POPH90111 Genetic Epidemiology

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: Classroom: 2 hours per week. Total Time Commitment: 170 hours
Prerequisites:	

Subject	Study Period Commencement:	Credit Points:
POPH90142 Epidemiology & Analytic Methods 1	Not offered 2016	12.50
POPH90143 Epidemiology & Analytic Methods 2	Not offered 2016	12.50

OR

Subject	Study Period Commencement:	Credit Points:
POPH90013 Biostatistics	Semester 1	12.50
POPH90014 Epidemiology 1	Semester 1	12.50

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.
Coordinator:	Prof Mark Jenkins
Contact:	**m.jenkins@unimelb.edu.au (mailto:m.jenkins@unimelb.edu.au)** **Melbourne School of Population and Global Health** **OR** **Currently enrolled students:** # General information: **https://ask.unimelb.edu.au (https://ask.unimelb.edu.au)** # Email: **enquiries-STEM@unimelb.edu.au (mailto:enquiries-STEM@unimelb.edu.au)** **Future Students:** # Further Information: **http://mspgh.unimelb.edu.au/ (http://mspgh.unimelb.edu.au/)** # Email: **Online Form (http://mspgh.unimelb.edu.au/study/degrees/master-of-public-health/overview)**
Subject Overview:	The majority of chronic diseases share a common risk factor: the family history for that disease. Epidemiologists can use families to assess the role of the interrelated genetic and environmental risk factors. This subject provides an introduction to epidemiological methods that are used to help identify genes associated with disease, and to estimate what proportion

	of the disease can be attributed to measured or unmeasured genetic factors. Concepts, methodologies, and interpretation of familial risk factors for chronic diseases are the major topics in this subject. Topics covered include introduction to population genetics, introduction to molecular genetics, design of family studies including both twin and pedigree studies, segregation analysis, linkage, association studies, estimating the magnitude of the gene effect on disease susceptibility, and genetic screening.
Learning Outcomes:	On completion of this subject, students should be able to: # calculate measures of familial aggregation # explain that susceptibility to complex diseases is due to both genetic and environmental factors; # describe how genes can be altered in various ways with varying effects on molecular function; # recall the fundamentals and limitations of studies designed to identify genes that influence disease susceptibility; # appraise the significance of disease susceptibility genes in the risk of disease; critically appraise a genetic epidemiology study; # evaluate a variety of techniques to find genes for disease that use epidemiological studies.
Assessment:	One written assignment of 2,000 words (40%) due mid-semester and one written assignment of 2,500 words (60%) due end semester.
Prescribed Texts:	None
Recommended Texts:	None
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:	Genetic Epidemiology will allow students to develop skills in: # Critical thinking and analysis # Problem-solving # Finding, evaluating and using relevant information # Written communication # Decision-making # Persuasion and argumentation # Using computers and statistical software
Links to further information:	http://www.mspgh.unimelb.edu.au
Related Course(s):	Master of Epidemiology Master of Public Health Master of Science (Epidemiology)
Related Majors/Minors/ Specialisations:	Epidemiology and Biostatistics