

Program Guide

Master of Information Technology

1. Program Details

Title	Master of Information Technology
Abbreviation	M Info Tech
RMIT Program Code	MC061
Credit Points	144
Career	Postgraduate
Duration/length	1.5 years (3 semesters) full time or 3 years (6 semesters) part time.
Campuses	City
Location	Onshore
Owning School	School of Computer Science and IT http://www.rmit.edu.au/csit/
Partnered offering / corporate client	N/A
ASCED code:	020100
CRICOS code: (If known)	065135C
Proposed Introduction	2009 Semester 1
Contact Details	Dr. Santha Sumanasekara santha.sumanasekara@rmit.edu.au 9925 9673

2. Plan Details

RMIT Plan Code	MC061P9
Title	Master of Information Technology
Award Title	Master of Information Technology
ASCED code:	020100
CRICOS code:	065135C

3. Program Structure

Before starting your officially enrolled courses in your program plan, you are strongly advised to complete the Unix Survival Skills, a 4-hour intensive practical training course delivered in computer labs at the School of Computer Science and IT. The Unix Survival skills are essential for all courses in your program plan.

Many courses have prerequisites: these are listed in the program summary, which can be downloaded from <http://www.rmit.edu.au/browse;ID=spagdcjoui91> (most of these you will have completed as part of your undergraduate degree).

Complete one 48-credit-point specialisation:

Specialisation Option A: Intelligent Systems

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	2048	Agent Oriented Programming and Design (seminar)	12
ISYS	1072	Knowledge & Data Warehousing	12
COSC	2033	Evolutionary Computing (seminar)	12
COSC	1163	Intelligent Agents and Agent Systems (seminar)	12
COSC	2049	Mathematical Logic and Logic Programming (seminar)	12
COSC	1165	Intelligent Web Systems (seminar)	12

Specialisation Option B: Databases

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	2306	Search Technology (seminar)	12
COSC	2407	Database Systems	12
ISYS	1072	Knowledge & Data Warehousing	12
ISYS	1078	Information Retrieval	12
COSC	1168	Internet and Intranet Document Engineering	12
COSC	2111	Data Warehousing and Data Mining	12
INTE	2469	Enterprise Database Integration (seminar)	12
INTE	2475	Sustainable Energy Efficient Data Storage (seminar)	12

Specialisation Option C: Web-Based Computing

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	2302	Computer and Internet Forensics	12
ISYS	1078	Information Retrieval	12
COSC	1165	Intelligent Web Systems (seminar)	12
COSC	1168	Internet and Intranet Document Engineering	12
COSC	2304	Mobile and Wireless Computing	12
COSC	2107	Network Security	12
INTE	1070	Secure Electronic Commerce	12
COSC	2279	Web Services	12
Note: you may select COSC1182 OR ISYS2040 – not both			
COSC	1182	Usability Engineering	12
ISYS	2040	Usability Analysis	12

Specialisation Option D: Software Engineering

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
ISYS	2377	Enterprise Architecture	12
ISYS	2404	Software Engineering for Large Scale Systems (seminar)	12
COSC	2275	Software Requirements Engineering	12
ISYS	1083	Object Oriented Software Design	12
ISYS	1081	Software Reuse	12
ISYS	1085	Software Testing	12
ISYS	1088	Systems Architecture	12
Note: you may select COSC1182 OR ISYS2040 – not both			
COSC	1182	Usability Engineering	12
ISYS	2040	Usability Analysis	12

Specialisation Option E: Networked and Distributed Systems

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	1174	Advanced Client/Server Architectures	12
ISYS	2402	Advanced Topics in Distributed Systems (seminar)	12
COSC	2456	Advanced Topics in Computer Networking (seminar)	12
ISYS	1095	Distributed Databases	12
COSC	1170	Foundation Distributed Computing	12
COSC	2304	Mobile and Wireless Computing	12
COSC	1176	Network Programming	12
COSC	2107	Network Security	12
INTE	2401	Secure Programming Environments	12

Specialisation Option F: Search Engines

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	2109	Search Engines	12
COSC	2306	Search Technology (seminar)	12
ISYS	1078	Information Retrieval	12
COSC	1168	Internet and Intranet Document Engineering	12
INTE	2471	Frontiers of Information Retrieval (seminar)	12
INTE	2473	Search Engine Optimisation (seminar)	12

Specialisation Option G: Security in Computing

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	2302	Computer and Internet Forensics	12
INTE	1125	Cryptography and Security	12
INTE	2396	Information Systems and Risk Management	12
COSC	2304	Mobile and Wireless Computing	12
COSC	2107	Network Security	12
INTE	2401	Secure Programming Environments	12
INTE	1070	Secure Electronic Commerce	12

Specialisation Option H: Bioinformatics

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	2308	Advanced Topics in Bioinformatics (seminar)	12
MATH	1300	Analysis Of Medical Data	12
BIOL	2034	Bioinformatics	12
COSC	2151	Introduction to Computational Biology	12

AND

Select Four (4) Courses from: Advanced Electives

Subject area	Catalogue number	Title	Credit points
COSC	1174	Advanced Client/Server Architecture	12
ISYS	2402	Advanced Topics in Distributed Systems (seminar)	12
COSC	2456	Advanced Topics in Computer Networking (seminar)	12
COSC	2308	Advanced Topics in Bioinformatics (seminar)	12
COSC	2048	Agent Oriented Programming and Design (seminar)	12
COSC	2306	Search Technology (seminar)	12
MATH	1300	Analysis of Medical Data	12
BIOL	2034	Bioinformatics	12
COSC	2302	Computer and Internet Forensics	12
INTE	1125	Cryptography and Security	12
COSC	2111	Data Warehousing and Data Mining	12

Subject area	Catalogue number	Title	Credit points
COSC	2407	Database Systems	12
INTE	2469	Enterprise Database Integration (seminar)	12
INTE	2471	Frontiers of Information Retrieval (seminar)	12
ISYS	1072	Knowledge & Data Warehousing	12
ISYS	1095	Distributed Databases	12
ISYS	2377	Enterprise Architecture	12
COSC	2033	Evolutionary Computing (seminar)	12
COSC	1170	Foundation Distributed Computing	12
ISYS	1078	Information Retrieval	12
INTE	2396	Information Systems and Risk Management	12
COSC	1163	Intelligent Agents and Agent Systems (seminar)	12
COSC	1165	Intelligent Web Systems (seminar)	12
COSC	1168	Internet and Intranet Document Engineering	12
COSC	2151	Introduction to Computational Biology	12
COSC	2049	Mathematical Logic and Logic Programming (seminar)	12
COSC	2304	Mobile and Wireless Computing	12
COSC	1176	Network Programming	12
COSC	2107	Network Security	12
COSC	2149	Research Methods	12
INTE	2473	Search Engine Optimisation (seminar)	12
INTE	1070	Secure Electronic Commerce	12
INTE	2401	Secure Programming Environments	12
ISYS	2404	Software Engineering for Large Scale Systems (seminar)	12
COSC	2275	Software Requirements Engineering	12
INTE	2475	Sustainable Energy Efficient Data Storage (seminar)	12
ISYS	1083	Object Oriented Software Design	12
ISYS	1081	Software Reuse	12
ISYS	1085	Software Testing	12
ISYS	1088	Systems Architecture	12
Note: you may select COSC1182 OR ISYS2040 – not both			
ISYS	2040	Usability Analysis	12
COSC	1182	Usability Engineering	12
COSC	2279	Web Services	12

AND

complete Option 1 or Option 2 from:

Option 1: Select at least One (1) Course from combined advanced electives:

Subject area	Catalogue number	Title	Credit points
COSC	1174	Advanced Client/Server Architecture	12
ISYS	2402	Advanced Topics in Distributed Systems (seminar)	12
COSC	2456	Advanced Topics in Computer Networking (seminar)	12
COSC	2308	Advanced Topics in Bioinformatics (seminar)	12
COSC	2048	Agent Oriented Programming and Design (seminar)	12
COSC	2306	Search Technology (seminar)	12
MATH	1300	Analysis of Medical Data	12
BIOL	2034	Bioinformatics	12
COSC	2302	Computer and Internet Forensics	12
INTE	1125	Cryptography and Security	12
COSC	2111	Data Warehousing and Data Mining	12
COSC	2407	Database Systems	12
INTE	2469	Enterprise Database Integration (seminar)	12

Subject area	Catalogue number	Title	Credit points
INTE	2471	Frontiers of Information Retrieval (seminar)	12
ISYS	1072	Knowledge & Data Warehousing	12
ISYS	1095	Distributed Databases	12
ISYS	2377	Enterprise Architecture	12
COSC	2033	Evolutionary Computing (seminar)	12
COSC	1170	Foundation Distributed Computing	12
ISYS	1078	Information Retrieval	12
INTE	2396	Information Systems and Risk Management	12
COSC	1163	Intelligent Agents and Agent Systems (seminar)	12
COSC	1165	Intelligent Web Systems (seminar)	12
COSC	1168	Internet and Intranet Document Engineering	12
COSC	2151	Introduction to Computational Biology	12
COSC	2049	Mathematical Logic and Logic Programming (seminar)	12
COSC	2304	Mobile and Wireless Computing	12
COSC	1176	Network Programming	12
COSC	2107	Network Security	12
COSC	2149	Research Methods	12
INTE	2473	Search Engine Optimisation (seminar)	12
INTE	1070	Secure Electronic Commerce	12
INTE	2401	Secure Programming Environments	12
ISYS	2404	Software Engineering for Large Scale Systems (seminar)	12
COSC	2275	Software Requirements Engineering	12
INTE	2475	Sustainable Energy Efficient Data Storage (seminar)	12
ISYS	1083	Object Oriented Software Design	12
ISYS	1081	Software Reuse	12
ISYS	1085	Software Testing	12
ISYS	1088	Systems Architecture	12
Note: you may select COSC1182 OR ISYS2040 – not both			
ISYS	2040	Usability Analysis	12
COSC	1182	Usability Engineering	12
COSC	2279	Web Services	12

AND

Select at most Three (3) Courses from: Vocational Electives

Subject area	Catalogue number	Title	Credit points
COSC	1125	Artificial Intelligence	12
COSC	1233	Broadcast Networks & Applications	12
COSC	2405	Database Administration	12
COSC	2272	Digital Media Computing	12
COSC	2106	Document Markup Languages	12
COSC	2354	Electronic Commerce & Enterprise Systems	12
ISYS	1106	Engineering Software Projects	12
COSC	1318	Internet Industry Project	12
COSC	2347	Mobile Application Development	12
COSC	2401	Software Architecture: Design & Implementation	12
COSC	1092	Scripting Language Programming	12
COSC	1131	Unix Systems Admin (Linux)	12
COSC	1219	User Interface Programming	12
COSC	2277	Web Development Technologies	12
COSC	1300	Web Servers and Web Technology	12

Subject area	Catalogue number	Title	Credit points
ISYS	1124	Web Database Applications	12
COSC	1213	Web Media Technologies	12
COSC	2427	Windows Systems Administration	12
The following courses are offered by Schools in the Business Portfolio.			
ACCT	1118	Risk Management	12
ACCT	2108	Performance Measurement	12
ACCT	2127	Accounting for Management Decisions	12
BAFI	1059	Corporate Finance	12
BAFI	1070	Financial Statement Analysis	12
BUSM	1174	Leading and Managing Change	12
BUSM	1734	Risk Analysis and Assessment	12
ECON	1113	Economic Analysis for Business	12
JUST	1055	E-Business Law	12
JUST	1063	Corporate Governance	12
MKTG	1100	Marketing Management and Implementation	12
OMGT	1021	Supply Chain Principles	12
OMGT	1236	E-Business Supply Chains	12

Option 2: Minor Thesis

Complete this course:			
COSC	2149	Research Methods	12
And complete 36 credit points from:			
Subject area	Catalogue number	Title	Credit points
COSC	2179	Minor Thesis	36
COSC	2389	Minor Thesis Part A	24
COSC	2390	Minor Thesis Part B	12

Program Progression Rules

The program is structured so that capabilities are developed sequentially through the 1.5 years. Assumed prerequisite capabilities are listed for each course in the individual course guides. You are strongly advised against enrolling in courses for which you do not have the required prerequisites, unless prior approval has been obtained from the Program Leader. Failure in one or more courses may make it impossible for you to complete the program within the minimum 1.5-year period.

4. External Accreditation and Industry Links

Graduates of this program are eligible for membership at the professional level of the Australian Computer Society, which accredits Information and Communication Technology related programs in Australia.

5. Objectives of the Program

The objective of this program is to develop your knowledge and skills essential for the IT industry to become employable as a competent software developer in your area of specialisation.

6. Statement of capabilities

At the conclusion of this program, you will achieve advanced postgraduate-level technical computing capabilities. You will develop specialised expertise in different solutions. The curriculum of this program is developed in consultation with stakeholders and validated by employers and students.

The graduate capabilities developed by this program are composed of the following dimensions:

- **Problem Solving**
You will possess the capability to analyse problems in the software development industry, and synthesise suitable solutions with current technologies in programming techniques and software engineering. You can solve problems in different application areas with advanced knowledge in specific areas.
- **Communication**
You will possess the capability that allows you to communicate effectively with IT and non-IT audiences through a range of modes and media.
- **Working in Teams**
You will possess the capability to work as an effective and productive team member in a range of professional and social situations, especially in large scale application software development.
- **Responsibility**
In general this capability refers to accepting responsibility for one's own learning and making informed decisions in judging and adopting appropriate behaviour in professional and social situations. This includes accepting the responsibility for life-long learning. Specifically, the responsibility that you develop from this program will allow you to effectively apply relevant standards, ethical considerations, and an understanding of legal and privacy issues to designing software systems.
- **Enabling Knowledge**
The curriculum for this program incorporates cutting-edge technologies in specialized areas as shown in the table below while maintaining a broad coverage of advanced theories in computer science and information technology. At the end of the program, you will possess the expertise in one major specialized area and advanced knowledge in minor areas that allows you to excel and apply knowledge effectively to solve complex problems and come up with creative solutions for new situations.

Advanced Electives	Enabling Knowledge
Specialisation Option A: Intelligent Systems	Knowledge of advanced techniques in artificial intelligence, including agent systems, machine learning, evolutionary computing, and intelligent database and knowledge systems.
Specialisation Option B: Databases	Knowledge of advanced techniques in databases, including data warehousing, data mining, large scale data storage and retrieval.
Specialisation Option C: Web-Based Computing	Knowledge of advanced techniques in Web systems, including retrieval of information from the Web, managing large volume of data on the Web, and techniques for ensuring data and information security on the Web.
Specialisation Option D: Software Engineering	Knowledge of advanced techniques in large scale software development, including software reuse and

	testing, object-oriented software design.
Specialisation Option E: Networked and Distributed Systems	Knowledge of advanced techniques in network and distributed systems, including foundation in distributed computing and various aspects of information security on the Web.
Specialisation Option F: Search Engines	Knowledge of advanced techniques in information retrieval, including techniques for indexing large volume of data,
Specialisation Option G: Security in Computing	Knowledge of advanced techniques in computer and information security. Knowledge and practice in secure programming.
Specialisation Option H: Bioinformatics	Knowledge of advanced techniques in bioinformatics and computational biology.

7. An approach to Teaching and Learning

The learning activities included in this program are:

- key concepts will be explained in lectures, seminars or online, where syllabus material will be presented and illustrated with demonstrations and examples;
- tutorials and group discussions (including online forums) focussed on projects and problem solving will provide practice in the application of theory and procedures, allow exploration of concepts with tutors and other students, and give feedback on your progress and understanding;
- written assignments consisting of numerical and other problems requiring an integrated understanding of the subject matter; and
- private study, working through the courses as presented in classes and learning materials, and gaining practice at solving conceptual and practical problems.

8. Articulation and Pathways

Source Program	Owning school	Credit towards this program		Academic requirement for entry	Terms of entry (guaranteed place, merit, etc)	Date of agreement & expiry
		Courses	Time			
GC038	CSIT	all courses	Semester 1	complete	merit	
GD057	CSIT	all courses	Semesters 1,2	complete	merit	

Destination Program	Owning school	Credit from this program towards destination program		Academic requirement for entry	Terms of entry (guaranteed place, merit, etc)	Date of agreement & expiry
		Courses	Time			
MC060	CSIT	all courses	Semesters 1, 2 & 3	complete	guaranteed	

9. Entrance requirements

Successful completion of a bachelor level degree in computer science or information technology, with a credit average (minimum 2.0 CGPA), or be a qualified IT professional with extensive relevant industry experience.

International Students

An IELTS English language test score of 6.5 or greater with no band less than 6.0.

10. Library, IT and specialist resources

You will be able to access course information and learning materials through the Learning Hub (also known as online@RMIT) and the RMIT Library, and will be provided with copies of additional materials in class or via email. Lists of relevant reference texts, resources in the library and freely accessible Internet sites will be provided.

11. Student expenses and charges in addition to fees

Expenses other than university tuition fees may be expected in relation to purchase of lecture notes, textbooks, stationery, consumables such as printer paper, fees levied by commercial internet service providers for internet access outside of the university campus, and other relevant costs.

12. Program Transition Plan

Nil.

13. Course descriptions

Advanced electives:

Title	Course guide part A
Advanced Client/Server Architecture	http://www.rmit.edu.au/courses/004195
Advanced Topics in Distributed Systems	http://www.rmit.edu.au/courses/041258
Advanced Topics in Bioinformatics	http://www.rmit.edu.au/courses/036676
Agent Oriented Programming and Design	http://www.rmit.edu.au/courses/014061
Search Technology	http://www.rmit.edu.au/courses/036673
Analysis of Medical Data	http://www.rmit.edu.au/courses/012000
Bioinformatics	http://www.rmit.edu.au/courses/028321
Computer and Internet Forensics	http://www.rmit.edu.au/courses/036671
Cryptography and Security	http://www.rmit.edu.au/courses/014836
Database Systems	http://www.rmit.edu.au/courses/039983
Knowledge & Data Warehousing	http://www.rmit.edu.au/courses/004171
Data Warehousing & Data Mining	http://www.rmit.edu.au/courses/029570
Distributed Databases	http://www.rmit.edu.au/courses/004194
Enterprise Architecture	http://www.rmit.edu.au/courses/037926
Evolutionary Computing	http://www.rmit.edu.au/courses/014062
Foundation Distributed Computing	http://www.rmit.edu.au/courses/004192
Information Retrieval	http://www.rmit.edu.au/courses/004175
Information Security & Risk Management	http://www.rmit.edu.au/courses/038209
Intelligent Agents and Agent Systems	http://www.rmit.edu.au/courses/004169
Intelligent Web Systems (Seminar)	http://www.rmit.edu.au/courses/004170
Internet and Intranet Document Engineering	http://www.rmit.edu.au/courses/004176
Introduction to Computational Biology	http://www.rmit.edu.au/courses/031751
Minor Thesis	http://www.rmit.edu.au/courses/032113
Minor Thesis Part A	http://www.rmit.edu.au/courses/038914
Minor Thesis Part B	http://www.rmit.edu.au/courses/038915
Mathematical Logic and Logic Programming	http://www.rmit.edu.au/courses/014063

Mobile and Wireless Computing	http://www.rmit.edu.au/courses/036672
Network Programming	http://www.rmit.edu.au/courses/004197
Network Security	http://www.rmit.edu.au/courses/029567
Object Oriented Software Design	http://www.rmit.edu.au/courses/004185
Research Methods	http://www.rmit.edu.au/courses/031749
Secure Electronic Commerce	http://www.rmit.edu.au/courses/004178
Secure Programming Environments	http://www.rmit.edu.au/courses/038407
Software Engineering for Large Scale Systems	http://www.rmit.edu.au/courses/041259
Software Requirements Engineering	http://www.rmit.edu.au/courses/035217
Software Reuse	http://www.rmit.edu.au/courses/004183
Software Testing	http://www.rmit.edu.au/courses/004186
Systems Architecture	http://www.rmit.edu.au/courses/004187
Usability Analysis	http://www.rmit.edu.au/courses/013842
Usability Engineering	http://www.rmit.edu.au/courses/004199
Web Services	http://www.rmit.edu.au/courses/035219

Vocational Electives:

Title	Course guide part A
Artificial Intelligence	http://www.rmit.edu.au/courses/004123
Broadcast Networks & Applications	http://www.rmit.edu.au/courses/004232
Database Administration	http://www.rmit.edu.au/courses/039982
Digital Media Computing	http://www.rmit.edu.au/courses/035215
Document Markup Languages	http://www.rmit.edu.au/courses/029566
Electronic Commerce & Enterprise Systems	http://www.rmit.edu.au/courses/014053
Engineering Software Projects	http://www.rmit.edu.au/courses/004245
Internet Industry Project	http://www.rmit.edu.au/courses/004331
Mobile Application Development	http://www.rmit.edu.au/courses/036687
Software Architecture: Design & Implementation	http://www.rmit.edu.au/courses/014052
Scripting Language Programming	http://www.rmit.edu.au/courses/014048
Unix Systems Admin (Linux)	http://www.rmit.edu.au/courses/014050
User Interface Programming	http://www.rmit.edu.au/courses/004225
Web Development Technologies	http://www.rmit.edu.au/courses/035218
Web Servers and Web Technology	http://www.rmit.edu.au/courses/004318
Web Database Applications	http://www.rmit.edu.au/courses/004312
Web Media Technologies	http://www.rmit.edu.au/courses/004223
Windows Systems Administration	http://www.rmit.edu.au/courses/039991
The following courses are offered by Schools in the Business Portfolio.	
Risk Management	http://www.rmit.edu.au/courses/001215
Performance Measurement	http://www.rmit.edu.au/courses/001223
Accounting for Management Decisions	http://www.rmit.edu.au/courses/034427
Managerial Finance	http://www.rmit.edu.au/courses/005012
Financial Statement Analysis	http://www.rmit.edu.au/courses/005015
Leading and Managing Change	http://www.rmit.edu.au/courses/013407
Risk Analysis and Assessment	http://www.rmit.edu.au/courses/008168
Economic Analysis for Business	http://www.rmit.edu.au/courses/005030
E-Business Law	http://www.rmit.edu.au/courses/013863
Corporate Governance	http://www.rmit.edu.au/courses/002957
Marketing Management and Implementation	http://www.rmit.edu.au/courses/008994
Supply Chain Principles	http://www.rmit.edu.au/courses/008166
E-Business Supply Chains	http://www.rmit.edu.au/courses/014795

Capability Matrix

Generic capabilities are developed in all courses with varying degrees. The matrix below indicates the capability level developed in each core course, and collectively in electives and advanced electives. Keys used in the matrix: Foundation (F), Consolidated (C) and Advanced (A)

Capability	Specialisation Option A	Specialisation Option B	Specialisation Option C	Specialisation Option D	Specialisation Option E	Specialisation Option F	Specialisation Option G	Specialisation Option H
critical analysis	A	A	A	A	A	A	A	A
problem solving	A	A	A	A	A	A	A	A
communication	A	A	A	A	A	A	A	A
responsibility	A	A	A	A	A	A	A	A
teamwork				A				