MIT Spatial Specialisation

Year and Campus:	2016
Coordinator:	Prof Stephan Winter
Contact:	Prof Stephan Winter email: **winter@unimelb.edu.au (mailto:winter@unimelb.edu.au)**
Overview:	The Master of Information Technology (MIT) **Spatial Specialisation** is a **200-point, 150-point and 100-point program** for those interested in a career in spatial IT. The key aspects of the course are: # Specialisation in a key area of Information Technology, namely **Spatial Information**: a focus on the spatial information technology and computing, including web-based and mobile services, to advance spatial information products and markets, including mapping, navigation, tracking and community-sourced geographic information. # Foundation studies in programming, algorithmics, databases and networking for students with minimal IT background, including exposure to the different areas of specialisation. # Formal studies in project and change management, including risk management, quality assurance and testing. # Optional 25-point industry placement with local IT organisations as part of the course (available on a competitive basis). # A 25-point project, qualifying students to advance to a PhD.
Learning Outcomes:	On completion of this course students should have: # Expertise in a key area of information technology # Analytical skills and competencies in problem solving # A sound fundamental understanding of the principles and methods of information technology # Demonstrable competencies in the educational and professional standards of the professional institutions and boards with which the course is accredited # A broad knowledge base of information technology so as to facilitate effective communication with those involved in the IT industry # Have acquired the computational skills necessary to solve theoretical and practical problems for further professional development and for meeting future changes in IT # Verbal and written communication skills that enable them to make a meaningful contribution to changing face of the IT industry # Professional ethics and responsibility towards the IT profession and the broader community
Structure & Available Subjects:	**200-point program.** Students must complete 200 points, made up of 50 points of Foundation Subjects, 50 points of Specialisation Subjects and 100 points of Advanced Specialisation Subjects (both based on the specialisation the student is enrolled in). **200-point program, 200 credit points taken over 24 months full time. This course is available as full or part time.** **150-point program.** Students must have a background comparable to the 50 points of Foundation Subjects, in order to complete 150 points, made up of 50 points of Specialisation Subjects and 100 points of Advanced Specialisation Subjects (both based on the specialisation the student is enrolled in). **150-point program, 150 credit points taken over 18 months full time. This course is available as full or part time.** **100-point program.** Students must have a background comparable to the 50 points of Foundation Subjects and the 50 points of Specialisation Subjects, in order to complete 100 points of Advanced Specialisation Subjects.

100-point program, 100 credit points taken over 12 months full time. This course is available as full or part time.

Subject Options:

Foundation

50 points:

Subject	Study Period Commencement:	Credit Points:
COMP90041 Programming and Software Development	Semester 1, Semester 2	12.50
COMP90038 Algorithms and Complexity	Semester 1, Semester 2	12.50
COMP90007 Internet Technologies	Semester 1, Semester 2	12.50
INFO90002 Database Systems & Information Modelling	Semester 1, Semester 2	12.50

Spatial Specialisation

Specialisation Subjects -Spatial Specialisation

50 points

Subject	Study Period Commencement:	Credit Points:
GEOM90008 Foundations of Spatial Information	Semester 1	12.50
GEOM90015 Spatial Data Infrastructure	Semester 2	12.5
GEOM90018 Spatial Databases	Semester 1	12.50

In addition, students must complete 12.5 points, in the form of:

Subject	Study Period Commencement:	Credit Points:
GEOM90042 Spatial Information Programming	Semester 1	12.50

OR

one of the following subjects with the approval of the course coordinator:

Subject	Study Period Commencement:	Credit Points:
SWEN90002 Engineering for Internet Applications	Not offered 2016	12.50
COMP90015 Distributed Systems	Semester 1, Semester 2	12.50
COMP90049 Knowledge Technologies	Semester 1, Semester 2	12.50
COMP90050 Advanced Database Systems	Semester 1	12.50
ISYS90039 Innovation & Entrepreneurship in IT	Not offered 2016	12.50
COMP90017 Sensor Networks and Applications	Not offered 2016	12.50
ISYS90026 Fundamentals of Information Systems	Semester 1	12.50
ISYS90035 Knowledge Management Systems	Semester 1	12.50
ISYS90032 Emerging Technologies and Issues	Semester 1, Semester 2	12.50
CVEN90048 Transport Systems	Semester 2	12.50
CVEN90043 Sustainable Infrastructure Engineering	Semester 1	12.50

CVEN90062 Building Information Modeling	Semester 2	12.5
ENEN90028 Monitoring Environmental Impacts	Semester 2	12.50
ENEN90031 Quantitative Environmental Modelling	Semester 1	12.50
ENEN90032 Environmental Analysis Tools	Semester 2	12.50
ISYS90085 Interaction Design and Usability	Semester 2	12.50
ISYS90086 Data Warehousing	Semester 1	12.50

Advanced Specialisation Subjects - Spatial Specialisation

62.5 points core

Subject	Study Period Commencement:	Credit Points:
ISYS90050 IT Project and Change Management	June, Semester 1, Semester 2	12.50
GEOM90006 Spatial Analysis	Semester 2	12.50
GEOM90007 Spatial Visualisation	Semester 2	12.5
GEOM90043 Spatial IT Project	Summer Term, Semester 1, Semester 2	25

In addition, students must complete 37.5 points from the following subjects:

Subject	Study Period Commencement:	Credit Points:
GEOM90033 Satellite Positioning Systems	Semester 2	12.50
GEOM90005 Remote Sensing	Semester 2	12.50
GEOM90016 Advanced Topics in GIScience	Semester 1	12.50
GEOM90040 Mathematics of Spatial Information	Semester 2	12.5
ISYS90080 IT Industry Placement	Summer Term, Semester 1, Semester 2	25
ISYS90082 Industry Based IT Experience Project	Summer Term, Semester 1, Semester 2	12.50
COMP90057 Advanced Theoretical Computer Science	Semester 2	12.5
CVEN90061 Freight Systems	Semester 1	12.5

* Subject to the approval of the course coordinator, students may supplement this list with other advanced Spatial-related subjects from within the University

Notes:	Prior to 2015 INFO90002 Database Systems & Information Modelling was known as SINF90001 Database Systems & Information Modelling. Credit cannot be obtained for both subjects.
Related Course(s):	Master of Information Technology