

# GENE90019 Genes Molecules and Cells

<b>Credit Points:</b>	25									
<b>Level:</b>	9 (Graduate/Postgraduate)									
<b>Dates &amp; Locations:</b>	2012, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.									
<b>Time Commitment:</b>	Contact Hours: 75 hours: 56 X 1-hour lectures, 10 x 1-hour problem classes, 3 x 3-hour practicals/CAL. Total Time Commitment: 240 hours.									
<b>Prerequisites:</b>	None									
<b>Corequisites:</b>	This subject is only available to students enrolled in the bioinformatics stream of the MSc.									
<b>Recommended Background Knowledge:</b>	None									
<b>Non Allowed Subjects:</b>	Students who have completed the following subjects or their equivalents are not permitted to take this subject. <table border="1" data-bbox="386 853 1485 1057"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BIOM20001 Molecular and Cellular Biomedicine</td> <td>Semester 1</td> <td>25</td> </tr> <tr> <td>GENE20002 Genes and Genomes</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	BIOM20001 Molecular and Cellular Biomedicine	Semester 1	25	GENE20002 Genes and Genomes	Semester 2	12.50
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<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>	Prof Philip Batterham									
<b>Contact:</b>	Email: <a href="mailto:p.batterham@unimelb.edu.au">p.batterham@unimelb.edu.au</a> (mailto:p.batterham@unimelb.edu.au)									
<b>Subject Overview:</b>	The subject introduces students to the molecular and cellular aspects of biological systems with particular emphasis on human biology. The course is arranged for students to generate an understanding of the molecular aspects of biology at the biomolecular, sub-cellular and cellular level. The genetic inheritance of traits is considered at the level of the individual and populations. This multi-disciplinary subject is co-taught by staff in the departments of Biochemistry and Molecular Biology and Genetics. There is particular emphasis on integration of these disciplines with students receiving both theoretical and practical knowledge of fundamental and frontier research and development in these areas. Students in the course will be extended through their participation in problem classes. They will write a major essay integrating the learnings with contemporary literature in the fields of genetics, molecular and cellular biology. Students will be mentored in this task by the course coordinator.									
<b>Objectives:</b>	This multidisciplinary subject is expected to provide an understanding of: <ul style="list-style-type: none"> <li># the building blocks of life;</li> <li># how the building blocks fit together in both prokaryotic and eukaryotic cells and biological systems;</li> <li># the fundamental principles of genetic inheritance at the levels of individuals and populations;</li> </ul>									

	# the experimental means by which the building blocks, cells and systems can be studied.
<b>Assessment:</b>	Two-hour exam in week 8 (30%); two-hour exam, end of semester (30%); five problem sets (15% in total); a 4000-word essay during semester (25%).
<b>Prescribed Texts:</b>	Alberts et al. Molecular Biology of the Cell. 5th Ed. Garland Nelson D, Cox M, Lehninger Principles of Biochemistry. 5th Ed. W.H.Freeman & Co.Griffiths et al. Introduction to Genetic Analysis. 10th Edition. W.H. Freeman & Co.
<b>Recommended Texts:</b>	None
<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>	Completion of this subject is expected to provide students with the following skills and abilities: <ul style="list-style-type: none"> <li># to interpret scientific literature</li> <li># to solve complex problems</li> <li># to integrate knowledge across disciplines</li> <li># to critically analyse scientific data</li> <li># to evaluate and combine diverse inputs in the writing of a literature review</li> </ul>
<b>Related Course(s):</b>	Master of Science (Bioinformatics)