Postgraduate Information Technology courses at Macquarie University, 2011

Macquarie University offers contemporary studies in information technology with a business focus, that have been developed in consultation with industry.

- Graduate Diploma in Information Technology
- Postgraduate Diploma in Information Technology
- Master of Information Technology
- Master of Consulting in Information Technology

Photo: Paul Wright
www.comp.mq.edu.au
www.international.mq.edu.au
Why study information technology at Macquarie University?

+ **PROFESSIONAL ACCREDITATION**
  The Master of Information Technology and the Master of Consulting in Information Technology are both accredited by the Australian Computer Society (ACS), the peak industry body in Australia. The ACS strongly commended Macquarie University for the quality of its program content, design and management, especially through the use of industry speakers and industry-based projects.

+ **INDUSTRY PARTNERSHIPS**
  Macquarie has developed collaborative relationships with major IT companies and research agencies including Microsoft, Intel, EMC, CSC, Nortel Networks and CSIRO.

+ **OUR GRADUATES ARE IN HIGH DEMAND**
  Our degrees feature a strong practical focus, reflected in feedback received from both employers and students.

+ **PRACTICAL STUDENT PROJECTS**
  You have the opportunity to undertake a major project within your degree, providing you with practical, often industry-based experience to put on your curriculum vitae.

+ **INTERNSHIPS**
  As part of the Master of Consulting in Information Technology, you undertake two semesters of an industry placement.

+ **RESEARCH EXPERTISE**
  Students benefit from Macquarie’s strong performance in all research indicators, including publications, internal and external competitive research grants, research contracts and Australian Research Council (ARC) Fellowships.
Units taught by industry professionals

Some of the units within Macquarie’s postgraduate programs in information technology are taught by industry professionals who provide students with a good balance of academic theory and real-life industry knowledge.

For the description of more units, visit www.comp.mq.edu.au

ITEC841: PROJECT AND RISK MANAGEMENT
Topics include project definition, scheduling and milestones, organisation of development and quality assurance teams, resource allocation, cost/benefit analysis, risk analysis and management, version and change control, quality and process improvement methods, the use of quantitative methods, distributed and concurrent engineering, and the management of composite hardware/software systems development.

ITEC854: SECURITY MANAGEMENT
This unit provides students with a working knowledge of commercial information security governance requirements, tools and techniques. The unit has a practical focus with tutorial and lab work that includes aspects of physical security and hacking, information security architectures and the creation of a dummy company on which the tools and techniques will be developed and tested. Topics include an introduction to information security, standards and governance, risk management concepts, security threats, practical hacking, server hardening, creating an enterprise information security framework and ESI7/ISMS certification.

ITEC870: ADVANCED DATABASE APPLICATIONS DEVELOPMENT
Major objectives of this unit are a sound understanding of information systems analysis and database design; the knowledge, skill and ability to develop a small database application system from functional requirements to an installed system; and a general understanding of the application of information systems to business.

ITEC872: DATA MINING AND BUSINESS INTELLIGENCE
The aim of this unit is to show where data warehouse and business intelligence technologies are at in this point in time so that business managers know what is possible for their next business strategy. As such, this unit is primarily concerned with awareness of what these technologies are currently capable of, rather than creating business intelligence developers. The unit will follow a typical lifecycle of a data warehouse/business intelligence project.

Vijaya Burra | INDIA
Master of Information Technology
“I like the practical aspect of the master program. I think you learn best by doing rather than just theory. The program is skills oriented. I enjoy the group assignments; you become friends with the people in your class and it’s good experience in team building, which prepares you for working life.”

Pooyan Asgari | IRAN
Master of Information Technology, software developer for card access services
“I realised at the beginning of the advanced internet programming course that we were working with the most cutting-edge technology which was available at the time … I really admired my lecturer for pushing us to work with technology that had just been released. It was so new that we could barely find a website or reference that covered the technology. It was a tough unit but I learned a lot.”

Thierry Jossermoz | FRANCE
Master of Information Technology
“This degree provides hands-on technical training while also focusing on the business and management aspects of IT. This duality creates a great deal of added value for MIT students. My initial plan was to return to the workforce after my degree. While this still holds true, I recently developed a keen interest in research thanks to the project that is part of the MIT.”
Graduate Diploma in Information Technology

KEY FEATURES
• This is an introductory course in information technology.

SUITABLE FOR
This course is designed to equip students wanting to change career direction with the necessary skills to move into an Information Technology career.

CAREER OPPORTUNITIES
This course opens up many professional careers in information technology including programmer, analyst programmer, database administrator, system administrator, helpdesk support, desktop support, network support or business analyst.

2011 ENTRY REQUIREMENTS
Bachelor degree in any discipline from a recognised university with a GPA of 2.50 out of 4.00. You should be familiar with computers and common office software, as well as comfortable with installing and configuring new applications.

and

IELTS (Academic English only): Minimum 6.5 overall, with 6.0 in each section. For other accepted English language qualifications please view www.international.mq.edu.au/applications/apply/english

DURATION
1 year

2011 ANNUAL FEE
AU$22,152

COMMENCEMENT/AVAILABILITY
Semester 1 (February)

CREDIT POINTS REQUIRED TO COMPLETE DEGREE
24 credit points

CRICOS CODE
051829K

+ This fee is subject to change. For units completed in 2011 the 2011 fee will apply. For units completed in 2012 students will pay the fee approved for the 2012 academic year.

Postgraduate Diploma in Information Technology

KEY FEATURES
Please refer to the next page for information about the Master of Information Technology. This course offers the same specialisations as the Master of Information Technology.

SUITABLE FOR
Information Technology graduates who are seeking to hone their skills in specialist areas, or experienced IT professionals who are seeking to consolidate and advance their existing skills with the latest in best practice and research.

CAREER OPPORTUNITIES
This course gives you the opportunity to develop specialist knowledge in key growth areas within the information and communication technologies industry. This can give you a competitive advantage in employment over recent graduates from bachelor programs, and will help you advance your career in your chosen field.

2011 ENTRY REQUIREMENTS
Bachelor degree with substantial computing component with a GPA of 2.75 or Graduate diploma in an ICT discipline or bachelor degree in non-ICT discipline and 3 years of experience.

and

IELTS (Academic English only): Minimum 6.5 overall, with 6.0 in each section. For other accepted English language qualifications please view www.international.mq.edu.au/applications/apply/english

DURATION
1 year

2011 ANNUAL FEE
AU$21,048

COMMENCEMENT/AVAILABILITY
Semester 1 (February) and Semester 2 (July)

CREDIT POINTS REQUIRED TO COMPLETE DEGREE
24 credit points

CRICOS CODE
044934A

+ This fee is subject to change. For units completed in 2011 the 2011 fee will apply. For units completed in 2012 students will pay the fee approved for the 2012 academic year.
Master of Information Technology

KEY FEATURES
- Units developed in partnership and consultation with industry.
- Professionally accredited by the Australian Computer Society (ACS).
- Non-programming electives hone your analytical, communication and project management skills, to maximise the synergy between IT and business.
- Students who successfully complete 24 credit points (with a minimum GPA of 3.00) may proceed to the Master of Consulting in Information Technology (page six).

SUITABLE FOR
Information technology graduates seeking to enhance their skills in specialist areas, or experienced IT professionals seeking to consolidate and advance existing skills with the latest in best practice and research.

CAREER OPPORTUNITIES
This course provides specialist knowledge in key growth areas within the Information and Communication Technologies industry; this can give you a competitive advantage in employment over recent graduates from bachelor programs, and helps you advance your career in your chosen field.

2011 ENTRY REQUIREMENTS
Bachelor degree with substantial computing component with a GPA of 2.75 or Graduate Diploma in an ICT discipline or bachelor degree in non-ICT discipline and 3 years of experience.

and

IELTS (Academic English only): Minimum 6.5 overall, with 6.0 in each section. For other accepted English language qualifications please view www.international.mq.edu.au/applications/apply/english

Specialisations
Our specialisations have been designed to cater to key areas of importance to the IT industry internationally, as identified by our industry partners. You can also tailor your program of study to your interests. Specialisations available:
- Information Systems
- Information Technology
- Management
- Software Engineering
- System and Network Management
- System Security
- Web Technologies

Sample program of study

Master of Information Technology in Management*

<table>
<thead>
<tr>
<th>Core Units (compulsory)</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEC800</td>
<td>The Software Development Process 4</td>
</tr>
<tr>
<td>ITEC841</td>
<td>Project and Risk Management 4</td>
</tr>
</tbody>
</table>

Stream Units (choose three)**

<table>
<thead>
<tr>
<th>Stream Units</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEC832</td>
<td>Application Integration 4</td>
</tr>
<tr>
<td>ITEC842</td>
<td>Enterprise Management 4</td>
</tr>
<tr>
<td>ITEC844</td>
<td>Strategic Project Management 4</td>
</tr>
<tr>
<td>ITEC854</td>
<td>Security Management 4</td>
</tr>
<tr>
<td>ITEC871</td>
<td>Information Systems Design and Management 4</td>
</tr>
</tbody>
</table>

Project (choose one)

<table>
<thead>
<tr>
<th>Project</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEC810</td>
<td>Information Technology Project 4</td>
</tr>
<tr>
<td>ITEC808</td>
<td>Information Technology Project – Literature Review^ 4</td>
</tr>
<tr>
<td>ITEC809</td>
<td>Information Technology Project – Development^ 4</td>
</tr>
<tr>
<td>ITEC811</td>
<td>Major Information Technology Project 8</td>
</tr>
</tbody>
</table>

ELECTIVE UNITS
One or two electives, depending on whether a 4 or 8 credit point project is chosen.

Units may be chosen from the range ITEC800 to ITEC807 or ITEC812 to ITEC899.

Visit www.handbook.mq.edu.au for information on units available.

* Please note that a student’s specialisation will not be stated on their testamur (graduation document) but will be included on their academic transcript.
** Units are offered subject to student demand and staff availability. Not all units are offered every semester or every year; however enough units are offered to undertake each stream. Students should contact enquiries@science.mq.edu.au at the time of enrolment to check on subject availability.
^ ITEC808 and ITEC809 must be taken together.

More programs of study are available at www.comp.mq.edu.au
Master of Consulting in Information Technology

**KEY FEATURES**

- Two semester-long internship placements in industry where you can put your consulting skills into practice in the workplace.
- Students who successfully complete 24 credit points of a Master of Information Technology (with a minimum GPA of 3.00 out of 4.00 in those credit points) may proceed to the Master of Consulting in Information Technology.

**SUITABLE FOR**

Information technology graduates who are seeking to develop their skills in consulting in the information technology environment.

**CAREER OPPORTUNITIES**

The degree provides the opportunity to develop specialist knowledge in consulting. The Master of Consulting in Information Technology is designed to provide a competitive advantage and support career advancement.

**2011 ENTRY REQUIREMENTS**

Bachelor degree in IT or related subject with a GPA of 3.00 out of 4.00 or satisfactory performance in the Master of Information Technology (minimum GPA of 3.00 out of 4.00 in 24 credit points).

and

IELTS (Academic English only): Minimum 6.5 overall, with 6.0 in each section. For other accepted English language qualifications please view [www.international.mq.edu.au/applications/apply/english](http://www.international.mq.edu.au/applications/apply/english).

<table>
<thead>
<tr>
<th>DURATION</th>
<th>2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 ANNUAL FEE</td>
<td>AU$20,280</td>
</tr>
<tr>
<td>COMMENCEMENT/AVAILABILITY</td>
<td>Semester 1 (February) and Semester 2 (July)</td>
</tr>
<tr>
<td>CREDIT POINTS REQUIRED TO COMPLETE DEGREE</td>
<td>48 credit points (including 2 industry internships). If 24 credit points from the Master of Information Technology are completed first, the Master of Consulting in Information Technology can be completed in one year (24 credit points).</td>
</tr>
<tr>
<td>CRICOS CODE</td>
<td>061017G</td>
</tr>
</tbody>
</table>

*This fee is subject to change. For units completed in 2011, the 2011 fee will apply. For units completed in 2012 and 2013 students will pay the fee approved for the 2012 and 2013 academic year respectively.*

Photo: Paul Wright
Meet some of our Academic Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Description</th>
</tr>
</thead>
</table>
| Dr Peter Busch        | Academic Director, postgraduate coursework program | “One of the most powerful aspects of this program is the fact that many of us have strong industry experience. It’s vital that our students not only see the theory that makes systems tick, but understand the practicalities of getting people to use them.” Dr Peter Busch is both Director of the postgraduate program and Senior Lecturer in the Department of Computing. His research focuses on knowledge management, organisational learning and business process management and modelling. He teaches in the areas of databases, information modelling, management of IT and enterprise systems integration. He has recently published a book examining the knowledge management implications of tacit knowledge diffusion, entitled *Tacit Knowledge in Organizational Learning*.  
  
  Photo: Macquarie University |
| Professor Vijay Varadharajan | Microsoft Chair For Innovative Computing  | “I believe that courses at masters level should provide technical depth and breadth and relevance to industry to maintain a leading edge. Lecturers should also have been exposed to industry trends so they can engage effectively with the needs of mature students; students from industry as well as students from undergraduate study.” As the Microsoft Chair Professor at Macquarie, Professor Varadharajan has international experience in leading industrial research labs such as Microsoft, Hewlets-Packard and British Telecom. He is on the Trustworthy Computing Advisory Board at Microsoft at Redmond USA, has also held senior Professorship positions in academia and is also a member of the Peak IT Security Advisory Group at the Australian Government.  
  
  Photo: Macquarie University |
| Dr Ian Krycer         | Consultant and adjunct lecturer                | Dr Ian Krycer has a Master of Technology degree in Software Engineering from Macquarie University and a PhD from the University of Sydney. He initially pursued an industrial career and became the Managing Director for two US multinational companies operating subsidiaries in Sydney, Australia. Dr Krycer managed numerous IT projects ranging from Enterprise Resource Planning (ERP) implementation, web-based B2B product configuration and ordering, and custom asset tracking and billing applications. For the last nine years, Dr Krycer has worked as an adjunct IT lecturer at Macquarie University and as a consultant for small to medium enterprises. Dr Krycer’s research interests include web services, application integration, change management and mobile commerce.  
  
  Photo: Bronwyn Wade-Leeuwen |
| Milton Baar           | Consultant and adjunct lecturer                | “I have a preference for skill-based education in postgraduate education, as much as undergraduate education. I like to get people working on what they’re actually going to be doing, so that they can make mistakes here, rather than on the job.” Milton Baar is an information security specialist with over 30 years commercial experience. He consults for The Swoose Partnership and the Information Systems Group as well as being a part of Standards Australia committee IT12/4 which oversees Australia’s input into the ISO27001 Information Security Management standard. Milton’s interests are in operating systems vulnerabilities and social engineering.  
  
  Photo: Milton Baar |
About Macquarie University

As a Macquarie student you will join a welcoming community of 33,000 students with 10,400 international students from over 114 countries.

Ranked amongst Australia’s top ten universities (Shanghai Jiao Tong University Rankings, 2010), Macquarie University is recognised for its innovative curriculum, high-quality teaching and research and unique campus environment.

Campus location and facilities

Macquarie University’s North Ryde campus is uniquely located in parklands only 30 minutes drive to Sydney Harbour. On campus you will find extensive facilities, including eateries, a state-of-the-art Sport and Aquatic Centre, an acclaimed sculpture park, museums and hotels. The Macquarie Centre, a major shopping complex, is on the doorstep of the campus.

In 2009, we became the first university in Australia to have its own train station on campus. Bus services have also been revamped, meaning it is now much easier to get to Macquarie than ever before.

Quality student accommodation is available both on and off campus.

Enhance your degree

As part of Macquarie’s commitment to internationalisation and innovation, the Global Leadership Program (GLP), run by Macquarie International, allows students to enhance their Macquarie degree and develop their leadership and global skills through studying, volunteering and participating in internships in Australia and overseas.

Macquarie also has one of the most extensive international exchange programs of any Australian university.

For further information on admission to Macquarie University, accommodation options, transport services, working in Australia, orientation activities and more:

For more information contact:

Macquarie International
Tel: (61 2) 9850 7346
Fax: (61 2) 9850 9198
Email: iso@mq.edu.au
www.international.mq.edu.au
Enquire online: www.international.mq.edu.au/enquire

Disclaimer: Information given in this publication is correct at the time of printing (December 2010) but is subject to change without notice. The University has the right to alter the content or impose terms and conditions in relation to a program at any time.

CRICOS Code: 00003J