

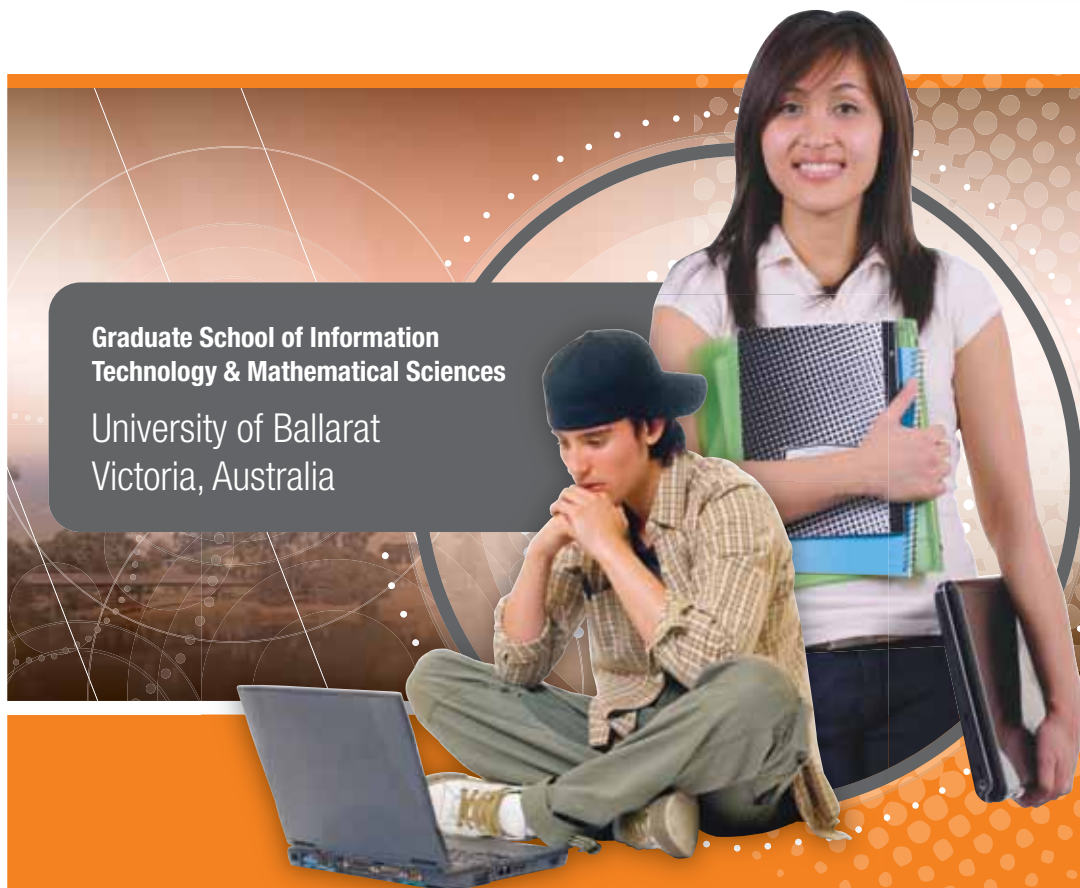
University of Ballarat

Learn to succeed



Graduate School of Information
Technology & Mathematical Sciences

University of Ballarat
Victoria, Australia



Graduate School of Information Technology & Mathematical Sciences

www.ballarat.edu.au/international



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the university of ballarat

The University of Ballarat (UB) was first established in 1870, making it the third oldest tertiary institution in Australia. With over 130 years of tradition and excellence, UB continues to serve its students whether you wish to advance your current knowledge or pursue a completely different career.

One of UB's values, 'Excellence through effort' applies to not only our students but UB as a whole. With a growing reputation for sound relevant research by our academics, this added knowledge is passed on to all UB students whatever program they undertake.

As Australia's only regional multi sector University (both vocational and higher education), you can choose a pathway with UB to complete your qualification without ever having to change institutions.

You will find all staff at UB are committed to ensuring that you achieve the highest possible results in your studies. The University of Ballarat is connected to its various communities and reaches into all aspects of life in Ballarat and regional Victoria; from health, to sport, to education, to business, to social facilitation and in many more ways. UB also has a strong commitment internationally, with a profile that continues to grow and gain further respect. Programs are designed to equip future graduates with the knowledge and skills necessary to work in an ever increasing global environment.

the ballarat advantage

Quality programs

UB's programs are regularly updated to suit changes in the international environment. The University's close links with industry play an important role in the design of programs which greatly benefits the new graduate.

Internationally recognised qualifications

A UB qualification is recognised worldwide for its quality and academic vigour, meaning that your qualification can take you all over the world.

Small class sizes

At UB you will not get lost in the crowd. All of our students enjoy being part of the UB community and are known and recognised by staff.

Accessible academic faculty and staff

The Academic staff at UB are more accessible than at larger institutions and are interested in the progress of students throughout their programs.

Modern equipment

Resources are put back into the University to develop facilities and services that benefit you as a student. This ensures that the facilities and equipment used by students are state of the art.

Excellent teaching and sporting facilities

The University has modern lecture theatres and outstanding sporting facilities.

Friendly and welcoming regional city

Ballarat is a progressive and dynamic 'college' town that has many educational institutions; and friendly locals welcome international students.

Cost of living

Ballarat is an affordable city to live in. It is considerably cheaper than any of the major metropolitan centres in Australia, and in many cases students enjoy a significantly better lifestyle for much less cost.

While students in Ballarat generally enjoy a lower cost of living, costs can vary depending whether you choose to live alone or in a share accommodation arrangement.

Climate

Ballarat has four distinctive seasons, with warm to hot summers and cool to cold winters. Day time averages are:

- **Summer** (December to February) Temperatures range from 22 - 35 degrees Celsius, with the average temperature 25
- **Autumn** (March to May) Temperatures range from 15 - 26 degrees Celsius, with the average temperature 20
- **Winter** (June to August) Temperatures range from 10 - 15 degrees Celsius, with the average temperature 12
- **Spring** (September to November) Temperatures range from 13 - 24 degrees Celsius, with the average temperature 19

language requirements

The Graduate School of Information Technology and Mathematical Sciences requires all students to meet the following requirement for entry into its programs:

IELTS: Score of 6.0 overall with no individual sub-scores less than 5.5.

TOEFL: (1) Score of 550, including the Test of Written English (TWE) or;
(2) Score of 213 in the computer based test or;
(3) Score of 79 in the internet based test (with scores not less than 20 in writing and speaking and 18 in reading and listening)

Please note: While the University of Ballarat accepts both IELTS and TOEFL, in some countries the Australian Diplomatic Mission may accept only IELTS for the granting of a student visa. Please check with the Australian Diplomatic Mission in your country to ensure that you are taking the appropriate test.

Exceptions:

In some cases, students who can demonstrate one of the following may be deemed to have met the University's normal English language proficiency requirements:

- English is spoken as a first language
- Secondary school studies have been completed in English and a satisfactory pass has been obtained in final year English
- Satisfactory completion of at least a first year of a tertiary program taught and examined in English

English and Academic Preparation programs:

Students that do not meet the above English language requirements, may be eligible to undertake an English & Academic Preparation (EAP) program of either 10, 15 or 20 weeks. EAP aims to enhance and develop students' English language skills and knowledge of western academic culture for the purposes of academic study in the University of Ballarat.

- Students achieving an IELTS score of 5.0 or equivalent could undertake 20 weeks EAP.
- Students achieving an IELTS score of 5.0 or 5.5 or equivalent could undertake 15 weeks EAP.
- Students achieving an IELTS score of 5.5 or equivalent could undertake 10 weeks EAP.

tuition fees

Please consult the most recent copy of the University of Ballarat, International Student Programs handbook, or www.ballarat.edu.au/international for an up-to-date program fee listing.

assessment methods

Assessment at the University of Ballarat includes a range of methods such as formal, end of semester examinations, continuous assessment throughout the semester, written assignments/essays and field projects. You will be advised of the particular method(s) to be used at the commencement of your program.

Welcome by the School

**Graduate School of Information Technology
and Mathematical Sciences**

University of Ballarat
Learn to succeed



The Graduate School of Information Technology & Mathematical Sciences (GSITMS) offers a diverse range of undergraduate and postgraduate programs. The school is one of the largest providers of IT postgraduate education in Australia. We pride ourselves on the quality of our teaching and the fact that we produce industry ready graduates.

The School is fortunate to have a unique and close relationship with IBM. IBM staff participate in the School's advisory committee providing valuable input into curriculum matters and also collaborate on a variety of research initiatives. We are proud to offer the Bachelor of Information Technology (Professional Practice) program where students obtain work experience with IBM whilst studying for their degree. The program has become so successful that IBM guarantees every graduate employment upon successful completion of their study in this program.

GSITMS is truly an international school. We have staff born in more than 25 countries from across the globe, our curriculum is truly international, being designed for students to work in the global information technology field. Our programs are also accredited by the peak Australian industry body, the Australian Computer Society.

The School is home to world class research featured in our research centre, the Centre for Informatics and Applied Optimization (CIAO). CIAO is internationally recognized for pure and applied research in optimization, data mining, internet commerce security, virtual reality and simulation, and health informatics.

Whether or not you decide to study with us, I would like to wish you every success for your future. If you decide to study with the Graduate School of Information Technology & Mathematical Sciences, I congratulate you for making a wise choice.

Gregory Simmons

*Director of International Programs
Graduate School of Information Technology
and Mathematical Sciences*





why ballarat?

The University of Ballarat (UB) will offer you opportunities never experienced before. Prepare yourself for adventure and travel, learn about real Australian people and their dynamic culture and be challenged by our full academic programs. There is no better place to start than Ballarat, often known as the birthplace of the Australian spirit.

Well known as a college and lifestyle city, Ballarat offers a welcoming, clean and friendly environment to live and study in. With modern health facilities, sporting and leisure facilities, quality education, shopping centers, as well as numerous cafés, restaurants and nightclubs, Ballarat is a great destination to pursue your studies.

The long-standing partnership between the University of Ballarat and IBM® continues to grow in mutually beneficial ways.



Werner Hulsmann, PMO Manager, Integrated Technology Delivery, with IBM Australia and New Zealand acts as an IBM Ambassador to tertiary institutions throughout Australia. "My experience is that the University of Ballarat is a pro-active and open university when it comes to working with industry," Werner explains. Rolling up their sleeves and asking 'how can we make this happen' in a way that benefits both UB and its commercial partners is something UB prides itself on. "University leaders are very approachable. They seek to value-add in their negotiations and engagement," says Werner.



IBM decided on a Ballarat presence in 1994 when the State Government sought tenders for a large contract. "A condition of the tender was that it have a regional focus," explains Werner. "Our partnership with the University of Ballarat won the tender, and within 10 months the University had built a customised, raisedfloor data centre with endless power generation within its Technology Park." The IBM Southern Regional Data Centre (SRDC) continues its tenancy of the site, currently housing the Business Recovery Unit and Call Centre.



A casual discussion over coffee in 2002 led to the development of the IBM Regional Software Solutions Centre (RSSC). A building vacancy opened up within UB's Mt Helen Campus with direct access to the School of Information Technology and Mathematical Sciences. "University and government incentives, as well as accessibility to graduates, made it an attractive option for IBM," says Werner.

The benefits of IBM's proximity to UB flow in both directions. IBM executives voluntarily lecture into the Bachelor of Information Technology (Professional Practice) program, dubbed 'Earn as you learn', sharing their invaluable experience with students who also work part-time within IBM itself. In return, IBM have a ready pool of talent each year, who are already familiar with the company culture and processes. "Through UB's Unijobs service, we also have access to a casual workforce whose energy and fresh voices provide excellent customer satisfaction within our call centre," says Werner.

When his role moved to Ballarat, Werner and his family made the 'tree change' too. "When IBM moved to Ballarat, I thought it would be a smart move to join them," explains Werner, who featured in the Victorian State Government's 'Provincial Victoria' campaign. "We immediately felt at home in Ballarat. The people here are so friendly and open-minded. It's a great place to live and work. There's a real sense of community and we feel very proud to be part of it."

There is every indication that the exciting alliance between UB and IBM will continue well into the future. "I cannot see that IBM would not extend its relationship with the University further," says Werner. "We are extremely pleased with the partnership".

a meeting of minds



Associate Degree of Information Technology (CRICOS Code 066094K)

Duration:

2 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Successful completion of Australian
Year 12 or overseas equivalent including
Mathematics



Program Description

The Associate Degree of Information Technology examines both the organisational and technological issues that are needed for the analysis and design of information systems. In particular, you will have the appropriate knowledge, skills and values to be effective in modern IT environments. Following completion of this program students may be eligible to receive two years credit upon entry into the Bachelor of Information Technology.

Career Opportunities

Completion of this program will provide you with a variety of career opportunities in small, medium and large business and government. Work can be obtained in areas such as web technology, information systems, information technology, electronic commerce, and managers with information technology skills.

Professional Recognition

On successful completion of the Associate Degree of Information Technology students will be eligible for Associate membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Programming 1
Communication & Technology
Network Operating Systems
Business or Computing Elective

Semester 2

Database Management Systems
Introduction to Multimedia
Programming 2 or Business
Information Systems
Business or Computing Elective

Year 2

Semester 1

Webpage & Multimedia Design
Information Security
Elective
Elective

Semester 2

Professional Development
Introduction to IT Project Management
Elective
Elective

Bachelor of Information Technology (CRICOS Code 028643A)

Duration:

3 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Successful completion of Australian
Year 12 or overseas equivalent including
Mathematics.

Program Description

The Bachelor of Information Technology is an innovative program designed with input from major IT industry partners. Upon completion of the program, you will have achieved industry-recognised qualifications; have the foundation to become a leader in the IT field; be able to understand the impact of technological change; be able to appreciate not only current usage of IT in business and industry environments but also trends in computing; and be able to analyse, design and implement up-to-date computer-based systems including those related to internet technology, multimedia and web-based applications. As a graduate of this program, you will have been provided with a balance between specific knowledge of particular development tools (languages, operating systems, development environments) and general lifelong learning skills, which will ensure that you are able to remain at the forefront of this vibrant and rapidly developing sector.

Career Opportunities

Upon completion of this program, you will be qualified for a variety of career opportunities in small, medium and large business and government. Careers include network manager, applications developer, programmer, software engineer, systems analyst, multimedia developer, database administrator, project manager and IT consultant.

Professional Recognition

On successful completion of the Bachelor of Information Technology students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Communication & Technology
Programming 1
Introduction to Multimedia
Network Operating Systems

Semester 2

Database Management Systems
Programming 2
Elective
Computing Elective

Year 2

Semester 1

Software Engineering: Analysis & Design
World Wide Web Technology 1
Network Protocols & Services
Elective

Semester 2

World Wide Web Technology 2
Introduction to IT Project Management
Computing Elective
Elective

Year 3

Semester 1

Project 1
Information Security
Computing Elective
Elective

Semester 2

Project 2
Professional Development
Computing Elective
Computing Elective

Bachelor of Information Technology (Business Systems) (CRICOS Code 065125E)

Duration:

3 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Successful completion of Australian Year 12 or overseas equivalent including Mathematics.

Program Description

The Bachelor of Information Technology (Business Systems) examines - with a strong emphasis on electronic commerce - the organisational and technological issues that are needed for the analysis and design of business information systems. The program provides a state-of-the-art program that considers modern principles and theories of computing together with the practical applications of technology. It provides students with the appropriate knowledge, skills and values to be effective in modern business environments.

Throughout the program, you will become familiar with the latest developments in IT, and understand the different types of information technology tools and their applications. You will learn to understand the role of technology in managing knowledge and information and become capable of critically evaluating currently existing technology systems and new developments. You will develop an understanding of the organisational settings in which information systems are used, and recognise the threats and opportunities of technology in business. An understanding of the role of modern information systems in society and business is also developed.

Career Opportunities

The constantly expanding information infrastructure has opened up many career opportunities for information systems graduates, ranging from the very technical to the very business-oriented. A variety of career opportunities exist in small, medium and large business and government in the major areas of information systems development, systems analysis, systems design, information management, database design and administration, electronic commerce and consultant.

Professional Recognition

On successful completion of the Bachelor of Information Technology (Business Systems) students will be eligible for Professional membership with the Australian Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Communication & Technology
Business Information Systems
Introduction to Multimedia
Management Principles

Semester 2

Database Management Systems
Programming 1
Network Operating Systems
Managerial Skills

Year 2

Semester 1

Webpage & Multimedia Design
Business Statistics
Business or Computing Elective
Elective

Semester 2

Information Security
Introduction to IT Project Management
Business or Computing Elective
Elective

Year 3

Semester 1

Emerging Technologies in Business
Electronic Commerce 1
Project 1
Elective

Semester 2

Project 2
Professional Development
Electronic Commerce 2
Elective

Bachelor of Information Technology (Computer Games)

(CRICOS Code 065124F)

Duration:

3 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Successful completion of Australian Year 12 or overseas equivalent including Mathematics (at an agreed level).

Program Description

The Bachelor of Information Technology (Computer Games) provides you with the necessary skills, knowledge and values to be successful in a variety of computing areas, with a specialisation in computer games development. To succeed in the dynamic field of computer games, you require a strong theoretical basis and practical skills in games design and development, both of which you will receive within this program. In particular, you will graduate with very strong programming and multimedia design skills.

Career Opportunities

Completion of this program will provide you with a variety of career opportunities in small, medium and large business and government. Possible career paths include games development, games design, games testing and quality assurance, interactive entertainment, 2D and 3D artistry, project management, consultancy, software engineering, systems analysis, web development, and programming.

Professional Recognition

On successful completion of the Bachelor of Information Technology (Computer Games) students will be eligible for Professional membership with the Australian Computer Society (ACS).



Sample Program Structure

Year 1

Semester 1

Communication & Technology
Programming 1
Introduction to Multimedia
Network Operating Systems

Semester 2

Database Management Systems
Programming 2
Bite, Bytes & Algorithms
Elective

Year 2

Semester 1

Software Engineering: Processes & Methods
Elective
Games Elective
Games Elective

Semester 2

Software Engineering: Analysis & Design
Introduction to IT Project Management
Elective
Games Elective

Year 3

Semester 1

Project 1
Information Security
Elective
Games Elective

Semester 2

Project 2
Professional Development
Games Elective
Games Elective

Bachelor of Information Technology (Professional Practice) (CRICOS Code 049564D)

Duration:

4 years

Intakes:

February

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Successful completion of Australian Year 12 or overseas equivalent including Mathematics. An interview is also required.



Program Description

The Bachelor of Information Technology (Professional Practice) is an innovative program that has been developed in conjunction with IBM ® to produce graduates who have an appreciation of the culture of work as an IT professional. From the second year of the program, you will combine university studies and practical experience with IBM ® in an 'Earn As You Learn' program. Courses on industry awareness and industry application are delivered in association with IBM ® staff.

Year 1: Full-time study

Year 2: ¾ time spent on full-time study, ¼ time spent gaining industry experience with IBM®

Year 3: ¾ time spent on full-time study, ¼ time spent gaining industry experience with IBM®

Year 4: Students who successfully complete three years of the program will be employed full-time by IBM® for the first half of the fourth year.

As part of the program, you will receive a scholarship of AUD\$2,000 in your first year, approximately AUD\$7,000 for each of your second and third years and AUD\$14,000 in your fourth and final year.

The design of this program means that you will graduate with one year's work experience, greatly enhancing your employment opportunities.

Career Opportunities

This program enables you to continue working with IBM. IBM will offer employment to all 'IT Professional Practice' students who successfully graduate from the program and are eligible to work for IBM in Australia.

Completion of this program will provide you with a wide variety of career opportunities in small, medium or large organisations in Australia and internationally. You will have a competitive advantage over other IT graduates because you will have gained valuable industry experience.

Professional Recognition

On successful completion of the Bachelor of Information Technology (Professional Practice) students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Communication & Technology Programming 1
Introduction to Multimedia
Network Operating Systems

Semester 2

Database Management Systems Programming 2
Network Protocols & Services
Computing Elective

Year 2

Semester 1

World Wide Web Technology 1
Industry Awareness
Elective

Semester 2

Programming 3
World Wide Web Technology 2
Elective

Year 3

Semester 1

Software Engineering: Analysis & Design
Introduction to IT Project Management
Computing Elective

Semester 2

Information Security
Open Source & Linux
Computing Elective

Year 4

Semester 1

Project 1

Semester 2

Project 2
Computing Elective
Professional Development

Bachelor of Computing (Honours) (CRICOS Code 033920J)

Duration:

1 year

Intakes:

February

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Students require a good academic record ('D – Distinction' or better or equivalent) in their successful completion of an Australian bachelor degree or overseas equivalent, with a major study in Computing.

A student who wishes to enter the program but who does not completely fulfil these requirements, may present a case in writing to the Program Coordinator, at whose discretion they may be admitted to the program.

Program Description

The Bachelor of Computing (Honours) program is designed to provide computing graduates with advanced studies in computing at a professional level. It also offers an introduction to a research program and provides access to research degrees at universities throughout Australia and internationally by providing preparatory studies for PhD study.

Career Opportunities

In today's competitive environment, an Honours degree sets you apart. As a graduate of this program, you will be able to work in any area of industry or government, with possible career paths including software engineering, systems analysis, programming, networking, database analysis, system management and web engineering. This program will also provide you with an introduction to a research program and enables access to research degrees at universities throughout Australia and internationally.

Sample Program Structure

Year 1

Semester 1

Research Skills & Academic Communication
Guided Study

Semester 2

Honours Approved Elective 1
Special Topics in Computing

Full Year

Research Project & Thesis



Bachelor of Mathematical Sciences

(CRICOS Code 061343E)

Duration:

3 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Successful completion of Australian Year 12 or overseas equivalent including Mathematics (at an agreed level).

Program Description

The Bachelor of Mathematical Sciences provides you with a strong foundation in the basic principles and techniques of mathematics and an understanding of how mathematics is applied in the real world. You will be able to analyse and critically evaluate new situations and develop strong numeracy, logical thinking, analysis, report writing and communications skills, which are valued by employers.

Career Opportunities

A degree in Mathematics provides a unique training in abstract reasoning and problem solving which in recent times has been much sought after by employers. Mathematical methods are used in all areas of science, engineering, technology, business, industry and commerce. Recent advances in medical imaging, finance and internet security, for example, rely on advanced mathematical methods. There is a high demand for mathematics graduates in manufacturing and engineering industries, banking, medicine, commerce, forecasting, and teaching.

Sample Program Structure

Year 1

Semester 1

Communication and Technology
Upon the Shoulders of Giants
Statistical Methods
Introduction to Multimedia

Semester 2

Secrets of the Matrix
Modelling and Change (Introductory Level)
Statistics for Prediction
Elective

Year 2

Semester 1

Profit, Loss and Gambling
Programming 1
Modelling and Change
Elective

Semester 2

Space, Shape and Design
Database Management Systems
Elective
Elective

Year 3

Semester 1

Puzzles, Patterns and Proofs
Computing Elective
Elective
Elective

Semester 2

Modelling and Change (Advanced Level)
Computing Elective
Elective
Elective



Bachelor of Mathematical Sciences (Honours)

(CRICOS Code 052876F)

Duration:

1 year

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Students require a good academic record ('D - Distinction' or better or equivalent) in their successful completion of an Australian Bachelor degree or overseas equivalent, with a major study in Mathematics or Statistics.

A student who wishes to enter the program but who does not completely fulfil these requirements, may present a case in writing to the Program Coordinator, at whose discretion they may be admitted to the program.

Program Description

The Bachelor of Mathematical Sciences (Honours) provides advanced studies in mathematics, at a professional level for students with a strong mathematical background. It also provides students with an introduction to a research program enabling them access to research degrees at universities throughout Australia and internationally. This program provides preparatory studies for PhD study.

Career Opportunities

Graduates would expect to work in any area of industry or government. This program is also designed to provide you with an introduction to a research program and enables access to research degrees at universities throughout Australia and internationally.

Sample Program Structure

Year 1

Semester 1

Research Skills & Academic Communication

Guided Study

Semester 2

Honours Approved Elective 1

Honours Approved Elective 2

Full Year

Research Project & Thesis



Graduate Diploma of Business Information Systems (CRICOS Code 056885F)

Duration:

1 year

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree or overseas equivalent, or a 3-year tertiary Diploma to an agreed standard.

Program Description

The Graduate Diploma of Business Information Systems will provide you with the appropriate knowledge, skills and values to be effective in modern business environments. It is a state-of-the-art program that considers modern principles and theories of computing together with the practical applications of information technology. The Graduate Diploma of Business Information Systems examines both the organisational and technological issues that are needed for the analysis and design of business information systems.

Career Opportunities

On completion of the Graduate Diploma of Business Information Systems, you will be well-equipped for employment in a range of areas, including information systems development, information management, electronic commerce, database administration and consulting.

Professional Recognition

On successful completion of the Graduate Diploma of Business Information Systems students will be eligible for Associate membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Network Operating Systems
Communication and Technology
Business Information Systems
Introduction to Multimedia

Semester 2

Database Management Systems
Webpage and Multimedia Design
Professional Development
Electronic Commerce 1



Master of Business Information Systems (CRICOS Code 068557A)

Duration:

2 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree or overseas equivalent, or a Graduate Certificate in Business Information Systems.



Program Description

The Master of Business Information Systems will provide you with the appropriate knowledge, skills and values to be effective in modern business environments. It provides a state-of-the-art program that considers modern principles and theories of computing together with the practical applications of information technology. The Master of Business Information Systems examines the organisational and the technological issues that are needed for the analysis and design of business information systems, with a strong emphasis on electronic commerce.

Career Opportunities

As a graduate of the Master of Business Information Systems, you will be well-equipped for employment in a range of areas, including information systems developer, system analyst manager, system designer, information manager, electronic commerce manager, database administrator, consultant, and company manager.

Professional Recognition

On successful completion of the Master of Business Information Systems students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Introduction to Multimedia
Business Information Systems
Professional Communication

Semester 2

Database Management Systems
Webpage and Multimedia Design
Principles of Software Engineering

Year 2

Semester 1

Professional Development
Electronic Commerce 1
IT Project Management

Semester 2

Electronic Commerce 2
Project
Electronic Commerce Management

Master of Information Systems (CRICOS Code 050402A)

Duration:

2 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree or overseas equivalent, or a Graduate Certificate in Business Information Systems.



Program Description

The Master of Information Systems is designed specifically to attract graduates who do not necessarily have a background in information technology, but who need to learn more about the utilisation of information technology in business environments. This is a state-of-the-art program that considers modern principles and theories of computing together with the practical applications of information technology. It examines both the organisational and technological issues that are needed for the analysis and design of business information systems with a strong emphasis on electronic commerce. Several elective courses are delivered through the School of Business to take advantage of that School's skills and expertise in management and legal areas.

Career Opportunities

Upon completing the Master of Information Systems, you will be well-prepared for such careers as information systems developers, system analyst managers, system designers, information managers, electronic commerce managers, database administrators, consultants, and company managers.

Professional Recognition

On successful completion of the Master of Information Systems students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Business or Computing Elective
Professional Communication
Business Information Systems
Introduction to Multimedia

Semester 2

Electronic Commerce 1
Database Management Systems
Webpage and Multimedia Design
Professional Development

Year 2

Semester 1

Database Communication Management
IT Project Management
Business or Computing Elective
Electronic Commerce 2

Semester 2

Principles of Software Engineering
Electronic Commerce Management
Business or Computing Elective
Project

Graduate Diploma of Information Technology

(CRICOS Code 023230G)

Duration:

1 year

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree or overseas equivalent, or a 3-year tertiary Diploma at an agreed standard.

Program Description

The Graduate Diploma of Information Technology is designed for graduates with an undergraduate degree in areas other than computing or information technology. The program offers continuing education at a graduate level for professionals from all disciplines. A background in computing is not required.

Career Opportunities

Completion of this program will provide you with a good grounding for employment in related areas in the settings of industry, commerce or government.

Professional Recognition

On successful completion of the Graduate Diploma of Information Technology students will be eligible for Associate membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Communication & Technology
Programming 1
Introduction to Multimedia
Network Operating Systems

Semester 2

Database Management Systems
Programming 2
Professional Development
Software Engineering: Processes and Methods or IT Project Management



Master of Information Technology (CRICOS Code 047260C)

Duration:

2 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree or overseas equivalent, or a Graduate Certificate in Information Technology.



Program Description

The Master of Information Technology is a coursework degree that will introduce you to advanced theoretical and practical concepts. There is an in-depth approach to programming, project management skills and software engineering. This program has been designed specifically for graduates with undergraduate degrees in areas other than computing or information technology.

Career Opportunities

Upon completion of this program, you would expect to work in the information technology areas of industry, commerce or government. Possible career paths include software engineering, systems analysis, programming, networking, database analysis, system management, and web engineering.

Professional Recognition

On successful completion of the Master of Information Technology students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Professional Communication
Programming 1
Introduction to Multimedia
Principles of Software Engineering

Semester 2

Software Engineering: Processes and Methods
Database Management Systems
Programming 2
Professional Development

Year 2

Semester 1

Software Engineering: Analysis and Design
IT Project Management
Computing Elective
Computing Elective

Semester 2

Project
Computing Elective
Advanced Programming
Computing Elective



Master of Information Technology Studies (CRICOS Code 068556B)

Duration:

2 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree or overseas equivalent, or a Graduate Certificate in Information Technology.



Program Description

The Master of Information Technology Studies is designed to provide advanced theoretical and practical concepts by coursework. It offers an in-depth approach to project management skills, programming and software engineering.

Career Opportunities

Graduates would expect to work in industry, commerce or government in the areas of software engineering, systems analysis, programming, networking, database analysis, system management, and web engineering.

Professional Recognition

On successful completion of the Master of Information Technology Studies students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Programming 1
Introduction to Multimedia
Professional Communication

Semester 2

Database Management Systems
Programming 2
Principles of Software Engineering

Year 2

Semester 1

Computing Elective
Professional Development
IT Project Management

Semester 2

Computing Elective
Project
Advanced Programming

Graduate Certificate in Information Technology Management (CRICOS Code 061339A)

Duration:

1 year

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree with a major in Computing or Information Technology, or overseas equivalent; or a three-year tertiary Diploma at an agreed standard with a major in Computing or Information Technology, or overseas equivalent.

Program Description

The Graduate Certificate in Information Technology Management is designed specifically for students with a background in IT or Computing who aspire to be IT managers and require an introduction to the strategic management of IT resources within IT departments and organisations.

Career Opportunities

On completion of the Graduate Certificate in Information Technology Management you would expect to work in an area of industry, commerce or government.

Professional Recognition

On successful completion of the Graduate Certificate in Information Technology Management students will be eligible for Associate membership with the Australia Computer Society (ACS).

Sample Program Structure

Semester 1

Professional Communication

IT Management

Introduction to IT Project Management

Computing Elective



Graduate Diploma of Information Technology Management

(CRICOS Code 061337C)

Duration:

1 year

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree with a major in Computing or Information Technology, or overseas equivalent; or a three-year tertiary Diploma at an agreed standard with a major in Computing or Information Technology, or overseas equivalent.

Program Description

The Graduate Diploma of Information Technology Management is designed specifically for students with a background in IT or computing who aspire to be IT managers and require an understanding of the strategic management of IT resources within IT departments and organisations.

Career Opportunities

Completion of this program will provide you with a good grounding for employment in related areas in the settings of industry, commerce or government.

Professional Recognition

On successful completion of the Graduate Diploma of Information Technology Management students will be eligible for Associate membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1*Semester 1*

Professional Communication

IT Management

Introduction to IT Project Management

Computing Elective

Semester 2

Contemporary Challenges for IT Managers

Professional Development

Emerging Technologies in Business

Computing Elective



Master of Information Technology Management (CRICOS Code 061328C)

Duration:

2 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree with a major in Computing or Information Technology, or overseas equivalent; or completion of the Graduate Certificate in Information Technology Management or equivalent.

Program Description

The Master of Information Technology Management is designed specifically for those with a background in IT or computing who aspire to be IT Managers, and require an understanding of the strategic management of IT resources within IT departments and organizations.

Career Opportunities

Graduates could expect to work in any area of industry, commerce or government, in ICT strategic management or project management roles.

Professional Recognition

On successful completion of the Master of Information Technology Management students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Professional Communication
IT Management
Introduction to IT Project Management
Computing Elective

Semester 2

Contemporary Challenges for IT Managers
Professional Development
Emerging Technologies in Business
Computing Elective

Year 2

Semester 1

Data Communications Management
IT Project Management
Information Security
Human Resource Management

Semester 2

Project
Intelligent Systems for an Information Society
Electronic Commerce Management
Management Information Systems



Master of Information Technology Management Studies (CRICOS Code 061332G)

Duration:

1.5 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have completed (at least) an Australian Bachelor degree with a major in Computing or Information Technology, or overseas equivalent; or completion of the Graduate Certificate in Information Technology Management or equivalent.



Program Description

The Master of Information Technology Management Studies is specifically for those with a background in IT or computing who aspire to be IT managers and require an understanding of the strategic management of IT resources within IT departments and organisations.

Career Opportunities

Graduates could expect to work in any area of industry, commerce or government, in ICT strategic management or project management roles.

Professional Recognition

On successful completion of the Master of Information Technology Management Studies students will be eligible for Professional membership with the Australia Computer Society (ACS).

Sample Program Structure

Year 1

Semester 1

Professional Communication
IT Management
Introduction to IT Project Management
Contemporary Challenges for IT Managers

Semester 2

Emerging Technologies in Business
Professional Development
Data Communications Management
IT Project Management

Year 2

Semester 1

Project
Management Information Systems
Information Security
Human Resource Management OR
Intelligent Systems for an Information Society OR
Electronic Commerce Management



Graduate Diploma of Advanced Computing (CRICOS Code 061326F)

Duration:

1 year

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

Applicants to this program must have successfully completed (at least) an Australian Bachelor degree with a major in Computing or Information Technology, or overseas equivalent.

Program Description

The Graduate Diploma of Advanced Computing provides computing graduates with advanced studies in computing and information technology and also introduces them to the principles of practices of research, in preparation for postgraduate study.

This program also provides you with the skills and knowledge necessary to advance your career or re-position yourself to take advantage of opportunities in current computing technologies.

Career Opportunities

As a preparatory program for a research degree, most graduates would progress to further study. You would also be qualified to gain employment in a research position within Government or Industry.

Professional Recognition

On successful completion of the Graduate Diploma of Advanced Computing students may be eligible to for Associate membership with the Australian Computer Society (ACS)*

**Eligibility will depend on courses completed*

Sample Program Structure

Year 1

Semester 1

Research Skills and
Academic Communication

Guided Study

Elective

Elective

Semester 2

Research Project and Thesis



Higher Degrees by Research

Research opportunities within the Graduate School of Information Technology and Mathematical Sciences

The Centre for Informatics and Applied Optimization (CIAO) is a unique research centre, established in 2001 and located within the Graduate School of Information Technology & Mathematical Sciences.

CIAO is internationally recognized for pure and applied research in optimization, data mining, internet commerce security, virtual reality and simulation, and health informatics.

CIAO has five Research Groups and Laboratories:

- Mathematical Analysis & Optimization
- Data Mining & Informatics
- Virtual Reality & Simulation
- Internet Commerce Security
- Health Informatics

Our senior academic staff offers research degree supervision at the forefront of research and business practice within:

Data Mining

- New algorithms - classification - clustering
- Multi-label classification
- Feature reduction techniques
- Dynamic pattern recognition
- Text and stream mining

Informatics, Legal & Health

- Knowledge discovery from legal databases
- HL7 messaging
- Case-based reasoning
- Pattern recognition
- Neural networks, genetic algorithms
- Hybrid learning algorithms

Mathematical Analysis and Optimization

Theoretical

- Approximate bundle methods in non-smooth optimisation and their applications in some complex systems
- Operations research without convexity
- Necessary and sufficient conditions for global minimum in multi-extremal global continuous optimization
- Enhancing mathematics achievement and engagement by using technology to support real problem solving and lessons of high cognitive demand
- Constrained and Stable Solutions of Nonlinear and Semismooth Equations
- Asymptotical stability of optimal trajectories

Applied Optimization

- Applications of Optimization to Telecommunications and wireless networks
- Global optimization in data mining
- Optimization models for design
- Optimization models for maintenance scheduling
- Optimization techniques in pattern recognition

Knowledge Modelling and Decision Support

- Models of argumentation
- Online dispute resolution
- Reasoning communities
- Group deliberation and e-democracy
- Computational Narrative
- Interactive Narrative Learning Environments
- Knowledge management
- Applied Decision support systems
- Occupational Health and Safety
- Intensive care nursing
- Career Exploration
- Predicting judicial decisions
- Determining eligibility for legal aid
- Traditional Chinese Medicine
- Evolving Ontologies and the Semantic Web
- Hybrid clustering methods using ANN and optimisation techniques
- Modularization of ANN
- Text Categorization

Virtual Reality and Simulation

- Human modelling
- Distributed simulation using High Level Architecture
- Run time interface
- Logical Entity Abstraction and High Level Architecture Security
- New Media Art

Data Security

- Threat profiling
- Malware profiling
- Anti-Phishing Algorithms
- Security of Statistical databases
- PKI systems

Graduate Scholarships

The Graduate School of Information Technology and Mathematical Sciences offers the following PhD Scholarships:

GSITMS Scholarships

Availability

These scholarships are offered for up to 6 people.

Payment

The value of these scholarships are approximately \$AU26,000 per year (+ fees of \$AU15,000)

Research Information

The scholarships are for the following fields of research: Mathematical Analysis & Optimization; Data Mining & Informatics; Virtual Reality & Simulation; Internet Commerce Security; or Health Informatics

Eligibility

To be eligible to obtain one of these scholarships you need to have achieved Honours 1 or equivalent.



CIAO Scholarships

Availability

These scholarships are offered for up to 2 people.

Payment

The value of these scholarships are approximately \$AU26,000 per year

Research Information

The scholarships are for the following fields of research: Mathematical Analysis & Optimization; Data Mining & Informatics; Virtual Reality & Simulation; Internet Commerce Security; or Health Informatics

Eligibility

To be eligible to obtain one of these scholarships you need to have achieved Honours 1 or equivalent, or Honours 2a or equivalent

Application Procedures

Applications for scholarships close on the 31 October each year. To obtain further information including application forms and scholarship information please contact the Research & Graduate Studies Office:

Research and Graduate Studies Office

University of Ballarat

Postal Address

PO Box 663.. Ballarat, Victoria 3353, Australia.

Street Address

University Drive, Mt Helen. Ballarat, Victoria 3350, Australia.

Telephone: +61 (3) 5327 9508

Facsimile +61 (3) 5327 9602

Email: HDResearch@ballarat.edu.au

Website: <http://www.ballarat.edu.au/ard/ubresearch>

Master of Computing (CRICOS Code 052879C)

Duration:

1.5 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

The prerequisite for Masters by research candidature is a Bachelor degree with at least second class honours (or equivalent qualifications and/or experience). There is provision for transfer from Masters to PhD candidature with credit for the period spent as a Masters candidate.

Program Description

The Masters of Computing by Research program is an eighteen-month full-time program, which will see you working with a principal supervisor (and possibly co-supervisor) appointed by the Research and Higher Degrees Committee on the recommendation of the School. The degree is awarded on the basis of an externally examined thesis of approximately 40,000 words that makes a substantial contribution to knowledge and demonstrates an understanding of the relationship of the investigations undertaken to a wider field of knowledge. Areas of research strength in which supervision is available in the School of Information Technology and Mathematical Sciences include:

- Optimization
- Data Mining
- Information security
- Distributed simulation
- Knowledge management
- Computer science education

Career Opportunities

Upon completion of this program, you are likely to gain employment in research positions within government or industry.

Master of Mathematical Sciences (CRICOS Code 052605G)

Duration:

1.5 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

The prerequisite for Masters by research candidature is a Bachelor degree with at least second class honours (or equivalent qualifications and/or experience). There is provision for transfer from Masters to PhD candidature with credit for the period spent as a Masters candidate.

Program Description

This Masters by Research program is an eighteen-month full-time program, which sees candidates working with a principal supervisor (and possibly co-supervisor) appointed by the Research and Higher Degrees Committee on the recommendation of the School. The degree is awarded on the basis of a thesis demonstrating command of the knowledge and skills pertinent to the area of investigation as well as a critical appreciation and understanding of the relationship of his or her own work to that of others. Areas of research strength in which supervision is available in the School of Information Technology and Mathematical Sciences include:

- Applied optimization
- Mathematical finance
- Mathematical and statistical analysis
- Mathematics and statistics education

Career Opportunities

Graduates of this program are likely to gain employment undertaking research in a government department or in industry.

Doctor of Philosophy (CRICOS Code 023229M)

Duration:

3.5 years

Intakes:

February and July

Location:

Mt Helen Campus, Ballarat

Academic Entry Requirements

The prerequisite for the Doctor of Philosophy is completion of a Bachelors degree with first class honours or a Masters degree by research (or equivalent).

Program Description

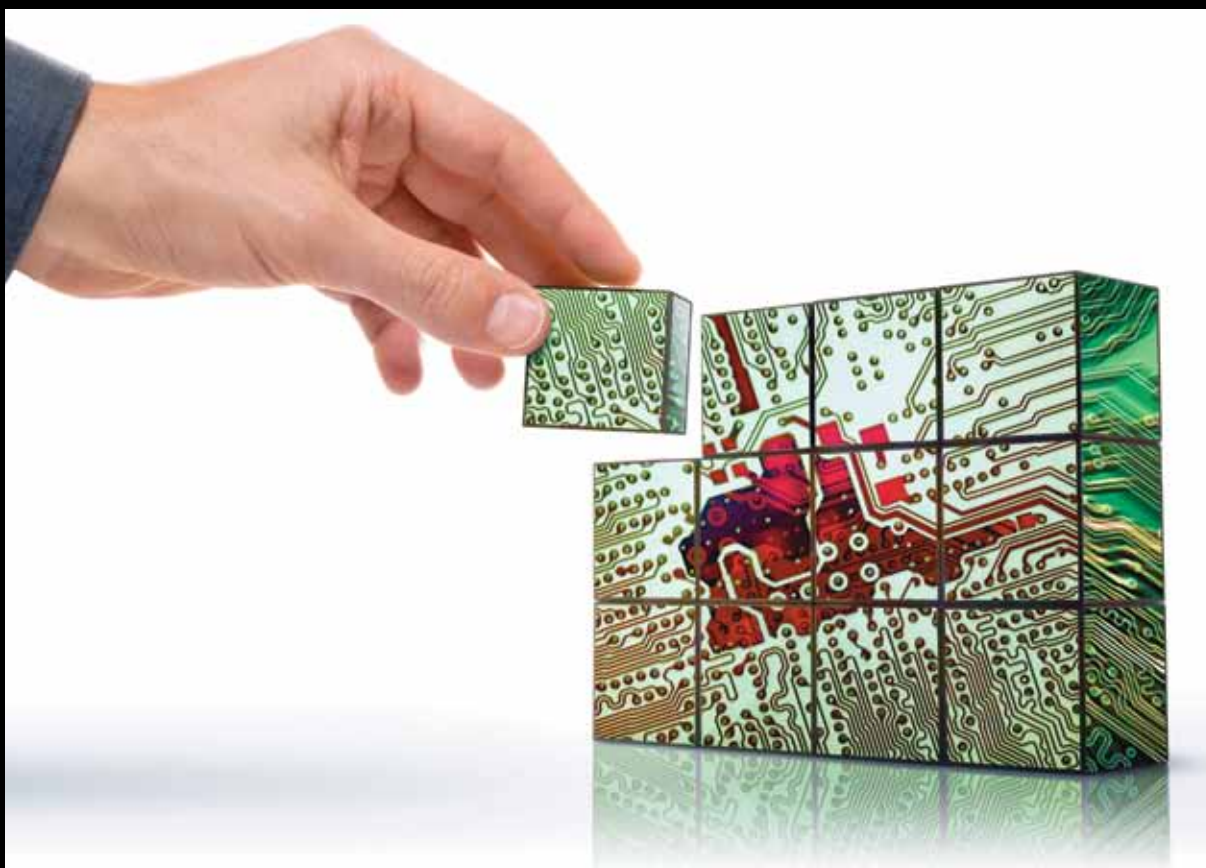
This PhD program is a three-year full-time program, which will see you working with a principal supervisor (and possibly co-supervisor) appointed by the Research and Higher Degrees Committee on the recommendation of the School.

The degree is awarded on the basis of an externally examined thesis of approximately 100,000 words that makes a substantial contribution to knowledge and demonstrates an understanding of the relationship of the investigations undertaken to a wider field of knowledge. In most cases the thesis will be a text reporting research undertaken by the candidate. Areas of research strength in which supervision is available in the School of Information Technology and Mathematical Sciences include:

- Applied Optimization
- Information security
- Distributed simulation
- Knowledge management
- Computer science education

Career Opportunities

Depending on the area of study completed, graduates of this program would expect to be employed in the higher education sector. It is also possible that opportunities in government and Commercial Research Centres may be open to you.



Application Procedures

University of Ballarat
Learn to succeed



To be eligible for an Australian student visa, all prospective international students are required to apply for and be accepted into a registered program, or part of a registered program, by a registered Australian education provider. The University of Ballarat is a registered provider under Australian Government legislation (Registered Provider Number: 00103D).

Prospective students (excluding students applying for Higher Degrees by Research programs) should complete the relevant International Student Application Form available at <http://www.ballarat.edu.au/fdp/international/forms.shtml> attach the required documents and return the form to the university's International Student Programs office. There are no closing dates however, students are advised to seek information on visa application time frames from the Australian Consulate in their home country.

All prospective students must refer to the University of Ballarat Refund Policy as it appears on www.ballarat.edu.au/fdp/international/courses/policies.shtml before signing application forms.

Age Requirement

Applicants must be at least 18 years of age at the time of the proposed commencement of their studies at the University of Ballarat.

Partner Providers

Other teaching locations offering a range of UB Information Technology and Mathematical Science programs:

Victoria

Australian Technical & Management College

Level 1, 171-181
Belcher Arcade, Moorabool Street
Geelong Victoria 3220
Tel: (61 3) 5229 0798
Fax: (61 3) 5229 0797
Web: www.atmc.vic.edu.au
CRICOS Provider Number 03013D

AMI Education

Level 4, 303 Collins Street
Melbourne Victoria 3000
Tel: (61 3) 8610 4100
Fax: (61 3) 8610 4199
Web: <http://www.ami.vic.edu.au>
CRICOS Provider Number 02439G

Australian Technical & Management College

Level 4, 221 Queen Street
Melbourne Victoria 3000
Tel: (61 3) 9642 0686
Fax: (61 3) 9600 2657
Web: www.atmc.vic.edu.au
CRICOS Provider Number 03013D

Melbourne Institute of Technology

388 Lonsdale Street
Melbourne Victoria 3000
Tel: (61 3) 8600 6700
Fax: (61 3) 8600 6761
Web: www.mit.edu.au
CRICOS Provider Number 01545C

New South Wales

Melbourne Institute of Technology

Level 7, 154 Sussex Street
Sydney NSW 2000
Tel: (61 2) 8267 1400
Fax: (61 2) 8267 1499
Web: www.mit.edu.au
CRICOS Provider Number 02814A

International Institute of Business and Information Technology

Level 1, 209 Castlereagh Street
Sydney NSW 2000
Tel: (61 2) 9269 0077
Fax: (61 2) 9269 0097
Web: www.iibit.edu.au
CRICOS Provider Number 01266K

South Australia

International Institute of Business and Information Technology

Level 3, 112-118 Rundle Mall
Adelaide SA 5000
Tel: (61 8) 8232 4299
Fax: (61 8) 8232 4599
Web: www.iibit.edu.au
CRICOS Provider Number 02235J

Contact Address for Applications

Undergraduate and Postgraduate Coursework
Please send Undergraduate and Postgraduate Coursework applications to:

International Student Programs

University of Ballarat CRICOS Provider Number 00103D

Postal Address

PO Box 663 Ballarat, Victoria 3353, Australia

Street Address

University Drive, Mt Helen, Victoria 3350, Australia

Telephone: +61 (3) 5327 9018

Facsimile: +61 (3) 5327 9017

Email: international@ballarat.edu.au

www.ballarat.edu.au/international

www.ballarat.edu.au/programfinder

Higher Degrees by Research

Applications for Higher Degrees by Research programs must be submitted to the Research and Graduate Studies Office (RAGSO) for processing to the address below. To obtain further information including application forms and scholarship information please contact the Research & Graduate Studies Office:

Research and Graduate Studies Office

University of Ballarat CRICOS Provider Number 00103D

Postal Address

PO Box 663 Ballarat, Victoria 3353, Australia

Street Address

University Drive, Mt Helen, Victoria 3350, Australia

Telephone: +61 (3) 5327 9508

Facsimile: +61 (3) 5327 9602

Email: HDRResearch@ballarat.edu.au

www.ballarat.edu.au/ard/ubresearch

www.ballarat.edu.au/programfinder

Information in this publication was current at the time of printing (February 2010). The University reserves the right to alter any program, procedure, regulation or fee. Prospective students should read the contained information carefully and contact the relevant numbers for further information.

Please note: this brochure was created for promotion of program deliveries at the University of Ballarat, Mt Helen Campus only.

Location

Ballarat, Victoria, Australia



the ballarat advantage

University of Ballarat
Learn to succeed



- Quality programs with industry linkages
- Small class sizes
- Low cost of living
- Easy access to lecturers and tutors
- Friendly and welcoming regional city
- Only 1 ½ hours drive to Melbourne CBD
- IBM located on campus
- Excellent teaching and sporting facilities
- Experience Australian life in a regional bush setting
- Excellent mix of Australian and International student population
- Innovative Research Centres on campus
- Mentor program to assist with the transition to an Australian student life

International Student Programs

University of Ballarat

CRICOS Provider Number 00103D

Postal Address

PO Box 663 Ballarat, Victoria 3353, Australia

Street Address

University Drive, Mt Helen, Victoria 3350, Australia

Telephone: +61 (3) 5327 9018

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www.ballarat.edu.au/international

www.ballarat.edu.au/programfinder

