PAED90021 Genetic Counselling Practice

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Year Long, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 12 weeks (2 x 2-hour sessions per week) Total Time Commitment: Not available
Prerequisites:	None - but note preference in selection to the Masters of Genetic Counselling will be given to students who have completed a cognate subject such as human genetics, biochemistry, cell biology, physiology to second year (depending on course content).
Corequisites:	.
Recommended Background Knowledge:	.
Non Allowed Subjects:	.
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 3 Disability Liaison Unit website : 4 http://www.services.unimelb.edu.au/disability/
Coordinator:	Dr Jan Hodgson
Contact:	Ms Margaret Sahhar, margaret.sahhar@ghsv.org.au
Subject Overview:	The curriculum is based on the genetic knowledge requirements of the Human Genetics Society of Australasia Board of Censors for Genetic Counselling, which governs the certification of genetic counsellors in Australia. Basic biological and genetic concepts will be taught via a combination of didactic and problem based learning (PBL) methods. Various human disorders will be discussed to illustrate basic concepts. PBL will be used to facilitate the sharing of information between students and to support the development of group work - which models the work of a genetic counsellor, who works as part of a multidisciplinary team. Tutors will have experience working in the areas of clinical genetics, laboratory genetics, and genetic education / research. This subject is designed to enable students to acquire knowledge in the following areas as well as an appreciation of the application of this knowledge to the practice of clinical genetics: # Cell biology # Meiosis, mitosis # Principles of cytogenetics, including molecular approaches # Human embryology and the effects of major human teratogens # Gene structure and regulation # Transcription, translation # Protein structure and function # Mutations and polymorphisms # Developments in gene technology # Principles of molecular genetic testing # Patterns of inheritance, e.g. mendelian, mitochondrial, polygenic, multifactorial # Pedigree drawing # Pedigree analysis and risk calculation

	# Biostatistics including population genetics and consanguinity, linkage analysis, Bayes theorem analysis, assumptions in risk assessments # Principles of population screening. Examples to include newborn screening and 1st and 2nd trimester maternal serum screening.
Objectives:	On completing this subject students should be able to: # Understand the principles of inheritance # Understand chromosomal disorders and teh genetic basis of disease # Understand the normal stages of human embryo development and have an awareness of how this can be disrupted # Document a family tree # Understand clinical genetic risk assessments for patients and families # Convey genetic information and discuss risk in a clinical context # Have an appreciation for and a basic understanding of the range of molecular and cytogenetic laboratory tests utilised in clinical genetic practice # Understand the issues relating to population based screening
Assessment:	End of semester 2.5 hour exam (60%), approximately 1500 word written assignment (30%), and class participation / in class assessments (10%). Students are expected to complete all in class assessments.
Prescribed Texts:	.
Recommended Texts:	# Thompson MW, McInnes RR, Willad HF (2001) Thompson and Thompson Genetics in Medicine (6th edition), WB Saunders # Jorde LB, Carey JC, White RL. (1999) Medical Genetics (2nd Edition), Mosby Press # Gelherter TD, Collins FS, Ginsburg D (1998) Principles of Medical Genetics (2nd Edition), USA: Williams and Wilkins Other references: # Young ID (1999) Introduction to Risk Calculation in Genetic Counselling (2nd Edition), Oxford University Press # Korf BR (2000) Human Genetics: A Problem-Based Approach (2nd Edition), Carlton: Blackwell Science # Gardner RJM and Sutherland GR (2004) Chromosome Abnormalities and Genetic Counselling (3rd Edition), Oxford Monographs, New York: Oxford University Press # Harper PS (2004) Prctical Genetic Counselling (6th Edition), John Wright # Trent RJ (1997) Molecular Medicine: An introductory text (2nd Edition), New York: Chruchill Livingstone # Strachan T and Read AP (2004) Human Molecular Genetics (3rd Edition), Thomson Publishing Services A subject reference list will be provided. Library available with selected texts within GHSV.
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:	On completing this subject students should be able to: # Understand the principles of inheritance # Understand chromosomal disorders and teh genetic basis of disease # Understand the normal stages of human embryo development and have an awareness of how this can be disrupted # Document a family tree # Understand clinical genetic risk assessments for patients and families # Convey genetic information and discuss risk in a clinical context # Have an appreciation for and a basic understanding of the range of molecular and cytogenetic laboratory tests utilised in clinical genetic practice # Understand the issues relating to population based screening