POPH90111 Genetic Epidemiology

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2014. Classroom or Distance
Time Commitment:	Contact Hours: Classroom: 2 hours per week. Distance: 2 hours per week via internet. Total Time Commitment: 120 hours

Prerequisites:

Subject	Study Period Commencement:	Credit Points:
POPH90142 Epidemiology & Analytic Methods 1	Not offered 2014	12.50
POPH90143 Epidemiology & Analytic Methods 2	Not offered 2014	12.50

OR

Subject	Study Period Commencement:	Credit Points:
POPH90013 Biostatistics	Semester 1	12.50
POPH90014 Introduction to Epidemiology	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.
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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 Special Computer Requirements: For students studying via Distance Mode – Access to computer with a Web browser and print access. A university e-mail account is also required. Lecture notes will be provided via internet and tutorials will be conducted over the internet
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.sph.unimelb.edu.au
Notes:	Special Computer Skills Required: Proficiency with a Web browser and basic word processing skills. Resources provided to Distance students: Complete lecture notes, reading material and copies of the overheads used in the lectures will be provided on a Website that can be viewed and printed by the student. A set of reading material will be mailed to each student prior to the start of semester. An electronic forum service will be provided.
Related Course(s):	Master of Epidemiology Master of Public Health Master of Science (Epidemiology)
Related Majors/Minors/ Specialisations:	Epidemiology and Biostatistics Public Health Public Health