GEOM90005 Remote Sensing

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 48 hours (Lectures: 24 hours per semester; Tutorials: 14 hours per semester; Projects and Lab Exercises: 10 hours per semester) Total Time Commitment: 200 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	Spatial Database and GIS
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 Dongryeol Ryu
Contact:	Dr Dongryeol Ryu **dryu@unimelb.edu.au (mailto:dryu@unimelb.edu.au)**
Subject Overview:	**AIMS** To introduce students to the techniques and technology of remote sensing: the extraction of information from satellite and airborne image data. This subject assumes prior knowledge of image processing techniques such as that acquired in subjects such as GEOM30009 Imaging the Environment. Students passing this subject will have the skills to work under supervision in a spatial information or remote sensing agency of consultancy providing services, for example, to natural resource managers. **INDICATIVE CONTENT** Use of image processing systems. High level digital image processing, correction and classification; applications of remote sensing in the geosciences, engineering, and resource assessment and inventory; image data in geographic information systems. Detailed application studies in emergency/disaster management, environmental assessment and geological mapping.
Learning Outcomes:	**INTENDED LEARNING OUTCOMES (ILO)** On completion of this subject the student is expected to: 1 Describe the acquisition of remotely sensed data 2 Process remotely sensed data to achieve client-driven outcome 3 Describe the use of remotely sensed data in environmental modelling and in the solution of resource management problems 4 Communicate the analysis and interpretation of remotely sensed data to a client.

Assessment:	Two practical assignment reports (30%) approximately 500 words each, due week 3 and week 6, requiring approximately 30-45 hours of work in total. Intended Learning Outcomes (ILOs) 1 and 2 are addressed in these reports One project proposal report (15%) of 1000 words, due week 7, requiring approximately 25-30 hours of work. ILOs 2 and 3 are addressed in this report One project proposal presentation (5%) (5 minutes) effectively summarising objectives and methods, requiring approximately 5-7 hours of work. ILO 4 is addressed in this project presentation One project final presentation (5%) (5 minutes) reporting outcomes and conclusions of the project, requiring approximately 5-7 hours work. ILO 4 is addressed in this presentation One major project (45%) of 3000 words, due at the end of semester, requiring approximately 55-60 hours of work. ILOs 2, 3 and 4 are addressed in this project.
Prescribed Texts:	None
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 successful completion students should have: # Ability to apply knowledge of science and engineering fundamentals # Ability to undertake problem identification, formulation, and solution # Ability to communicate effectively, with the engineering team and with the community at large # Ability to manage information and documentation
Notes:	**LEARNING AND TEACHING METHODS** Lectures and Project based use of image processing systems. **INDICATIVE KEY LEARNING RESOURCES** Online interactive tutorials. **CAREERS / INDUSTRY LINKS** This subject uses industry standard processing and analysis packages.
Related Course(s):	Doctor of Philosophy - Engineering Master of Geographic Information Technology Master of Information Technology Master of Information Technology Master of Philosophy - Engineering Master of Spatial Information Science
Related Majors/Minors/ Specialisations:	Energy Studies Energy Studies Integrated Water Catchment Management Integrated Water Catchment Management MIT Spatial Specialisation Master of Engineering (Environmental) Master of Engineering (Spatial) Tailored Specialisation Tailored Specialisation