PHYS30001 Cardiovascular Health: Genes & Hormones

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	This subject is not offered in 2014.
Time Commitment:	Contact Hours: three x 1 hour Lectures per week plus six x 2 hour workshops (one per fortnight) Total Time Commitment: 120 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

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:	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 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
Contact:	Subject Coordinator Prof Lea Delbridge **lmd@unimelb.edu.au (mailto:lmd@unimelb.edu.au)** Administrative Coordinator

	Ms Lesley Robinson **BiomedSci-AcademicServices@unimelb.edu.au (mailto:BiomedSci-AcademicServices@unimelb.edu.au)**
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. The Theme 'Blood Pressure – Causes And Consequences' 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. The 'Perspectives on the Heart' Theme is concerned with whole heart and heart muscle cell mechanical and electrical responses to circulatory demand and to changing hormonal influence. The Theme of 'Programming and Reprogramming' 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. 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.
Learning Outcomes:	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 assignments/quizzes/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/2014/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2014/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2014/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2014/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 major. 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 Majors/Minors/ Specialisations:	Human Structure and Function Physiology Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED