in cardiovascular health is considered. In this subject the lectures are supplemented with group discussions where assignment tasks are explored. Students will be introduced to the primary research literature and will consider articles of current interest to analyze for their assignments.
Objectives:	On completion of this subject students should have: # Established a sound factual understanding of cardiovascular structure, function and development at both organ and cellular levels. # Gained knowledge of the important endocrine bases for maintenance of cardiovascular homeostasis.
Assessment:	Up to three written assigments/reports (up to 1000 words each) or presentations (10-20% each). Up to three 1 hour mid-semester examinations (10-20% each).
Prescribed Texts:	None
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # **Bachelor of Arts (https://handbook.unimelb.edu.au/view/2010/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2010/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2010/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2010/B-MUS)** 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.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	Developed the skills to consider the role of genes and environment in shaping cardiovascular health. Achieved proficiency in reading, analyzing and evaluating current scientific literature in the field of cardiovascular pathophysiology.
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 or Bachelor of Biomedicine students undertaking a physiology.

	Formerly known as 536-301 Integrative Physiology: Heart & Kidney. Students are expected to have regular access to an internet-enabled computer. Students are expected to be familiar with word processing, data management and graphical software packages and to be competent in electronic search techniques.
Related Course(s):	Bachelor of Biomedical Science Bachelor of Science Graduate Diploma in Biotechnology
Related Majors/Minors/ Specialisations:	Human Structure and Function Human Structure and Function Physiology Physiology Physiology