

# PATH30003 Consequences of Human Disease

<b>Credit Points:</b>	12.50																										
<b>Level:</b>	3 (Undergraduate)																										
<b>Dates &amp; Locations:</b>	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.																										
<b>Time Commitment:</b>	Contact Hours: 36 lectures (3 per week) Total Time Commitment: 120 hours (10 hours per week)																										
<b>Prerequisites:</b>	<p>B. Science students:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PATH30001 Mechanisms of Human Disease</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>and</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PATH30002 Techniques for Investigation of Disease</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>B. Biomedicine students:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PATH30001 Mechanisms of Human Disease</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>and</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PATH30002 Techniques for Investigation of Disease</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>NOTE: B. Biomedicine students doing a Defence &amp; Disease major MUST consult the Majors Information Booklet for additional prerequisite requirements and choices.</p>			Subject	Study Period Commencement:	Credit Points:	PATH30001 Mechanisms of Human Disease	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	PATH30002 Techniques for Investigation of Disease	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	PATH30001 Mechanisms of Human Disease	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	PATH30002 Techniques for Investigation of Disease	Semester 1	12.50
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<b>Recommended Background Knowledge:</b>	<p>For B. Science students: any of the following subjects would be helpful for your studies in Pathology -</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BCMB30001 Protein Structure and Function</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>BCMB30002 Functional Genomics and Bioinformatics</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>BCMB30003 Molecular Aspects of Cell Biology</td> <td>March</td> <td>12.50</td> </tr> </tbody> </table>			Subject	Study Period Commencement:	Credit Points:	BCMB30001 Protein Structure and Function	Semester 2	12.50	BCMB30002 Functional Genomics and Bioinformatics	Semester 1	12.50	BCMB30003 Molecular Aspects of Cell Biology	March	12.50												
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<b>Non Allowed Subjects:</b>	None												
<b>Core Participation Requirements:</b>	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: <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a>												
<b>Coordinator:</b>	Dr Margaret Ayers												
<b>Contact:</b>	<p>Dr John Underwood:  <a href="mailto:johnru@unimelb.edu.au">johnru@unimelb.edu.au</a> (<a href="mailto:johnru@unimelb.edu.au">mailto:johnru@unimelb.edu.au</a>)</p> <p>Dr Margaret Ayers:  <a href="mailto:m.ayers@unimelb.edu.au">m.ayers@unimelb.edu.au</a> (<a href="mailto:m.ayers@unimelb.edu.au">mailto:m.ayers@unimelb.edu.au</a>)</p> <p>Administrative Coordinator:  Mrs Katrina Rush</p>												
<b>Subject Overview:</b>	<p><b>Consequences of Human Disease:</b>  Following on from Mechanisms of Human Disease in Semester 1, the emphasis of this subject is to enhance the theoretical understanding of the cellular, molecular and genetic basis of disease. Students will develop an understanding of the cellular, molecular and genetic bases of disease processes taking an integrated approach which utilises current advances in research and lecturers who are experts in the main areas covered - immunopathology, neuropathology and neoplasia. The immunopathology component includes organ- and non-organ specific autoimmune diseases, transplantation, Fc receptors and inflammation, HIV-AIDS. The neuropathology component of the subject focuses on neurodegenerative diseases including Alzheimer's disease, Parkinson's disease, Multiple Sclerosis and Prion-related Diseases. Lecturers from Pathology and key cancer research institutions including the Peter MacCallum Cancer Centre and Ludwig Institute for Cancer Research cover topics including cancer diagnosis, epidemiology, tumour metastases and current approaches to radiotherapy and immunotherapy of cancer.</p> <p>Students will develop communication skills necessary to describe the cellular and molecular basis of complex disease processes. Students will also enhance their skills in the acquisition and evaluation of research-based data related to the lectures. From the lectures, students will understand the important relationship between basic research and the investigation of complex diseases and how research discoveries can contribute to treatment of disease.</p> <p>The subject will consider:</p> <ul style="list-style-type: none"> <li># the range of ways in which response to injury in the Nervous System leads to development of neurological disease eg., Stroke, Alzheimer's Disease, Parkinson's Disease, Multiple Sclerosis and others as well as the current investigative strategies being used to understand and treat these conditions.</li> <li># the mechanisms and consequences of immune-mediated tissue damage. Students will gain an understanding of how immune-mediated diseases arise and the mechanisms of tissue damage by considering a range of common organ-specific and organ-non-specific autoimmune diseases. Treatment of autoimmune diseases will also be discussed.</li> <li># the origin of cancer and the molecular and cellular events that are involved in cancer progression, heterogeneity, invasion and metastasis.</li> <li># the mechanisms of some of the most common and intractable diseases in our community.</li> </ul>												

<b>Objectives:</b>	Using experts in their field of research, this subject aims to introduce students to current theoretical and experimental concepts of the cellular, molecular and genetic bases of disease. Students will develop an understanding of complex disease processes and how this understanding can be used for the treatment and prevention of major diseases affecting human society.
<b>Assessment:</b>	Two multiple choice question tests during the semester (20% each);A 3 hour written examination in the examination period (60%).
<b>Prescribed Texts:</b>	Kumar V. et al., Robbins and Cotran Pathologic Basis of Disease, latest edition, Saunders Elsevier.
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	The emphasis of this subject is to enhance the theoretical understanding of the cellular, molecular and genetics bases of disease. Utilizing an integrated approach to teaching involving current research presented by lecturers who are experts in the areas of immunological, neurological, neoplastic and genetic diseases, students will develop communication skills necessary to describe complex disease processes. Students will also enhance their skills in the acquisition and evaluation of research-based data related to the lectures. From the lectures, students will understand the important relationship between basic research and the investigation of complex diseases and how research discoveries can contribute to treatment of disease.
<b>Notes:</b>	<ul style="list-style-type: none"> <li># B. Science and B. Biomedicine students intending to take a major in Pathology are required to enrol in both 531-301 Mechanisms of Human Disease and 531-302 Techniques for Investigation of Disease in Semester 1 and 531-304 Advanced Investigation of Human Disease in Semester 2.</li> <li># B. Biomedicine students doing a Defence &amp; Disease major MUST consult the Majors Information Booklet for additional prerequisite and corequisite requirements and choices.</li> <li># B. Science students should be familiar with the content of 531-201 Exploring Human Disease and 531-301 Mechanisms of Human Disease; B. Biomedicine students should be familiar with the Pathology and Biochemistry components of their 200-level core subject 526-222 Molecular and Cellular Biomedicine.</li> <li># B. Science students must also have passes in the two 200-level Biochemistry prerequisites.</li> </ul>
<b>Related Course(s):</b>	Bachelor of Science Graduate Diploma in Biotechnology
<b>Related Majors/Minors/ Specialisations:</b>	Biotechnology Defence and Disease Pathology Pathology Pathology