

## 445-EG Bachelor of Geomatic Engineering

<b>Year and Campus:</b>	2009											
<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>Level:</b>	Undergraduate											
<b>Duration &amp; Credit Points:</b>												
<b>Contact:</b>	-											
<b>Course Overview:</b>	<p>Geomatics is three-dimensional measurement, mapping and visualisation and is one of the fastest growing industry sectors in the world. Land surveying and spatial information science are disciplines covered in Geomatics and it is therefore ideally suited to students who have an interest in the management of the environment, information technology, computing and computer graphics, mathematics or working outdoors. Pathways to a professional degree in Geomatics (Land Surveying/Spatial Information Science) are through the Bachelor of Environments (BEnv) or the Bachelor of Science (BSc).</p> <p>A major attraction of geomatics is the diverse range of career options available. The rapid growth of geomatics across society has resulted in graduates obtaining an exceptionally high level of industry employment worldwide. Students routinely find employment in land development and management; natural resource and environmental management; computer-based mapping and modelling; hydrographic, land and engineering surveying; and applied computing and geographical information systems (GIS). Other exciting new areas of employment for graduates are web mapping specialists, GIS consultants, business development managers and with engineering mapping and multimedia companies.</p> <p>Across the three year undergraduate Geomatics major, students gain an understanding of mathematics and statistics as well as a sound introduction to a broad range of geomatics subjects including application of GIS, spatial imaging and integrated spatial systems. The three year degree also includes a one-week residential field course which integrates theoretical material with practical geomatics concepts.</p> <p>Students who have completed a three year BEnv or BSc with a major in Geomatics can continue on to the professional Masters of Engineering (Geomatics). Students then undertake studies in advanced measurement sciences, remote sensing, spatial analysis, photogrammetry, land administration, cadastral surveying, land law, professional development and and a comprehensive research project,.</p> <p>The whole five year program for Geomatics is accredited by Engineers Australia and accreditation is pending for the Royal Institute of Chartered Surveyors (RICS) and the Surveyors Registration Board, Victoria.</p>											
<b>Objectives:</b>	-											
<b>Course Structure &amp; Available Subjects:</b>	<p>The recommended or standard course structures are listed below. When setting the timetable every effort will be made to avoid clashes between the times of classes associated with these sets of subjects. Students should be aware however, that if it proves to be impossible to achieve a timetable without clashes in these sets of subjects, the Faculty reserves the right to modify course structures in order to eliminate the conflicts. Students will be advised during the enrolment period of the semester if the recommended courses need to be varied. Where the courses include elective subjects these should be chosen so that timetable clashes are avoided. In particular, students in combined degrees should plan their courses so that the subjects chosen in the other faculty do not clash with those recommended for the engineering component.</p>											
<b>Subject Options:</b>	<p>THERE WILL BE NO FIRST YEAR ENTRY INTO THIS COURSE FROM 2008.</p> <p><b>Second Year</b></p> <p>Subjects listed below <b>MUST</b> be taken in this approved order, regardless of semester availability.</p> <p><b>Semester 1</b></p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>451-203 Land Law</td> <td>Not offered 2009</td> <td>12.500</td> </tr> <tr> <td>451-204 Professional Development</td> <td>Not offered 2009</td> <td>12.50</td> </tr> </tbody> </table>			Subject	Study Period Commencement:	Credit Points:	451-203 Land Law	Not offered 2009	12.500	451-204 Professional Development	Not offered 2009	12.50
Subject	Study Period Commencement:	Credit Points:										
451-203 Land Law	Not offered 2009	12.500										
451-204 Professional Development	Not offered 2009	12.50										

451-208 Computational Methods in Geomatics	Not offered 2009	12.500
451-235 Spatial Databases	Semester 1	12.500

**Semester 2**

Subject	Study Period Commencement:	Credit Points:
451-200 Surveying 2	Summer	12.500
451-206 Least Squares & Network Analysis	Summer	12.500
451-236 Spatial Visualisation	Not offered 2009	12.50
880-101 Natural Environments	Semester 1, Semester 2	12.500

**Third Year**

Subjects listed below **MUST** be taken in this approved order, regardless of semester availability.

**Semester 1**

Subject	Study Period Commencement:	Credit Points:
421-255 Management for Engineers 1	Semester 1	12.500

OR

Subject	Study Period Commencement:	Credit Points:
325-101 Managing People and Organisations	Summer, Semester 1, Semester 2	12.500
451-331 Spatial Analysis	Semester 1	12.500
451-332 Imaging in the Geosciences	Semester 1	12.500
451-333 Cadastral Surveying & Land Development	Semester 1	12.500

**Semester 2**

Subject	Study Period Commencement:	Credit Points:
451-340 Integrated Spatial Systems 1	Semester 2	12.500
451-341 Applications of GIS and Remote Sensing	Semester 2	12.500
451-337 Satellite Positioning and Geodesy	Semester 2	12.500
451-447 Photogrammetry	Semester 2	12.500

**Fourth Year**

Subjects listed below **MUST** be taken in this approved order, regardless of semester availability.

**Year Long**

Subject	Study Period Commencement:	Credit Points:
451-450 Research Project	Year Long	25.000

**Semester 1**

Subject	Study Period Commencement:	Credit Points:
451-418 Land Administration	Semester 1	12.500
451-449 Professional and Business Studies	Semester 1	12.500

	451-499 Integrated Spatial Systems 2	Semester 1	12.500
	<b>Semester 2</b>		
	<b>Subject</b>	<b>Study Period Commencement:</b>	<b>Credit Points:</b>
	451-422 Residential Land Development	Semester 2	12.500
	<b>121-028 Sustainable Development (/view/2008/121-028) or Elective (12.5 points)</b>		
	Elective (12.5 points) - <i>An approved environmental elective</i>		
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;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.&lt;/p&gt; &lt;p&gt;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: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>		