MIIM20002 Microbes, Infections and Responses

Credit Points:	12.5
Level:	2 (Undergraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 36 hours of lectures and 6 X 3 hour practical classes and 6 X 1 hour on-line computer aided learning associated with each practical class = 60 hours total. Total Time Commitment: 170 hours
Prerequisites:	**BSc Students** **Subject** / **Study Period Commencement:** / **Credit Points:** MIIM20001 Principles of Microbiology & Immunology / Semester 1 / 12.50 **BBiomedicine Students** Passes in the following two subjects: **Subject** / **Study Period Commencement:** / **Credit Points:** CHEM10006 Chemistry for Biomedicine / Semester 1 / 12.50 BIOM20001 Molecular and Cellular Biomedicine / Semester 1 / 25
Corequisites:	None
Recommended Background Knowledge:	The prerequisite subjects should have provided an appropriate background for this subject.
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:	Dr Karena Waller, Dr Odilia Wijburg, Mrs Helen Cain, Prof Lorena Brown
Contact:	Subject Coordinators Mrs Helen Cain: **hmcain@unimelb.edu.au (mailto:hmcain@unimelb.edu.au)** Prof Lorena Brown: **lorena@unimelb.edu.au (mailto:lorena@unimelb.edu.au)** Dr Odilia Wijburg **odilia@unimelb.edu.au (mailto:odilia@unimelb.edu.au)** Dr Karena Waller

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Subject Overview:	This subject describes how microbes are an essential part of our environmental ecology and participate in unique interactions within their environmental niche. This subject also describes how microbes (bacteria, viruses, parasites) cause infections in humans, and how our immune system responds. The characteristics of some of the pathogens which cause respiratory, gastrointestinal, sexually transmissible and hospital acquired infections are discussed together with the body's immune response to these pathogens, and the design of appropriate interventions, including vaccines and antimicrobials. The effects of both these infections and the interventions to control infectious diseases on communities and public health are also described so that the interaction between pathogen, host and environment can be illustrated. This is a fully integrated subject in which the lectures and the practical classes build on, and support, each other. The practical classes comprise a series of case studies which illustrate and revise material covered in the lecture, and aim to teach the safe and effective implementation of basic microbiological techniques.
Learning Outcomes:	Upon completion of this subject, students should be able to: # Describe the contributions and interactions of microbes within the environment # Describe the characteristics of some medically important pathogens # Describe the mechanisms by which microorganisms initiate infection and the mechanisms by which the immune response controls infection # Describe some of the ways in which infectious disease can be controlled in individuals and in communities, including the use of antimicrobial agents and vaccines, and # Perform basic microbiological techniques safely and effectively and recognise the clinical applications of these techniques
Assessment:	2 x 45-minute written examinations (equally weighted), held around Week 7 and Week 11 (40%), Online quizzes (pre-practical class), held throughout semester (5%) A 2-hour written exam in the end of the semester examination period (55%). Hurdle Requirement: Attendance at practical classes is compulsory. Students who miss more than 20% of the practical component of this subject will not be eligible for final assessment.
Prescribed Texts:	Schaechter's Mechanisms of Microbial Disease (N C Engleberg, V DiRita and T S Dermody), 5th Edn, 2013
Recommended Texts:	Prescott's Microbiology, By Willey, Sherwood and Woolverton. Edn 9, 2014.
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 completion of this subject, students should have developed the following generic skills: # An ability to interpret scientific literature. # The capacity to integrate knowledge across disciplines. # An ability to critically analyse scientific data. # An ability to communicate scientific findings in written format.
Notes:	Where appropriate: # whilst students will not be involved in the manipulation and handling of animals, tissues obtained from appropriately euthanased animals will be used in some experiments. # These experiments will be approved by the University of Melbourne Animal Welfare Committee.

	# Experiments contained in this unit will also be approved by the Biosafety and Gene Technology Committee. Students wishing to register in this subject after week 2 of a Semester should contact the subject coordinators.
Related Majors/Minors/ Specialisations:	Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED
Related Breadth Track(s):	Microbiology and immunology