

THE DEGREES

BACHELOR OF INFORMATION TECHNOLOGY AND SYSTEMS

WHAT IS INFORMATION TECHNOLOGY AND SYSTEMS?

Information Technology and Systems is a broad term used to include many fields relating to the application of information and communications technology to a variety of business, government, entertainment, educational and other environments.

Areas of study in information technology and systems range from technical computing specialisations such as multimedia, games development, networks, security and systems development, to business related areas such as business intelligence, enterprise and decision support systems, to social informatics such as information and knowledge management.

Information Technology and Systems professionals are well equipped for a great many IT roles across industry, government, health, education and other fields. Some examples of these roles can be found throughout the pages of this guide, and represent a glimpse of the variety of exciting and challenging careers available.

THE COURSE

The Bachelor of Information Technology and Systems degree provides the greatest flexibility of all of our degrees. This degree enables you to tailor your studies to your own needs and interests. As with all of our degrees, you study the seven common core units¹⁶ to provide you with the fundamental skills and knowledge of computing principles. These core units give you a solid basis on which to build your further studies.

You then have a number of choices: to choose a broad spread of units, to specialise¹⁷ in a chosen area, or to select a blend of both a specialisation and a spread of units.

If you wish to gain a comprehensive specialist skill set, you can take a defined set of units which forms a major. The majors available on various campuses are: applications development and networks, business systems, information management, information systems, internet systems, multimedia applications, multimedia games development, net-centric computing, security and systems development.

If you wish to select your units more broadly, then you follow the general version of the degree, without focusing your choice of units to those defined under any specific major. You may wish to select one of the double majors. To some extent, you can move between majors and the general version during your degree studies¹⁸.

You also take some free electives, chosen from any faculty on any Monash campus. These electives give you the opportunity to follow interests other than those related to IT, and to broaden your prospects for employment.

You also undertake an industry or studio project in your final year. This important component of the degree allows you to work in a small group to develop an IT project for a real world client. The project consolidates the skills and knowledge you have mastered in the first two years, and combines them with people and team management skills to develop a solution of a real need. The project experience is invaluable for learning about work environments, and developing professional networks.

Now we will look at the General version and the majors available in more detail¹⁹.

GENERAL FORM OF THE DEGREE²⁰

Available on the Berwick, Caulfield, Gippsland, Sunway and South Africa campuses and by Off-campus Learning (OCL)

The general version of the Bachelor of Information Technology and Systems provides you with the widest choices available. You study the seven common core units and then choose nine IT elective units across the faculty to match first, second and third year level requirements. You also complete the third year industry or studio project. You round off the degree with six free elective units from anywhere across the University depending on your interests. You may choose to study philosophy, languages, arts, design, business, science, law, or even more IT.

APPLICATIONS DEVELOPMENT AND NETWORKS MAJOR²⁰

Available on the Gippsland and South Africa campuses and by OCL

Networks are the single most powerful technology driving the present universal use of computers, and for the internet, which is growing daily in importance for almost all sectors of the community. This major is ideal for technically minded problem solvers who like to get behind the scenes and work within and across networks and web technologies and the applications that drive them. Build your knowledge and skills in developing systems using networks and web technology. Learn how to build new systems and applications using current and emerging technologies and tools.

¹⁶ Common core units are: Computer systems, Computer programming, IT in organisations, Networks and data communications, Database, Systems analysis and design, Project management.

¹⁷ Specialisations available through groups of specified units which form majors.

¹⁸ Students can change from a major to the General version at any time. Options to switch majors becomes more limited as your course progresses.

¹⁹ For details of units, course map examples and more information about any course, see www.infotech.monash.edu.au or contact the Faculty of Information Technology.

²⁰ In order to comply with local legal requirements, the Bachelor of Information Technology and Systems degree name at the Monash South Africa campus is pending approval by the South African Government's Higher Education Quality Committee.

BUSINESS SYSTEMS MAJOR²¹

Available on the Gippsland and South Africa campuses and by OCL

The business systems major focuses on the use of computers and information systems to understand, model and solve complex problems in business and commerce. It is ideal for future entrepreneurs or managers who want to develop expertise in providing effective business solutions. You will learn about computers, networks and databases and how they can be harnessed in problem-solving to make business more effective. You will also learn how to lead IT teams in developing and managing an organisation's systems.

INFORMATION MANAGEMENT MAJOR

Available on the Caulfield campus

Today, businesses and governments are recognising the strategic importance of managing information in a timely and effective manner. This major is for students who want to work with information and communication technologies to manage information content, resources and services that meet the needs of individuals, organisations and society. You can specialise in librarianship, records management or archival systems, with specialist professional recognition.

INFORMATION SYSTEMS MAJOR

Available on the Caulfield and Sunway campuses

Most IT expenditure in organisations involves enterprise-wide systems that support various business functions. This expanding use of information systems has created many challenges for the business community. The focus of the information systems major is to address those challenges in the development, implementation and management of these systems.

This major has a strong practical focus to ensure you are job-ready for a variety of industries and types of organisations. You will learn how to determine system requirements, and then select, implement and manage the preferred solutions. This work bridges the demanding rigor of technical IT and the challenging dynamics of the IT users' world.

INTERNET SYSTEMS MAJOR²¹

Available on the Caulfield and South Africa campuses

This major is for you if you have a keen interest in the internet, and would like to pursue a career in internet applications development or related fields. The growth of the use of the internet around the world for a myriad of uses has spurred the development of new computer systems that exploit the internet's capabilities. This major includes studies in internet applications development, security, e-business, network administration and human computer interaction. You will develop internet applications using a variety of technologies and development environments.

MULTIMEDIA APPLICATIONS MAJOR

Available on the Berwick campus

Prepare yourself for an IT career in multimedia across the industry spectrum. In this major, you will learn about digital and interactive systems and the important links between technological and presentation skills. You'll also learn how to build content for CD ROM/DVDs, explore animation and 3D concepts, and delve into topics including multimedia imaging, educational multimedia, sound and video and visual communications in a virtual environment.

MULTIMEDIA GAMES DEVELOPMENT MAJOR

Available on the Caulfield campus

This major provides you with the technical and creative abilities to apply core knowledge of programming to game creation through a curriculum that emphasises game and interactive software development. You will master the tools and software used by the game industry, produce game design concepts and documents, and develop analytical skills for examining game play and game design. You focus on complex concepts such as game artificial intelligence, level design and testing. You create complete works in character design, level design and game concepts and participate in every level of game development, from concept to final creation.

NET-CENTRIC COMPUTING MAJOR

Available on the Caulfield and Sunway campuses

Our world runs on networks: local area wired networks, wireless networks, phone networks and the internet. In this major, you will study network administration, network standards and specifications, network design and deployment, security, mobile middleware and web based applications development. This major will enable you to follow a career in network design, support and administration, as well as in network applications development.

SECURITY MAJOR

Available on the Caulfield campus

Our daily lives depend on the information infrastructure of computers and networks. Unfortunately, as information technology has become more

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THE DEGREES

BACHELOR OF INFORMATION TECHNOLOGY AND SYSTEMS (CONTINUED)

important, security threats to businesses, governments and individuals have increased.

Security involves countermeasures to these real and serious threats, and this field has grown very rapidly in recent years. In this major you will study a range of technologies such as network administration, operating systems, web systems development, authentication, cryptography, information and network security, identity management and trusted software systems.

SYSTEMS DEVELOPMENT MAJOR

Available on the Caulfield campus.

The systems development major provides you with the skills to develop computer-based systems focused on software development, computer technology and information systems. In this major you will study computer programming, operating systems, software engineering practice, web based applications development, systems design and implementation, enterprise programming, database design and data mining.

DOUBLE MAJORS

You may complete a double major. In a double major, you complete the normal IT unit requirements of a first major, and use your free electives to complete the IT unit requirements for a second major. Double majors are available on the campuses where both of the relevant single majors are offered.

Double majors are possible under the following combinations:

- Information management / internet systems
- Information management / Information systems
- Information management / Net-centric computing
- Information management / Systems development
- Information management / Security
- Internet systems / Information systems
- Internet systems / Net-centric computing
- Internet systems / Systems development
- Internet systems / Security
- Information systems / Net-centric computing
- Information systems / System development
- Information systems / Security
- Net-centric computing / System development
- Net-centric computing / Security
- Systems development / Security
- Applications development and networks / Business systems

COURSE QUICK FACTS

COURSE CODE	3334
CRICOS CODE	054529J
COURSE DURATION	3 years full-time, 6 years part-time
LOCATION	Berwick, Caulfield, Gippsland, Sunway, South Africa, Off-campus (through Gippsland)

ENTRY REQUIREMENTS

Applicants must meet all of the Monash University minimum entry requirements, including academic, English language and age.

For further information visit:

» www.infotech.monash.edu.au/apply/requirements

