

526-201 Principles of Microbiology & Immunology

Credit Points:	12.50
Level:	2 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: 36 lectures (three per week); 12 computer based tutorials (one per week) Total Time Commitment: 120 hours
Prerequisites:	Biology 650-141 and 650-142
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Microbes, Infections and Responses
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit.
Coordinator:	Assoc Prof Elizabeth Louise Hartland, Ms Cheryl Jean Power
Subject Overview:	<p>This subject introduces students to the excitingly diverse world of microbes and discusses the roles they play not only in causing infectious disease but also in both creating and maintaining life as we know it. Various types of microbes and their basic life processes are described, with the focus mainly on bacteria and viruses. Bacterial genetics and metabolism are explored, with the emphasis on how these areas explain determine observed behaviours and activities. The components of the immune system are outlined and their interactions and functions described.</p> <p>A central part of this subject is showing how microbes are involved in infectious disease and how they interact with the human immune system. Strategies used by microbes to cause disease and counter strategies used to prevent disease are discussed, including the role of the innate and acquired immune response, the use of sterilization and disinfection procedures, and antibiotics and vaccines. The use of microbes in underpinning much of the vital research in the areas of medicine, public health and biotechnology is also described, as is the role of the immune response, so providing students intending to specialise in other biological sciences with an understanding of the basic concepts of both disciplines.</p>
Objectives:	<p>Upon completion of this subject, students should:</p> <ul style="list-style-type: none"> # have acquired a broad foundation for future subjects in microbiology and immunology; # appreciate the importance of microbiology and immunology in the fields of medicine, public health, genetics and biotechnology; # be familiar with the terminology used by microbiologists and immunologists; # have insight into the type of investigations fundamental to the development of basic microbiological concepts; # be able to describe simple microbial life processes; and # understand how these processes are involved in infectious disease and interactions with hosts' immune systems, adaptation and survival of microorganisms and the promotion or control of microbial growth;

	<p># be able to describe the comparative properties of Bacteria, Archaea and eukaryotic microbial cells and viruses;</p> <p># understand the significance of all these microorganisms in the environment.</p>
Assessment:	A 40 minute multiple choice examination held mid-semester (20%); a 3 hour written examination in the end of semester exam period (70%); on going computer based assessment during semester (10%)
Prescribed Texts:	None
Recommended Texts:	LM Prescott, JP Harley and DA Klein, Microbiology, 7th edn, 2007
Breadth Options:	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <p># Bachelor of Arts (https://handbook.unimelb.edu.au/view/2009/D09)</p> <p># Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2009/F04)</p> <p># Bachelor of Environments (https://handbook.unimelb.edu.au/view/2009/A04)</p> <p># Bachelor of Music (https://handbook.unimelb.edu.au/view/2009/M05)</p> <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Notes:	<p>This subject is available for science credit to students enrolled in the BSc (both pre-2008 and new degrees), BASc or a combined BSc course.</p> <p>This subject is not available to students enrolled in the Bachelor of Biomedicine.</p>
Related Course(s):	<p>Bachelor of Agricultural Science</p> <p>Bachelor of Agricultural Science</p> <p>Bachelor of Animal Science and Management</p> <p>Graduate Diploma in Biotechnology</p>