POPH90271 Infectious Diseases Modelling

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: 24 Total Time Commitment: 170 hours
Prerequisites:	

Subject	Study Period Commencement:	Credit Points:
POPH90014 Epidemiology 1	Semester 1	12.5
POPH90112 Infectious Disease Epidemiology	Semester 1	12.5

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 Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Prof Jodie Mcvernon
Contact:	**j.mcvernon@unimelb.edu.au (https://mce_host/faces/htdocs/mail%20to:%20j.mcvernon@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:	Faced with the rising cost of vaccines and increasing drug resistance, public health decision makers increasingly rely on epidemiological models of infectious disease transmission to predict the impact, and define optimal implementation of, intervention strategies. Such considerations are particularly critical in resource-constrained settings. This subject introduces students to the concepts of infectious diseases modeling required to interpret modeling papers relevant to the public health context. By considering real world examples of the use of models to support practice, they will learn to distinguish between different types of modeling frameworks, and understand their relevance to alternative questions and settings. Building on their strengths in infectious diseases epidemiology, students will

	develop confidence in assessing whether model frameworks incorporate all relevant knowledge and are 'fit for purpose' to support decision making.
Learning Outcomes:	On completion of this subject, students will be able to: # Describe the basic concepts underlying the susceptible-infectious-recovered modeling paradigm; # Identify data sources of relevance to inform model structure and parameters; # Differentiate between alternative modeling frameworks and approaches, and identify which are most relevant to specific infectious disease policy questions; # Understand the concepts of uncertainty and sensitivity in model outputs; # Provide summary reports of modeling papers for a non-expert audience, such as public health policy makers or the public; # Critically appraise modeling outputs, and their relevance to public health decision making for infectious disease control and surveillance.
Assessment:	Short-answer test assessing understanding of key concepts due at the end week 4 (20%) Major assignment of 3000 words due at the end week 9 (60%) Group work oral presentation due at the end week 12 (20%)
Prescribed Texts:	Vynnycky E, White RG. An introduction to Infectious Disease Modelling. Oxford University Press 2010, Great Britain.
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:	After completing this subject, students will develop skills in: # Finding, evaluating and using diverse sources of evidence; # Critical thinking and analysis; # Problem-solving; # Written and verbal communication; # Decision making.
Related Course(s):	Master of Biostatistics Master of Public Health Master of Science (Epidemiology)
Related Majors/Minors/ Specialisations:	Epidemiology and Biostatistics