

## Bachelor of Information Technology (BITC) - BIT

CRICOS code (International applicants): 007490J

	On-campus	Distance education
<b>Semester intake:</b>	Semester 1 (March) Semester 2 (July)	Semester 1 (March) Semester 2 (July) Semester 3 (November)
<b>Campus:</b>	Toowoomba	-
<b>Fees:</b>	Commonwealth supported place International full fee paying place	Commonwealth supported place International full fee paying place
<b>Standard duration:</b>	3 years full-time, 6 years part-time or external	

### Contact us

Future Australian and New Zealand students	Future International students	Current students
<a href="#">Ask a question</a> Freecall (within Australia): 1800 640 678 Phone (from outside Australia): +61 7 4631 5315 Email: <a href="mailto:study@usq.edu.au">study@usq.edu.au</a>	<a href="#">Ask a question</a> Phone: +61 7 4631 5543 Email: <a href="mailto:international@usq.edu.au">international@usq.edu.au</a>	<a href="#">Ask a question</a> Freecall (within Australia): 1800 007 252 Phone (from outside Australia): +61 7 4631 2285 Email <a href="mailto:usqassist@usq.edu.au">usqassist@usq.edu.au</a>

### Applied Computer Science Major

The Applied Computer Science major equips the graduate with fundamental skills in computer science, applied to the domain of modern web applications and services. Graduates will be well-prepared to solve generic problems in the broad area of computing. They will be ideally placed to design and implement software systems, database structures and applications, and web services and interfaces.

Achievement of the objectives will result in a graduate of high academic and scientific standard, who is capable of competing for employment in a professional area and pursuing career development in government institutions and IT industries.

#### Career opportunities

Computer Programmer, Systems Analyst, Software Developer, Project Leader, Web Application Developer, Web Services Specialist, IT manager, Database Administrator, Database Designer

### Information Systems Development Major

The program curriculum includes study in systems analysis and design, databases, Java programming, Net programming, enterprise architecture and networks. With the emphasis on practical development of systems and applications pertaining to business contexts, students will be well prepared to begin working in a network management environment.

#### Career opportunities

Business Information Systems Developer, Business Applications Designer, Enterprise Architect, Information Systems Developer, Database Administrator, Database Designer.

## Information Technology Management Major

Information Technology Management students develop skills in electronic commerce, systems analysis, database design, information security, network management, service management and enterprise resource systems. Students can study the Information Technology Management major in the Bachelor of Information Technology or the [Bachelor of Business](#). The Information Technology Management major is a general computing program designed to both develop good IT managers and as a complement to other business majors.

### Career opportunities

Business Applications Designer, Computer Trainer/Support, Database Designer, Help Desk Support, IT Manager, IT Sales and Marketing Specialist.

## Networking and Security Major

The Networking and Security major equips the graduate with state-of-the-art skills in network design, network management, security and system development and administration. Graduates will be familiar with problem solving in computer networks, VoIP, video conferencing, network services administration, and the professional skills to apply them in the communication sector, healthcare, government institutions, and IT firms.

Achievement of the objectives will result in a graduate of high academic and scientific standard, who is capable of competing for employment in a professional area and pursuing career development in IT industries and government institutions.

### Career opportunities

System Administrator, Systems Analyst, Web Administrator, Network Analyst, Network Designer, Network Administrator, Database Administrator, Database Designer.

## Professional accreditation

This program has been developed considering the accreditation requirements of the Australian Computer Society.

## Program aims

The Bachelor of Information Technology is a vocationally oriented program emphasising the resolution of technological problems leading to the effective management and analysis of information in both private and public sectors. The program's foundation is designed to provide students with knowledge and skills in key areas of IT as well as professionally relevant knowledge, qualities and skills in such areas as problem solving, communication, ethics and teamwork.

## Program objectives

The objectives of the Bachelor of Information Technology are to enable graduates to:

- work as a professional in the Information Technology industry
- demonstrate a sound understanding of the principles of information technology
- demonstrate sound presentation and communication skills within the computing industry
- develop appropriate intellectual, ethical, professional and personal attributes
- become good problem-solvers and innovative thinkers, who are able to learn new skills independently and efficiently and consequently to succeed in a competitive professional environment
- be capable of working with people from other disciplines towards the solution of common problems
- identify information needs appropriate to their area of specialisation and apply the techniques required to gather and interpret such information
- satisfy academic admission requirements for membership of relevant professional bodies
- proceed to higher studies.

### Major Objectives

## Applied Computer Science Major

On completion of the Applied Computer Science major, graduates should be able to:

- display detailed knowledge of and be competent in the fundamentals of structured programming, and the application of basic algorithms and data structures
- understand the difference between the major programming language paradigms, and be able to select the paradigm best suited to solve a problem
- demonstrate sound knowledge of operating systems principles and display familiarity with various modern operating systems
- demonstrate a sound knowledge of web technology and techniques both at the client and the server side
- be able to design and implement web-based user interfaces in accordance to technical, stylistic, and open access standards
- understand and apply methods for planning and managing large software projects, including design, development and maintenance aspects
- display a detailed knowledge of the fundamental principles of database systems and be able to apply these using database software.

### **Information Systems Development**

On completion of the Information Systems Development major, graduates should be able to:

- demonstrate an understanding of the electronic business framework for areas such as marketing, supply chains and mobile commerce
- demonstrate an ability to design and analyse business systems including database design and use, network architectures, organization and human-computer interaction issues
- demonstrate abilities with object-oriented development of systems, particularly Internet applications and enterprise systems in .NET and Java
- demonstrate expertise with the Oracle (SQL) environment

### **Information Technology Management**

On completion of the Information Technology Management major, graduates should be able to:

- demonstrate an understanding of the electronic business framework for areas such as marketing, supply chains and mobile commerce
- demonstrate an ability to design and analyse business systems including database design and use, network architectures, organization and human-computer interaction issues
- demonstrate an understanding of information systems security and control issues
- recognize the importance of IT service management and demonstrate understanding of the important best practice frameworks
- identify information needs appropriate to their area of specialisation, and apply the techniques required to gather and interpret such information
- demonstrate skills in the analysis and determination of technological issues at management level

### **Networking and Security Major**

On completion of the Networking & Security major, graduates should:

- be able to design, install, configure, troubleshoot, and maintain networks and their operating systems
- be able to install, configure and manage network, system, user, and security services
- have acquired skills in development of new systems to operate networks
- be able to interface networks with wide area networks such as the Internet and newer network architectures
- have a sound understanding of the operating systems that are used to provide services on networks, including at least Linux and Windows
- display a detailed knowledge of the fundamental principles of database systems and be able to apply these using database software.

## Admission requirements

Candidates for admission into this program must satisfy the normal USQ entry requirements for undergraduate programs. Please refer to [Academic Regulation 5.4.2](#) of the University Calendar, Section 1 (for Australian students) and Section 3 (for international students).

International applicants must have met the [University's English language requirements](#) or have completed the [University's ELICOS/UNIPREP program](#).

Candidates wishing to complete either the Applied Computer Science or the Networking and Security major are recommended to study Mathematics at least to the level of Sound Achievement over four semesters in Queensland Senior (Year 12) Mathematics A or equivalent.

## How to apply

### Domestic students

[Application for undergraduate programs](#) may be made through the Queensland Tertiary Admissions Centre (QTAC). The same procedure applies whether you plan to study on-campus or by distance education.

If you completed Year 12 at a Queensland secondary school you will be assessed for entry on the basis of your Overall Position (OP) or equivalent score. Year 12 students from other states or territories are considered for entry on the basis of their UAI, ENTER or TER and the subject prerequisites indicated. Other applicants will be based on their overall Rank. You should ensure you submit your application by the [closing dates](#).

### International students

This program is offered to international students. An international student is a person who is not an Australian or New Zealand citizen and not an Australian permanent resident. Please refer to [USQ International](#) for information about entry requirements, visa arrangements and how to apply.

## Program fees

### Commonwealth supported place

A Commonwealth supported place is where the Australian Government makes a contribution towards the cost of your higher education and you as a student pay a [student contribution amount](#), which varies depending on the courses undertaken. You are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Commonwealth Supported students may be eligible to defer their fees through a Government loan called [HECS-HELP](#).

### International full fee paying place

International students pay [full fees](#). Full fees vary depending on the courses that are taken and whether they are studied on-campus, via distance education/online. You are able to calculate the fees for a particular course via the [Course Fee Finder](#).

## Program structure

The Bachelor of Information Technology is comprised of 24 units as follows:

Area of study	Number of units
Core Courses <ul style="list-style-type: none"><li>• 5 compulsory courses</li><li>• 3 chosen from a defined list *</li></ul> <p>* Students taking the Applied Computer Science major or Networking and Security major must take <a href="#">MAT1101</a> and <a href="#">CSC2406</a> as two of the three courses</p>	8 units

Bachelor of Information Technology major (select one):	8 units
<ul style="list-style-type: none"> <li>• Applied computer systems</li> <li>• Information systems development</li> <li>• Information technology management</li> <li>• Networking and security</li> </ul>	
Plus one of the following:	8 units
<ul style="list-style-type: none"> <li>• Second major (8 units) <b>or</b></li> <li>• 2 x 4-unit Minors <b>or</b></li> <li>• 1 x 4-unit Minor and 4 elective units <b>or</b></li> <li>• 8 elective units</li> </ul>	
<b>Total</b>	<b>24 units</b>

#### Footnotes

\* Students taking the Applied Computer Science major or Networking and Security major must take [MAT1101](#) and [CSC2406](#) as two of the three courses

### Required time limits

Students have a maximum of 9 years to complete this program.

### Core courses

<b>Compulsory courses</b>
<a href="#">CIS1000 Information System Concepts</a>
<a href="#">CMS1000 Communication and Scholarship</a>
<a href="#">CSC1401 Foundation Programming</a>
<a href="#">CSC2407 Introduction to Software Engineering</a>
<a href="#">CIS3002 Business Analysis</a>
<b>Plus select 3 courses from the following:*</b>
<a href="#">ACC1101 Accounting for Decision-Making</a>
<a href="#">CSC2401 Algorithms and Data Structures</a>
<a href="#">CSC2406 Web Publishing</a>
<a href="#">ECO1000 Economics</a>
<a href="#">ELE1301 Computer Engineering</a>
<a href="#">FIN1101 Introduction to Financial Management</a>
<a href="#">LAW1101 Introduction to Law</a>
<a href="#">MAT1100 Foundation Mathematics</a>
<a href="#">MGT1000 Organisational Behaviour</a>
<a href="#">MAT1101 Discrete Mathematics for Computing</a>
<a href="#">MKT1001 Introduction to Marketing</a>
<a href="#">POL1000 Government, Business and Society</a>
<a href="#">STA2300 Data Analysis</a>

#### Footnotes

\* Students taking the Applied Computer Science major or Networking and Security major must take [MAT1101](#) and [CSC2406](#) as two of the three courses.

## Major studies

All students in the Bachelor of Information Technology must complete at least one major study. A major study is a set of courses that make up a coherent, in-depth study of a specific discipline.

## Double Major Studies

Students may choose to complete two majors from the Bachelor of Information Technology or they may choose to complete a second 8 unit major from the undergraduate degree programs in the Faculty of Business or the Faculty of Sciences. Alternately they may choose a major from the undergraduate degree programs in another faculty at the University of Southern Queensland. A program in which there is a first and second major is known as a 'double major'. Where a second major from another faculty contains less than eight units, students must complete extra elective units, chosen from undergraduate courses offered at the University of Southern Queensland to ensure that their program contains 24 units in total. The sets of courses that make up each major in the Bachelor of Information Technology are summarised in the following tables:

### Applied Computer Science Major

Course	Semester/Mode of Offer Toowoomba Campus
<a href="#">CSC2402 Object-Oriented Programming in C++</a>	S1 (ONC, EXT)
<a href="#">CSC2404 Operating Systems</a>	S2 (ONC, EXT)
<a href="#">CSC2401 Algorithms and Data Structures</a>	S1 (ONC, EXT), S2 (ONC, EXT)
<a href="#">CSC2408 Software Development Tools</a>	S2 (ONC, EXT), S3 (EXT)
<a href="#">CSC3400 Database Systems</a>	S1 (ONC, EXT)
<a href="#">CSC3403 Comparative Programming Languages</a>	S1 (ONC, EXT)
<a href="#">CSC3419 XML and the Web</a>	S2 (ONC, EXT)
<a href="#">CSC3412 System and Security Administration</a>	S2 (ONC, EXT)

### Information Systems Development Major

Course	Semester/Mode of Offer Toowoomba Campus
<a href="#">CIS1101 Introduction to Electronic Commerce</a>	S2 (ONC, EXT), S3 (EXT)
<a href="#">CIS2000 Systems Analysis and Design</a>	S1 (ONC, EXT), S3 (EXT)
<a href="#">CIS2002 Database Design</a>	S1 (ONC, EXT), S3 (EXT)
<a href="#">CIS2003 Component Based Software Development</a>	S2 (ONC, EXT)
<a href="#">CIS3001 Object-Oriented Programming with Java</a>	S1 (ONC, EXT)
<a href="#">CIS3003 Networks and Distributed Systems</a>	S1 (ONC, EXT)
<a href="#">CIS3007 Enterprise Systems Development and Architecture</a>	S2 (ONC, EXT)
<a href="#">CIS3010 Oracle Development</a>	S2 (ONC, EXT)

### Information Technology Management Major

Course	Semester/Mode of Offer Toowoomba Campus
<a href="#">CIS1101 Introduction to Electronic Commerce</a>	S2 (ONC, EXT), S3 (EXT)
<a href="#">CIS2000 Systems Analysis and Design</a>	S1 (ONC, EXT), S3 (EXT)
<a href="#">CIS2002 Database Design</a>	S1 (ONC, EXT), S3 (EXT)

<a href="#">CIS2005 Principles of Information Security</a>	S2 (ONC, EXT)
<a href="#">CIS2200 Advanced Office Applications: Access and Word</a>	S1 (ONC, EXT), S3 (EXT)
<a href="#">CIS3003 Networks and Distributed Systems</a>	S1 (ONC, EXT)
<a href="#">CIS3008 Information Technology Service Management</a>	S2 (ONC, EXT)
<a href="#">CIS3009 Enterprise Resource Systems</a>	S2 (ONC, EXT), S3 (EXT)

## Networking and Security Major

Course	Semester/Mode of Offer Toowoomba Campus
<a href="#">CSC2404 Operating Systems</a>	S2 (ONC, EXT)
<a href="#">CSC3420 Mobile Internet Technology</a>	S1 (ONC, EXT)
<a href="#">CSC2408 Software Development Tools</a>	S2 (ONC, EXT), S3 (EXT)
<a href="#">CSC3400 Database Systems</a>	S1 (ONC, EXT)
<a href="#">CSC3407 Network Fundamentals and Routing</a>	S1 (ONC, EXT)
<a href="#">CSC3412 System and Security Administration</a>	S2 (ONC, EXT)
<a href="#">CSC3413 Network Design and Analysis</a>	S2 (ONC, EXT)
<a href="#">CSC3427 Switching, Wireless and WAN Technologies</a>	S2 (ONC, EXT)

## Minor studies

A minor study is a coherent group of four units of courses that provides students with an appropriate breadth of study in their program. All students, except those undertaking a second major, must complete a four-unit minor study. Students who wish to take a minor study not listed in the recommended minors must obtain permission from the Program Coordinator. Before undertaking any course, the pre-requisite courses must be completed or exempted.

### Please note:

When students select a minor(s), courses will only count towards that minor(s) if they have not already counted towards another selected major or minor. Not all minors are available on-campus at all campuses. Students may choose courses from those listed in the [Minor Studies](#) section of this Handbook. Enrolment requirements must be satisfied for any course selected.

## Elective courses

Students not completing a double major must select four units off elective courses from courses offered at undergraduate level from Faculty of Business or Faculty of Sciences undergraduate programs or, with the approval of the Program Coordinator, from undergraduate programs offered by other faculties at the University of Southern Queensland. Prerequisite enrolment requirements must be satisfied for any course selected. For various reasons, the following course will not be approved as an elective: CSC1402.

## IT requirements

For information technology requirements please refer to the [computer requirements](#) section of the Faculty of Business website. Students completing either the Applied Computer Science or the Networking and Security major will be required to install the Linux operating system as well as a Microsoft Windows operating system. A Linux installation DVD, together with instructions, is available from the USQ Bookshop.

## Other program requirements

Students must maintain good standing in this program. Please refer to [Academic Regulation 5.9](#) of the University Calendar.

## Articulation

Students enrolled in the joint Diploma of Information Technology/Bachelor of Information Technology program must complete the Diploma at the Southern Queensland Institute of TAFE before continuing enrolment at USQ.

## Exemptions

Candidates for admission to the Bachelor of Information Technology program may be eligible for up to 16 units of exemption on the basis of successful completion of relevant, equivalent undergraduate study from a recognised university or institution offering equivalent study. Exemptions approved in this program will not automatically apply to other programs offered by USQ. Claims for exemptions for previous study should be submitted prior to or at the time of enrolment. Each claim will be assessed on individual merit in line with the Faculty's Exemptions policies.

**Note:** Where exemptions are granted, maximum and minimum duration will be adjusted in the same proportion as exemptions, e.g. where 8 exemptions are granted, maximum time will be 6 years and minimum time will be 4 terms.

## Recommended Enrolment Patterns

Students should plan their enrolment making sure that they have fulfilled all core, major, minor and elective requirements as shown in the program structure information. Enrolment requirements must be satisfied before enrolling in a course.

As a guide, full-time students should plan to undertake eight courses per year and external students, who are in employment, a maximum of six courses per year, with a minimum of four courses per year. This is exclusive of any semester 3 enrolments. Students wishing to enrol in more than four courses per semester or more than two courses in semester 3 must obtain permission from the program coordinator.

Courses are normally offered on-campus and externally in the same semester. If a course is offered twice in one year, the second offering will normally be on an external basis only. Students undertaking the Bachelor of Information Technology may not enrol in any postgraduate courses.

## Recommended Enrolment Pattern - Applied Computer Science

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Year 1</b>							
<a href="#">CSC1401 Foundation Programming</a>	1	1, 2	1	1, 2			
<a href="#">CIS1000 Information System Concepts</a>	1	1, 2	1	1, 2			OE
Elective	1	1, 2	1	1, 2			
<a href="#">MAT1101 Discrete Mathematics for Computing</a>	1	1	2	1			
<a href="#">CMS1000 Communication and Scholarship</a>	1	1, 2	1	1, 2, 3			
Elective	1	2	2	2			
<a href="#">CSC2408 Software Development Tools</a>	1	2	1	2, 3			OE
<a href="#">CSC2407 Introduction to Software Engineering</a>	1	2	2	2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in the following Program: MPIT or GCEN or GDET or METC

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Year 2</b>							
<a href="#">CSC2401 Algorithms and Data Structures</a>	2	1	3	1, 2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in one of the following Programs: MPIT or MSBN or MSMS
<a href="#">CIS3002 Business Analysis</a>	2	1	3	1			<b>OE</b>
<a href="#">CSC2406 Web Publishing</a>	2	1, 3	4	1, 3			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in one of the following Programs: MPIT or MSBN <b>OE</b>
<a href="#">CSC2402 Object-Oriented Programming in C++</a>	2	1	4	1			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in one of the following Programs: MPIT or GDGS or GCEN or GDET or METC
<a href="#">CSC2404 Operating Systems</a>	2	2	3	2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in the following Program: MPIT
<a href="#">CSC3412 System and Security Administration</a>	2	2	3	2			<b>OE</b>
Elective	2	2	4	2			
Elective	2	2	4	2			
<b>Year 3</b>							
<a href="#">CSC3403 Comparative Programming Languages</a>	3	1	5	1			Pre-requisite: <a href="#">CSC2401</a> or USQIT16 or Students must be enrolled in one of the following Programs: MCOP or MPIT or GCEN or GDET or METC
<a href="#">CSC3400 Database Systems</a>	3	1	5	1			<b>OE</b>
Elective	3	1	5	1			
Elective	3	1	5	1			
<a href="#">CSC3419 XML and the Web</a>	3	2	6	2			<b>OE</b>
Elective	3	2	5	2			
Elective	3	2	6	2			
Elective	3	2	6	2			

#### Footnotes

**OE** Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

## Recommended Enrolment Pattern - Information Systems Development

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)		
	Year	Sem	Year	Sem	Year	Sem	
<a href="#">CIS1000 Information System Concepts</a>	1	1	1	1			<b>OE</b>
<a href="#">CSC1401 Foundation Programming</a>	1	1	1	1			
Core Course	1	1	2	1			
Core Course	1	1	2	1			
<a href="#">CMS1000 Communication and Scholarship</a>	1	2	1	2			
<a href="#">CIS1101 Introduction to Electronic Commerce</a>	1	2	1	2			<b>OE</b>
Core Course	1	2	2	2			
Course of second major	1	2	2	2			
<a href="#">CIS2002 Database Design</a>	2	1	3	1			<b>OE</b>
<a href="#">CIS2000 Systems Analysis and Design</a>	2	1	3	1			<b>OE</b>
Course of second major	2	1	4	1			
Course of second major	2	1	4	1			

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)		
	Year	Sem	Year	Sem	Year	Sem	
<a href="#">CIS3010 Oracle Development</a>	2	2	3	2			OE
<a href="#">CSC2407 Introduction to Software Engineering</a>	2	2	3	2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in the following Program: MPIT or GCEN or GDET or METC
Course of second major	2	2	4	2			
<a href="#">CIS2003 Component Based Software Development</a>	2	2	4	2			OE
<a href="#">CIS3002 Business Analysis</a>	3	1	5	1			OE
<a href="#">CIS3001 Object-Oriented Programming with Java</a>	3	1	5	1			OE
Course of second major	3	1	6	1			
<a href="#">CIS3003 Networks and Distributed Systems</a>	3	1	6	1			OE
<a href="#">CIS3007 Enterprise Systems Development and Architecture</a>	3	2	5	2			OE
Course of second major	3	2	5	2			
Course of second major	3	2	6	2			
Course of second major	3	2	6	2			

#### Footnotes

**OE** Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

### Recommended Enrolment Pattern - Information Technology Management

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)		
	Year	Sem	Year	Sem	Year	Sem	
<a href="#">CIS1000 Information System Concepts</a>	1	1	1	1			OE
<a href="#">CSC1401 Foundation Programming</a>	1	1	1	1			
Core course	1	1	2	1			
Core course	1	1	2	1			
<a href="#">CMS1000 Communication and Scholarship</a>	1	2	1	2			
Core course	1	2	1	2			
<a href="#">CIS1101 Introduction to Electronic Commerce</a>	1	2	2	2			OE
Course of second major	1	2	2	2			
<a href="#">CIS2000 Systems Analysis and Design</a>	2	1	3	1			OE
<a href="#">CIS2002 Database Design</a>	2	1	3	1			OE
<a href="#">CIS2200 Advanced Office Applications: Access and Word</a>	2	1	4	1			OE
Course of second major	2	1	4	1			
<a href="#">CIS2005 Principles of Information Security</a>	2	2	3	2			OE
<a href="#">CSC2407 Introduction to Software Engineering</a>	2	2	3	2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in the following Program: MPIT or GCEN or GDET or METC
Course of second major	2	2	4	2			
<a href="#">CIS3009 Enterprise Resource Systems</a>	2	2	4	2			OE
Course of second major	3	1	5	1			
Course of second major	3	1	5	1			
<a href="#">CIS3002 Business Analysis</a>	3	1	6	1			OE
<a href="#">CIS3003 Networks and Distributed Systems</a>	3	1	6	1			OE
Course of second major	3	2	5	2			
<a href="#">CIS3008 Information Technology Service Management</a>	3	2	5	2			OE
Course of second major	3	2	6	2			
Course of second major	3	2	6	2			

#### Footnotes

**OE** Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

## Recommended Enrolment Pattern - Networking and Security

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)		
	Year	Sem	Year	Sem	Year	Sem	
<b>Year 1</b>							
<a href="#">CSC1401 Foundation Programming</a>	1	1, 2	1	1, 2			
<a href="#">CIS1000 Information System Concepts</a>	1	1, 2	1	1, 2			<b>OE</b>
Elective	1	1, 2	1	1, 2			
<a href="#">MAT1101 Discrete Mathematics for Computing</a>	1	1	2	1			
<a href="#">CMS1000 Communication and Scholarship</a>	1	1, 2	1	1, 2, 3			
Elective	1	2	2	2			
<a href="#">CSC2408 Software Development Tools</a>	1	2	1	2			<b>OE</b>
<a href="#">CSC2407 Introduction to Software Engineering</a>	1	2	2	2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in the following Program: MPIT or GCEN or GDET or METC
<b>Year 2</b>							
<a href="#">CIS3002 Business Analysis</a>	2	1	3	1			<b>OE</b>
<a href="#">CSC2406 Web Publishing</a>	2	1, 3	3	1, 3			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in one of the following Programs: MPIT or MSBN <b>OE</b>
<a href="#">CSC3407 Network Fundamentals and Routing</a>	2	1	4	1			
<a href="#">CSC3400 Database Systems</a>	2	1	4	1			<b>OE</b>
<a href="#">CSC3412 System and Security Administration</a>	2	2	3	2			<b>OE</b>
<a href="#">CSC2404 Operating Systems</a>	2	2	2	2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in the following Program: MPIT
<a href="#">CSC2401 Algorithms and Data Structures</a>	2	2	2	2			Pre-requisite: <a href="#">CSC1401</a> or USQIT16 or Students must be enrolled in one of the following Programs: MPIT or MSBN or MSMS
Elective	2	2	2	2			
<b>Year 3</b>							
<a href="#">CSC3420 Mobile Internet Technology</a>	3	1	5	1			Pre-requisite: <a href="#">CSC3407</a> or USQIT16 exemption
Elective	3	1	5	1			
Elective	3	1	6	1			
Elective	3	1	6	1			
<a href="#">CSC3413 Network Design and Analysis</a>	3	2	5	2			<b>OE</b>
<a href="#">CSC3427 Switching, Wireless and WAN Technologies</a>	3	2	5	2			Pre-requisite: <a href="#">CSC3407</a>
Elective	3	2	6	2			
Elective	3	2	6	2			

#### Footnotes

**OE** Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.