Master of Engineering (Geomatics)

Year and Campus:	2012
Coordinator:	Cliff Oglebycloglebyby@unimelb.edu.au
Contact:	Melbourne School of Engineering Ground Floor, Old Engineering (Building 173) Current students: Email: **13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)** Phone: 13MELB (13 6352) +61 3 9035 3511 Prospective students: Email: **eng-info@unimelb.edu.au (mailto:eng-info@unimelb.edu.au)** Phone: +61 3 8344 6944 Visit: **Master of Engineering (Geomatics) (http://www.eng.unimelb.edu.au/Postgrad/MEng/me_geomatics.html)**
Overview:	Geomatic engineers study the science and technologies of measurement, mapping and visualisation. For example, they work on satellite and photographic image processing, three dimensional computer visualisations and global positioning systems. Through the course, students gain practical skills and highly sought after technical knowledge to prepare them for careers in land and/or asset management for government, banks or property firms, or as surveyors in mining, construction and land agencies, among others
Objectives:	To produce graduates who are both skilled in geomatic engineering principles and have the ability to apply them to complex, open-ended engineering tasks and problems
Structure & Available Subjects:	The Master of Engineering (Geomatics) consists of 300 points of study - 250 points core and 50 points elective subjects as detailed below. Advanced standing will be awarded for equivalent subjects taken in prior study to applicants on the following basis: # a maximum of 100 points for applicants with a 4 year Bachelor of Engineering or equivalent. # a maximum of 100 points for applicants with a 3 year undergraduate degree. Students entering with a three year bachelor degree must complete at least 200 points of study within the Masters of Engineering. In cases where applicants have completed the equivalent of more than 100 points of core masters subjects, discipline specific electives must be taken to fulfill the 200 minimum masters study requirement. Note: applicants from the University of Melbourne with: # An appropriate “Engineering System” major will receive 100 points of advanced standing. Applicants who have completed more than 100 points of core subjects in their undergraduate degree will obtain exemption for the cores taken but will need to replace the points in excess of 100 points with elective subjects. # Engineering breadth sequences (including those in the Bachelor of Commerce) will receive advanced standing to a maximum of 100 points.
Subject Options:	Total 300 points - 250 points core (compulsory) and 50 points elective subjects from the list below. Students must complete all 300 points of subjects, including all core subjects, or have advanced standing or exemption. The core and elective subjects are those listed below. The order of subjects below is one way of progressing through the course - students who meet subject requisites may tailor their individual study plan to take into account advanced standing and their preferred study load. Students plan their study on-line, however Melbourne School of Engineering course advisors are available to assist students with individual study plans. **Suggested first 100 points** Suggested study plan for the first 100 points: # 100 points Core

Core (Total 100 points)

Subject	Study Period Commencement:	Credit Points:
ENGR90021 Engineering Communication	Semester 1, Semester 2	12.50
COMP20005 Engineering Computation	Semester 1, Semester 2	12.50
CVEN30008 Risk Analysis	Semester 1	12.50
GEOM30009 Imaging the Environment	Semester 1	12.50
GEOM20013 Applications of GIS	Semester 1	12.50
GEOM20015 Surveying and Mapping	Semester 2	12.50
GEOM30012 Integrated Spatial Systems	Semester 2	12.50
GEOM30013 Land Administration Systems	Semester 2	12.50

Suggested second 100 points

Suggested study plan for the second 100 points:

75 points Core
12.5 pts from Geomatics Selectives listed below
12.5 pts from either Geomatics Selectives or Engineering Electives listed below

Core (Total 75 points)

Subject	Study Period Commencement:	Credit Points:
ABPL90041 Property Law (PG)	Semester 1	12.50
ENGM90010 Management of Technological Enterprises	Semester 1	12.50
GEOM90041 Cadastral Surveying	Semester 1	12.50
GEOM90033 Satellite Positioning Systems	Semester 2	12.50
GEOM90040 Adjustment Theory and Practice	Semester 2	12.50
GEOM90039 Advanced Surveying and Mapping	Winter Term	12.50

Suggested third 100 points

Suggested study plan for the third 100 points:

50 points Core
25 points from the Research Component (Core) listed below
12.5 pts from Geomatics Selectives listed below
12.5 pts from either Geomatics Selectives or Engineering Electives listed below

Core (Total 75 points)

Subject	Study Period Commencement:	Credit Points:
GEOM90035 Residential Land Development	Semester 1	12.50
GEOM90038 Advanced Imaging	Semester 1	12.50
CVEN90045 Engineering Project Implementation	Semester 2	12.50
GEOM90015 Spatial Data Infrastructure	Semester 2	12.50

Research component

Maximum 25 pts

Students must choose only ONE of the subjects listed below:

Subject	Study Period Commencement:	Credit Points:
CVEN90022 IE Research Project 1	Semester 1, Semester 2	12.50
CVEN90047 IE Research Project 2	Semester 1, Semester 2	25

Geomatics Selectives

Minimum 25 points

Students must take at least 25 points from this list but may take 50 points

Subject	Study Period Commencement:	Credit Points:
GEOM90017 Geomatics Internship	Summer Term, Semester 1, Semester 2	12.50
GEOM90008 Foundations of Spatial Information	Semester 1	12.50
GEOM90018 Spatial Databases	Semester 1	12.50
CVEN90043 Sustainable Infrastructure Systems	Semester 1	12.50
GEOM90016 Advanced Topics in GIScience	Semester 1	12.50
GEOM90007 Spatial Visualisation	Winter Term	12.50
GEOM90006 Spatial Analysis	Semester 2	12.50
GEOM90005 Remote Sensing	Semester 2	12.50

Engineering Electives

Maximum 25 points
Students may take a maximum of 25 points from this list or no points

Subject	Study Period Commencement:	Credit Points:
ENEN90027 Energy for Sustainable Development	Semester 1	12.50
ENEN90033 Solar Energy	Semester 1	12.50
ENEN90014 Sustainable Buildings	September	12.50
CVEN90019 Sustainable Water Resources Systems	Semester 2	12.50
ENEN90005 Environmental Management ISO 14000	Semester 2	12.50
ENEN90028 Monitoring Environmental Impacts	Semester 2	12.50
ENEN90011 Energy Efficiency Technology	Semester 2	12.50
ENGR90026 Engineering Entrepreneurship	Semester 2	12.50
CVEN90048 Transport Systems	Semester 2	12.50

Links to further information:	http://www.eng.unimelb.edu.au/Postgrad/MEng/me_geomatics.html
Related Course(s):	Master of Engineering