655-111 Vision: How The Eye Sees The World

Credit Points:	12.50
Level:	1 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. Lectures, tutorials and practical/computer assisted learning sessions
Time Commitment:	Contact Hours: 36 hours of lectures/tutorials and 18 hours of practical/computer assisted learning sessions. Total Time Commitment: 120 hours total time commitment.
Prerequisites:	None
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. This subject requires all students to actively and safely participate in laboratory activities. Students who feel their disability may impact upon their participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit.
Coordinator:	Dr Andrew Metha
Subject Overview:	This subject aims to provide a primary understanding of basic vision functions and visual perception. Topics to be covered include light, its measurement and quantification, the transmission characteristics of the eye and perceptual attributes; basic anatomy of the eye and visual pathways as they relate to visual perception and refractive error (near-sightedness, far-sightedness and astigmatism); detailed anatomy of the orbit, and orbital contents, including the extra-ocular muscles and their actions; comparative anatomy and physiology discussing how human eyes are at the same time both similar and dissimilar to those of other species with regard to general structure, colour vision, visual acuity and accommodation; experimental approaches used to measure sensory modalities; fundamental attributes of our monocular processes such as the perception of colour, temporal (flicker) vision, form (spatial) vision and the space sense; and basic binocular function including the perception of depth and stereopsis. You will learn what 20/20 vision means and why we perceive depth with the 'magic eye' pictures. Congenital and acquired visual anomalies will be used throughout the course to illustrate visual dysfunction.
Objectives:	The objective of this subject is to give students a fundamental understanding of basic visual function and the physiological processes underlying vision.
Assessment:	Two 30-minute multiple-choice tests held during the semester (5% each); six practical report sheets submitted at the end of each practical (15% total); a 2-hour written examination in the examination period (75%).
Prescribed Texts:	None
Recommended Texts:	S H Schwartz, *Visual Perception: A Clinical Orientation* 3rd edn, McGraw-Hill Professional, 2004. E B Goldstein, *Sensation and Perception* 7th edn, Wadsworth-Thompson Learning, 2006.
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/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)** 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:	This subject challenges students to develop sceptical and critical thinking abilities as they synthesise information from lecture, web and practical resources and interpret their observations in a scientific manner. Opportunities will be provided for students to work collaboratively with other students during laboratory sessions, but individuals will need to develop time-managements skills to manage their own time effectively in order to complete the practical sessions tasks (for ongoing assessment) as well as prepare for the end of semester examination.
Notes:	Students enrolled in the BSc (both pre-2008 and new degrees), BASc or a combined BSc course will receive science credit for the completion of this subject.
Related Course(s):	Bachelor of Optometry
Related Majors/Minors/ Specialisations:	First year vision science