

Master of Information Technology (MCTN) - MCTN

CRICOS code (International applicants): 083407A

Programs at USQ regularly undergo a comprehensive re-accreditation process to assure their relevance and quality. This program is currently being re-accredited and, as a consequence, is likely to undergo some changes. Full details will be made available when it is approved. If you have any questions, please [contact us](#).

	On-campus	External	Online
Start:	Semester 1 (February) Semester 2 (July)	Semester 1 (February) Semester 2 (July)	Semester 1 (February) Semester 2 (July)
Campus:	Toowoomba		-
Fees:	Commonwealth supported place Domestic full fee paying place International full fee paying place	Commonwealth supported place Domestic full fee paying place International full fee paying place	
Standard duration:	2 years full-time, 4 years part-time, 6 years maximum		
Program articulation:	From: Graduate Diploma of Information Technology ; Graduate Certificate of Science		

Contact us

Future Australian and New Zealand students	Future International students	Current students
Ask a question Freecall (within Australia): 1800 269 500 Phone (from outside Australia): +61 7 4631 5315 Email: study@usq.edu.au	Ask a question Phone: +61 7 4631 5543 Email: international@usq.edu.au	Ask a question Freecall (within Australia): 1800 007 252 Phone (from outside Australia): +61 7 4631 2285 Email: usq.support@usq.edu.au

Professional accreditation

This program is accredited at professional level by the [Australian Computer Society](#) (ACS) and, through the Seoul Accord, is recognised in other countries. The Seoul Accord is a multi-lateral agreement that allows ACS accreditation to be recognised globally. This means that graduates from this program will have their degree recognised by the other countries who are members of the Accord.

Program aims

The Master of Computing Technology aims to produce graduates coming from any discipline who can work as web information professionals, system and network administrators, database administrators, database designers, IT managers or software engineers.

Program objectives

At the completion of the Master of Computing Technology program, graduates should be able to:

- apply concepts of professionalism and ethical practice to the IT work environment
- apply knowledge and skills in IT to design, manage and develop software systems and networks in an effective manner

- solve IT related problems and be able to acquire new skills independently
- apply project management principles and use project management tools
- effectively communicate (both written and verbally) and use appropriate interpersonal skills, particularly teamwork
- identify, collect, analyse and manage information for a broad range of information technology issues and challenges.

Australian Qualifications Framework

The Australian Qualifications Framework (AQF) is a single national, comprehensive system of qualifications offered by higher education institutions (including universities), vocational education and training institutions and secondary schools. Each AQF qualification has a set of descriptors which define the type and complexity of knowledge, skills and application of knowledge and skills that a graduate who has been awarded that qualification has attained, and the typical volume of learning associated with that qualification type.

This program is at AQF Qualification Level 09. Graduates at this level will have specialised knowledge and skills for research, and/or professional practice and/or further learning.

The full set of levels criteria and qualification type descriptors can be found by visiting www.aqf.edu.au.

Admission requirements

To be eligible for admission, applicants must satisfy the following requirements:

- Completion of an Australian university three year Bachelor degree in any area, or equivalent
Or
equivalent professional work experience, as determined through the [Credit and Exemption Procedure](#).
And in either case:
- Demonstrated introductory knowledge of computing, consistent with that found in [MAT1101 Discrete Mathematics for Computing](#) and [CSC1401 Foundation Programming](#) and [CIS1000 Information Systems Concepts](#).
- English Language Proficiency requirements for Category 2.

All students are required to satisfy the applicable [English language requirements](#).

If students do not meet the English language requirements they may apply to study a University-approved [English language program](#). On successful completion of the English language program, students may be admitted to an award program.

Program fees

Commonwealth supported place

A Commonwealth supported place is where the Australian Government makes a contribution towards the cost of a students' higher education and students pay a [student contribution amount](#), which varies depending on the courses undertaken. Students 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](#).

Domestic full fee paying place

Domestic full fee paying places are funded entirely through the full fees paid by the student. Full fees vary depending on the courses that are taken. Students are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Domestic full fee paying students may be eligible to defer their fees through a Government loan called [FEE-HELP](#) provided they meet the residency and citizenship requirements.

Australian citizens, Permanent Humanitarian Visa holders, Permanent Resident visa holders and New Zealand citizens who will be resident outside Australia for the duration of their program pay full tuition fees and are not eligible for [FEE-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. Students are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Program structure

Master of Computing Technology (MCTN) consists of 16 units. All students must complete:

- one coursework specialisation (12 units)
- one research specialisation (4 units)

Coursework specialisations

- **Software and the Web**
 - two core courses - [CSC8600 Advanced ICT Professional Project](#) and [CIS5310 ICT Project Management](#)
 - ten specialisation courses
- **Networking and System Security**
 - two core courses - [CSC8600 Advanced ICT Professional Project](#) and [CIS5310 ICT Project Management](#)
 - ten specialisation courses
- **Unspecified**
 - two core courses - [CSC8600 Advanced ICT Professional Project](#) and [CIS5310 ICT Project Management](#)
 - ten approved courses from Group 1, 2 and 3 courses subject to the following restrictions
 - no more than three units may be selected from Group 1 Level 2 courses
 - at least four units must be selected from Group 3 Level 8 courses
 - with approval of the Program Coordinator, no more than two units of courses at Level 2 may come from outside the following Group 1 CSC courses.

Research specialisations

- **Applied Research**
 - three research training courses - [SCI8103 Research Fundamentals and Ethics](#), [SCI8101 Science in Practice](#) and [CSC8001 Introduction to Data Science and Visualisation](#)
 - one additional Level 8 approved course (from Group 2 or 3)
 - Note: Upon graduation, students will not be eligible for enrolment in USQ's Doctor of Philosophy (PhD) program.
- **Advanced Research**
 - to be eligible to enrol, students must have completed 8 units of coursework study with a minimum GPA of 5.5
 - a student can only enrol in the Advanced Research track if a suitable project and an academic supervisor is available
 - two project courses - [MSC8001 Research Project I](#) (2 units) and [MSC8002 Research Project II](#) (2 units)
 - Note: Upon graduation, students will be eligible to apply for USQ's Doctor of Philosophy (PhD) program.

Students who want to select courses from outside the following table need approval from the Faculty of Health, Engineering and Sciences.

Group 1 Courses	
Semester 1	Semester 2
CSC2402 Object-Oriented Programming in C++	CSC2401 Algorithms and Data Structures
CSC2408 Software Development Tools	CSC2404 Operating Systems
	CSC2406 Web Technology 1
MAT2409 High Performance Numerical Computing	CSC2407 Introduction to Software Engineering
	CSC2408 Software Development Tools
Group 2 Courses**	
Semester 1	Semester 2
CSC8500 Advanced Relational Database Design and Technology*	CSC8513 Network Performance Analysis
CSC8503 Principles of Programming Languages*	
CSC8507 Networking Technologies	CSC8527 Scaling and Connecting Networks
CSC8512 Advanced System Administration	
Group 3 Courses	
Semester 1	Semester 2
CSC8407 Wireless and Internet Technology	CSC8426 Advanced Web Technology
CSC8410 Independent Studies in Computing/Mathematics/Statistics A	CSC8411 Independent Studies in Computing/Mathematics/Statistics B
CSC8419 Cryptography and Security	CSC8420 Mobile Systems*
CSC8480 Computing Complementary Studies A	CSC8490 Computing Complementary Studies B
CSC8416 Advanced Programming in Java	CSC8421 Network Security
CSC8422 Web Data Visualisation[#]	CSC8415 Computer Network Programming*

Footnotes

** The courses in Group 2 are closely related to undergraduate courses. Students who have completed or who are enrolled in the undergraduate companion course cannot enrol in the Group 2 course. The following table indicates, for each Group 2 course, the incompatible undergraduate course.

* This course is not offered in 2020. Contact the Program Director for an approved Level 8 replacement course.

CSC8422 will not be offered in 2020. Please enrol in CSC8001 for 2020 only..

Group 2 course	Incompatible undergraduate course
CSC8500 Advanced Relational Database Design and Technology*	CSC3400 Database Systems*
CSC8503 Principles of Programming Languages*	CSC3403 Comparative Programming Languages*
CSC8507 Networking Technologies	CSC3407 Network Fundamentals and Routing
CSC8512 Advanced System Administration	CSC3412 System and Security Administration
CSC8513 Network Performance Analysis	CSC3413 Network Design and Analysis
CSC8527 Scaling and Connecting Networks	CSC3407 Network Fundamentals and Routing

Footnotes

* This course is not offered in 2020. Contact the Program Director for an approved Level 8 replacement course.

These tables of courses may vary from time to time as the range of courses offered within the University changes. Courses which are relevant to the goals of a student and consistent with the purposes of this program may be allowed at the discretion of the Program Coordinator.

Students may undertake a specialisation in one of the fields shown in the following table by completing the associated courses. A specialisation represents a grouping of related courses. Note that it is not compulsory to undertake a specialisation in this program.

Specialisation	Courses for the specialisation
Software and the Web	CSC2406 Web Technology 1
	CSC2407 Introduction to Software Engineering
	CSC2408 Software Development Tools
	CSC8500 Advanced Relational Database Design and Technology*
	CSC8503 Principles of Programming Languages*
	CSC8507 Networking Technologies
	CSC8426 Advanced Web Technology
	CSC8416 Advanced Programming in Java
	CSC8422 Web Data Visualisation*
	CSC8420 Mobile Systems*
	CSC8600 Advanced ICT Professional Project
	CIS5310 ICT Project Management
Networking and System Security	CSC2402 Object-Oriented Programming in C++
	CSC2408 Software Development Tools
	CSC8512 Advanced System Administration
	CSC8507 Networking Technologies
	CSC8513 Network Performance Analysis
	CSC8527 Scaling and Connecting Networks
	CSC8407 Wireless and Internet Technology
	CSC8421 Network Security
	CSC8415 Computer Network Programming*
	CSC8419 Cryptography and Security
	CSC8600 Advanced ICT Professional Project
	CIS5310 ICT Project Management

Footnotes

* This course is not offered in 2020. Contact the Program Director for an approved Level 8 replacement course.

Required time limits

Students have a maximum of 6 years to complete the program.

IT requirements

All students are required to have access to the Internet and to a personal computer running Microsoft Windows and Linux. The Department provides assistance with installing Linux for students who may not have done so before.

Students should visit the USQ [minimum computing standards](#) to check that their computers are capable of running the appropriate software and versions of Internet web browsers and to check the minimum and recommended standards for software.

Compliance with these recommendations will ensure students receive the computing help needed if experiencing problems. Software is specified on a course-by-course basis and, in some instances, it is provided with the textbook required for the course. The use of Macintosh computers may require the installation of virtualisation software and guest OSes.

Articulation

Upon successful completion of the [GDTI Graduate Diploma of Information Technology](#) or [GCSC Graduate Certificate of Science](#), students may articulate into the Master of Computing Technology (MCTN) with up to a maximum of eight units of credit in accordance with the MCTN requirements.

Students may apply to enrol in the USQ [Doctor of Philosophy](#) (PhD) program upon completion of the Master of Computing Technology, Advanced Research specialisation, if they have achieved an overall GPA of 5.5 or higher.

Students who have completed the Master of Computing Technology, Applied Research specialisation, will not be eligible for enrolment into any USQ higher degree research award such as the Doctor of Philosophy (PhD) program.

Exit points

Students enrolled in the MCTN program who wish to exit without completing the program may be awarded:

- the Graduate Diploma of Professional Computing (GDPC) if they have completed at least eight units, including 4 units at Level 8, (excluding exemptions and credit transfers); **or**
- the Graduate Certificate of Professional Computing (GCPC) if they have completed at least four units, including 2 units at Level 8, (excluding exemptions and credit transfers) in accordance with the GCPC requirements.

Credit

Candidates for admission to the Master of Computing Technology program are eligible to seek credit, in accordance with University regulations. The maximum number of credits permitted will be four (4) undergraduate units and four (4) postgraduate units from group 2 courses listed in the Program Structure. Studies used as the basis for claims for credit will normally have been completed within a period of five years prior to the date of application for credit.

Students seeking Skills Accreditation, or other accreditations from professional bodies such as the Australia Computer Society, should seek advice from the professional bodies before they apply for credits or exemptions.

Enrolment

Students should select their own courses, using the list provided at Program structure keeping in mind the requirements to graduate outlined also in the Program structure. If unsure about a suitable enrolment pattern, students should contact the Program Coordinator.

Students wishing to specialise should follow one of the recommended enrolment patterns below.

Software and the Web specialisation recommended enrolment pattern - Semester 1 entry

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Year 1, Semester 1							
CSC8500 Advanced Relational Database Design and Technology [#]	1	1			1	1	
CSC8503 Principles of Programming Languages [#]	1	1			1	1	
CSC8507 Networking Technologies	1	1			1	1	Pre-requisite: Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCYS or MCOP
CSC8416 Advanced Programming in Java	1	1			1	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN
Year 1, Semester 2							
CSC2406 Web Technology 1	1	2			1	2	Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDTI or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN or BSED
CSC2407 Introduction to Software Engineering	1	2			1	2	Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
CSC2408 Software Development Tools	1	2			1	2	
CIS5310 ICT Project Management					1	2	Enrolment is not permitted in CIS5310 if CIS8010 has been previously completed.
Year 2, Semester 1							
CSC8600 Advanced ICT Professional Project	2	1			2	1	Pre-requisite: CIS8010 or CIS5310 and Students must be enrolled in one of the following Programs: MCTN or MCOP or MSCN (Applied Data Science) or MADS
CSC8422 Web Data Visualisation[#]	2	1			2	1	
Select the following course for Advanced Research specialisation							
MSC8001 Research Project I[*]	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCTN or MCOP or MCTE or MSCN or MCOO or MADS or have the approval of their program coordinator
Select the following two courses for Applied Research specialisation							
SCI8103 Research Fundamentals and Ethics	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following programs: MSCN or MSCR or MCTN or MADS or GCSC or GDSI or DPHD or its equivalent. Enrolment is not permitted in SCI8103 if SCI4405 has been previously completed.
SCI8101 Science in Practice					2	1	

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Year 2, Semester 2							
CSC8420 Mobile Systems [#]	2	2			2	2	
CSC8426 Advanced Web Technology	2	2			2	2	Pre-requisite: CSC2406 and Students must be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN. Students enrolled in the MCYS program can enrol and do not need to complete CSC2406 prior
Select the following course for Advanced Research specialisation							
MSC8002 Research Project II [*]	2	2			2	2	Pre-requisite: MSC8001
Select the following two courses for Applied Research specialisation							
CSC8001 Introduction to Data Science and Visualisation	2	2			2	2	
One course from group 2 or 3	2	2			2	2	

Footnotes

[#] This course is not offered in 2020. Contact the Program Director for an approved Level 8 replacement course.

^{*} Two unit course

Software and the Web specialisation recommended enrolment pattern - Semester 2 entry

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Year 1, Semester 2							
CSC2406 Web Technology 1	1	2			1	2	Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDT1 or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN or BSED
CSC2407 Introduction to Software Engineering	1	2			1	2	Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDT1 or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
CSC2408 Software Development Tools	1	2			1	2	
CIS5310 ICT Project Management					1	2	Enrolment is not permitted in CIS5310 if CIS8010 has been previously completed.
Year 2, Semester 1							
CSC8500 Advanced Relational Database Design and Technology [#]	2	1			2	1	
CSC8503 Principles of Programming Languages [#]	2	1			2	1	
CSC8507 Networking Technologies	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: GDT1 or GCSC or MCTN or MCYS or MCOP
CSC8416 Advanced Programming in Java	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCOP or

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
							MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN
Year 2, Semester 2							
CSC8420 Mobile Systems [#]	2	2			2	2	
CSC8426 Advanced Web Technology	2	2			2	2	Pre-requisite: CSC2406 and Students must be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN. Students enrolled in the MCYS program can enrol and do not need to complete CSC2406 prior
Select the following course for Advanced Research specialisation							
MSC8001 Research Project I [*]	2	2			2	2	Pre-requisite: Students must be enrolled in one of the following Programs: MCTN or MCOP or MCTE or MSCN or MCCO or MADS or have the approval of their program coordinator
Select the following two courses for Applied Research specialisation							
SCI8103 Research Fundamentals and Ethics	2	2			2	2	Pre-requisite: Students must be enrolled in one of the following programs: MSCN or MSCR or MCTN or MADS or GCSC or GDSI or DPHD or its equivalent. Enrolment is not permitted in SCI8103 if SCI4405 has been previously completed.
CSC8001 Introduction to Data Science and Visualisation	2	2			2	2	
Year 3, Semester 1							
CSC8600 Advanced ICT Professional Project	3	1			3	1	Pre-requisite: CIS8010 or CIS5310 and Students must be enrolled in one of the following Programs: MCTN or MCOP or MSCN (Applied Data Science) or MADS
CSC8422 Web Data Visualisation [#]	3	1			3	1	
Select the following course for Advanced Research specialisation							
MSC8002 Research Project II [*]	3	1			3	1	Pre-requisite: MSC8001
Select the following two courses for Applied Research specialisation							
SCI8101 Science in Practice					3	1	
One course from group 2 or 3	3	1			3	1	

Footnotes

- # This course is not offered in 2020. Contact the Program Director for an approved Level 8 replacement course.
* Two unit course

Networking and System Security specialisation recommended enrolment pattern - Semester 1 entry

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Year 1, Semester 1							
CSC2402 Object-Oriented Programming in C++	1	1			1	1	Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
CSC8507 Networking Technologies	1	1			1	1	Pre-requisite: Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCYS or MCOP
CSC8512 Advanced System Administration	1	1			1	1	Pre-requisite: Some experience with a Unix Operating System and Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCYS or MCOP
CSC8407 Wireless and Internet Technology	1	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN
Year 1, Semester 2							
CSC2408 Software Development Tools	1	2			1	2	
CSC8513 Network Performance Analysis	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCYS or MCOP
CSC8527 Scaling and Connecting Networks	1	2			1	2	Pre-requisite: CSC3407 or CSC8507 and Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCOP
CIS5310 ICT Project Management					1	2	Enrolment is not permitted in CIS5310 if CIS8010 has been previously completed.
Year 2, Semester 1							
CSC8600 Advanced ICT Professional Project	2	1			1	1	Pre-requisite: CIS8010 or CIS5310 and Students must be enrolled in one of the following Programs: MCTN or MCOP or MSCN (Applied Data Science) or MADS
CSC8419 Cryptography and Security	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN or MCYS
Select the following course for Advanced Research specialisation							
MSC8001 Research Project I *	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCTN or MCOP or MCTE or MSCN or MCCO or MADS or have the approval of their program coordinator
Select the following two courses for Applied Research specialisation							
SCI8103 Research Fundamentals and Ethics	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following programs: MSCN or MSCR or MCTN or MADS or GCSC or GDSI

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
							or DPHD or its equivalent. Enrolment is not permitted in SCI8103 if SCI4405 has been previously completed.
SCI8101 Science in Practice					2	1	
Year 2, Semester 2							
CSC8421 Network Security	2	2			2	2	Pre-requisite: Students must have completed CSC8419 or equivalent and be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN or MCYS
CSC8415 Computer Network Programming[#]	2	2			2	2	
Select the following course for Advanced Research specialisation							
MSC8002 Research Project II[*]	2	2			2	2	Pre-requisite: MSC8001
Select the following two courses for Applied Research specialisation							
CSC8001 Introduction to Data Science and Visualisation	2	2			2	2	
One course from group 2 or 3	2	2			2	2	

Footnotes

* Two unit course

This course is not offered in 2020. Contact the Program Director for an approved Level 8 replacement course.

Networking and System Security specialisation recommended enrolment pattern - Semester 2 entry

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
Year 1, Semester 2							
CSC2408 Software Development Tools	1	2			1	2	
CSC8513 Network Performance Analysis	1	2			1	2	Pre-requisite: Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCYS or MCOP
CSC8415 Computer Network Programming[#]	1	2			1	2	
CIS5310 ICT Project Management					1	2	Enrolment is not permitted in CIS5310 if CIS8010 has been previously completed.
Year 2, Semester 1							
CSC2402 Object-Oriented Programming in C++	2	1			2	1	Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
CSC8507 Networking Technologies	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCYS or MCOP
CSC8419 Cryptography and Security	2	1			2	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR

Course	Year of program and semester in which course is normally studied						Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)		
	Year	Sem	Year	Sem	Year	Sem	
							or MENS or METC or MSST or MCTN or MCYS
CSC8512 Advanced System Administration	2	1			2	1	Pre-requisite: Some experience with a Unix Operating System and Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCYS or MCOP
Year 2, Semester 2							
CSC8527 Scaling and Connecting Networks	2	2			2	2	Pre-requisite: CSC3407 or CSC8507 and Students must be enrolled in one of the following Programs: GDTI or GCSC or MCTN or MCOP
CSC8421 Network Security	2	2			2	2	Pre-requisite: Students must have completed CSC8419 or equivalent and be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN or MCYS
Select the following course for Advanced Research specialisation							
MSC8001 Research Project I *	2	2			2	2	Pre-requisite: Students must be enrolled in one of the following Programs: MCTN or MCOP or MCTE or MSCN or MCCO or MADS or have the approval of their program coordinator
Select the following two courses for Applied Research specialisation							
SCI8103 Research Fundamentals and Ethics	2	2			2	2	Pre-requisite: Students must be enrolled in one of the following programs: MSCN or MSCR or MCTN or MADS or GCSC or GDSI or DPHD or its equivalent. Enrolment is not permitted in SCI8103 if SCI4405 has been previously completed.
CSC8001 Introduction to Data Science and Visualisation	2	2			2	2	
Year 3, Semester 1							
CSC8407 Wireless and Internet Technology	3	1			3	1	Pre-requisite: Students must be enrolled in one of the following Programs: MCOP or MPIT or MCOT or MCTE or MENC or MEPR or MENS or METC or MSST or MCTN
CSC8600 Advanced ICT Professional Project	3	1			3	1	Pre-requisite: CIS8010 or CIS5310 and Students must be enrolled in one of the following Programs: MCTN or MCOP or MSCN (Applied Data Science) or MADS
Select the following course for Advanced Research specialisation							
MSC8002 Research Project II *	3	1			3	1	Pre-requisite: MSC8001
Select the following two courses for Applied Research specialisation							
SCI8101 Science in Practice					3	1	
One course from group 2 or 3	3	1			3	1	

Footnotes

This course is not offered in 2020. Contact the Program Director for an approved Level 8 replacement course.

* Two unit course