OPTO20001 Optical Design and Ophthalmic Metrology

Credit Points:	12.50
Level:	2 (Undergraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 3 x one hour lectures per week; and 22 hours of practical work/computer-aided learning (CAL) during the semester Total Time Commitment: Estimated total time commitment of 120 hours
Prerequisites:	One of **Subject** / **Study Period Commencement:** / **Credit Points:** OPTO10002 Optics: From Rainbows to Digital Imaging — Semester 2 — 12.50 # 655-101 Optical Systems (prior to 2003) # 655-102 Optical Systems (prior to 2004) # 655-202 Optical Systems (prior to 2006)
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Students may only gain credit for one of # 655-210 Optical Design and Ophthalmic Metrology # 655-219 Optics and Ophthalmic Metrology (prior to 2007) # 655-311 Optical Design and Ophthalmic Metrology (prior to 2008)
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 active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
Coordinator:	Dr Andrew Anderson
Contact:	**Email: aaj@unimelb.edu.au (mailto:aaj@unimelb.edu.au)**
Subject Overview:	It is an introduction to ophthalmic lenses and spectacle lens design. The topics covered include aberration theory, optical design and control of aberrations including the design of ophthalmic lenses, advanced photometry and radiometry, and optics of commonly used ophthalmic instruments. Practical classes will include computer-aided tutorials on both optical design and lens calculations.
Objectives:	The purpose of this subject is to provide an understanding of the principles and techniques of optical design including an understanding of the control and optimisation of aberrations
Assessment:	Ongoing assessment of practical work during the semester (15%); a calculation-based group assignment due at the end of the semester (10%); a 3-hour written examination in the examination period (75%). Satisfactory completion of all assessment components is necessary to pass the subject.
Prescribed Texts:	None

Recommended Texts:	# G Smith and D A Atchison, The Eye and Visual Optical Instruments, Cambridge University Press, 1997 (or later edition)
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
Notes:	This subject is available for science credit to students enrolled in the BSc (pre-2008 degree), BASc or a combined BSc course.
Related Course(s):	Bachelor of Optometry