# MASTER OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (RESEARCH) (8112)

**Western Sydney University Program Code:** 8112
**AQF Level:** 9

**CRICOS Code:** 092789G

Students should follow the program structure for the session start date relevant to the year they commenced.

The Master of Information and Communications Technology (Research) program exposes students to advanced topics and research in ICT. This program is comprised of a coursework component that is followed by a yearlong full-time-equivalent supervised research training subject. Students will graduate from this program with research skills appropriate to the ICT discipline, by engaging in research projects within the university or in collaboration with an external organisation, and have an option to pursue a pathway to Higher Degree Research studies.

## Study Mode

Two and a half years full-time.

## Location

| Campus | Attendance | Mode | Advice |
|---|---|---|---|
| Parramatta Campus | Full time | Internal | |

## Accreditation

The Master of Information and Communications Technology (Research) is accredited at Professional Level by the Australian Computer Society

## Admission 2018 - 2022

To be eligible for admission, you must have successfully completed

- A Bachelor degree, Bachelor Honours degree or a Masters degree in any discipline.

To be eligible for up to 40 credit points of advanced standing, you must have successfully completed

- An undergraduate degree in Information and Communication Technologies (ICT), Computing or Information Systems; or
- An undergraduate degree in any discipline and a Graduate Certificate or Graduate Diploma in Information and Communication Technologies (ICT).

Advanced standing from foundation units are subject to approval by the relevant Director of Academic Programs (DAP).

Applicants seeking admission on the basis of work experience MUST support their application with a Statement of Service for all work experience listed on the application.

Statement of Service (https://hbook.westernsydney.edu.aufile://ad.uws.edu.au/dfshare/HomesK-W$/30042629/Downloads/Statement_of_Service%20(1).PDF)

## Admission 2023

To be eligible for admission, you must have successfully completed

- A Bachelor degree, Bachelor Honours degree or a Master degree in any discipline;
- Achievement of a threshold Admission Average Mark (AAM) equal to or above the minimum of 65;
- Applicants who do not meet the AAM equal to or above the minimum of 65 will be considered in exceptional circumstances, and applicants whose most recent qualification is 5+ years old shall provide additional evidence of relevant work experience or professional training, or evidence of seniority and standing in an area of endeavour and provide written support from the potential supervisor. Examples of evidence may include; work as a research assistant or laboratory technician, the writing of policy, consultancy involving the writing of reports, production of creative output, and publication of peer reviewed journal articles. Applications will be reviewed and approved by the relevant Director and the Dean of the School of Computer, Data and Mathematical Sciences.

To be eligible for up to 40 credit points of advanced standing, you must have successfully completed

- An undergraduate degree in Information and Communication Technologies (ICT), Computing or Information Systems; or
- An undergraduate degree in any discipline and a Graduate Certificate or Graduate Diploma in Information and Communication Technologies (ICT).

Advanced standing from foundation units are subject to approval by the relevant Director of Academic Programs (DAP).

Applicants seeking admission on the basis of work experience MUST support their application with a Statement of Service for all work experience listed on the application

Statement of Service (https://hbook.westernsydney.edu.aufile://ad.uws.edu.au/dfshare/HomesK-W$/30042629/Downloads/Statement_of_Service%20(1).PDF)

## How to apply

Please use the link below for details on the application process.

Application Process - Master of Information and Communications Technology (Research) (https://www.westernsydney.edu.au/future/study/how-to-apply/higher-degree-research-candidates/How-to-apply-for-the-Master-of-Information-and-Communications-Technology.html)

# Recommended Sequence 2018 - 2022

If you commenced in 2023 or later please refer to the Sequence 2023 tab for details.

Qualification for this award requires the successful completion of 200 credit points as per the recommended sequence below.

## Full-time start-year intake

| Course | Title | Credit Points |
|---|---|---|
| **Year 1** | | |
| **Autumn session** | | |
| INFS 7007 | Systems Analysis and Database Management Systems | 10 |
| COMP 7015 | Programming Proficiency | 10 |
| INFO 7003 | Advanced Topics in User System Interaction | 10 |

| | | |
|---|---|---|
| ENGR 7017 | Professional Practice and Communication | 10 |
| | **Credit Points** | **40** |
| **2H session** | | |
| HUMN 4001 | Researcher Development 1: Reading ,Writing, and the Business of Research | 10 |
| | **Credit Points** | **10** |
| **Spring session** | | |
| COMP 7013 | Network Technologies | 10 |
| INFO 7005 | IT Project Management | 10 |
| Select one Alternate subject from List 1, List 2 or List 3 | | 10 |
| | **Credit Points** | **30** |
| **Year 2** | | |
| **1H session** | | |
| HUMN 4002 | Researcher Development 2: Proposing and Justifying Research | 10 |
| | **Credit Points** | **10** |
| **Autumn session** | | |
| COMP 7003 | Big Data | 10 |
| INFS 7003 | Advanced Topics in ICT | 10 |
| Select one Alternate subject from List 1, List 2 or List 3 | | 10 |
| **Research Quarter 3 & 4 sessions** | | |
| Please note INFO 9002 is a year-long subject studied in Research Quarters, 20cp per Quarter | | 40 |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | |
| | **Credit Points** | **70** |
| **Year 3** | | |
| **Research Quarter 1 & 2 sessions** | | |
| Please note INFO 9002 is a year-long subject studied in Research Quarters, 20cp per Quarter | | 40 |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | |
| | **Credit Points** | **40** |
| | **Total Credit Points** | **200** |

## Full-time mid-year intake

| Course | Title | Credit Points |
|---|---|---|
| **Year 1** | | |
| **Spring session** | | |
| INFS 7007 | Systems Analysis and Database Management Systems | 10 |
| COMP 7015 | Programming Proficiency | 10 |
| ENGR 7017 | Professional Practice and Communication | 10 |
| COMP 7013 | Network Technologies | 10 |
| | **Credit Points** | **40** |
| **1H session** | | |
| HUMN 4001 | Researcher Development 1: Reading ,Writing, and the Business of Research | 10 |
| | **Credit Points** | **10** |
| **Autumn session** | | |
| INFO 7003 | Advanced Topics in User System Interaction | 10 |
| INFS 7003 | Advanced Topics in ICT | 10 |
| Select one Alternate subject from List 1, List 2 or List 3 | | 10 |
| | **Credit Points** | **30** |
| **Year 2** | | |
| **2H session** | | |
| HUMN 4002 | Researcher Development 2: Proposing and Justifying Research | 10 |
| | **Credit Points** | **10** |
| **Spring session** | | |
| INFO 7005 | IT Project Management | 10 |
| COMP 7003 | Big Data | 10 |
| Select one Alternate subject from List 1, List 2 or List 3 | | 10 |
| **Research Quarter 1 & 2 sessions** | | |
| Please note INFO 9002 is a year-long subject studied in Research Quarters, 20cp per Quarter | | 40 |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | |
| | **Credit Points** | **70** |
| **Year 3** | | |
| **Research Quarter 3 & 4 sessions** | | |
| Please note INFO 9002 is a year-long subject studied in Research Quarters, 20cp per Quarter | | 40 |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | |
| | **Credit Points** | **40** |
| | **Total Credit Points** | **200** |

## List 1 - Foundation Subjects

| Subject | Title | Credit Points |
|---|---|---|
| INFO 7003 | Advanced Topics in User System Interaction | 10 |
| INFS 7004 | Content Management Systems and Web Analytics | 10 |
| INFO 7005 | IT Project Management | 10 |
| COMP 7013 | Network Technologies | 10 |
| COMP 7015 | Programming Proficiency | 10 |
| INFS 7007 | Systems Analysis and Database Management Systems | 10 |
| INFS 7008 | Systems and Network Security | 10 |
| INFS 7009 | Web Technologies | 10 |

## List 2 - Specialised Subjects

| Subject | Title | Credit Points |
|---|---|---|
| COMP 7018 | Advanced Cloud Computing | 10 |
| PUBH 7001 | Advanced Health Classifications and Coding | 10 |
| INFS 7001 | Advanced Healthcare Data Environments | 10 |
| INFS 7002 | Advanced Healthcare Software and Systems | 10 |
| INFO 7001 | Advanced Machine Learning | 10 |
| MECH 7004 | Advanced Mobile Robotics | 10 |
| MECH 7005 | Advanced Robotics | 10 |
| INFO 7002 | Advanced Topics in Artificial Intelligence | 10 |
| INFS 7003 | Advanced Topics in ICT | 10 |
| COMP 7002 | Advanced Topics in Networking | 10 |
| COMP 7019 | Applied Machine Learning | 10 |
| COMP 7020 | Artificial Intelligence Ethics and Organisations | 10 |
| COMP 7003 | Big Data | 10 |
| COMP 7004 | Cloud Computing | 10 |
| INFO 7018 | Cloud Systems Development | 10 |
| COMP 7006 | Data Science | 10 |
| COMP 7028 | Hands-on Quantum Computing | 10 |

| | | |
|---|---|---|
| COMP 7008 | Internet of Things | 10 |
| COMP 7021 | Knowledge Representation and Reasoning | 10 |
| COMP 7009 | Mobile Computing | 10 |
| COMP 7011 | Multimedia Communication Systems | 10 |
| COMP 7022 | Natural Language Understanding | 10 |
| COMP 7012 | Network Management | 10 |
| MATH 7011 | Predictive Analytics | 10 |
| MATH 7017 | Probabilistic Graphical Models | 10 |
| MATH 7012 | Programming for Data Science | 10 |
| MATH 7014 | Social Media Intelligence | 10 |
| INFS 7006 | Software Testing and Automation | 10 |
| MATH 7016 | The Nature of Data | 10 |
| COMP 7016 | Visualisation | 10 |
| INFO 7013 | Web Engineering | 10 |
| COMP 7017 | Wireless Networking | 10 |

Replaced Subjects

The specialised subjects listed below count towards completion of this program for students who passed these subjects in 2020 or earlier.

MATH 7007 Genomic Data Science

INFO 7008 Software Architectures

## List 3 - Multidisciplinary Subjects

| Subject | Title | Credit Points |
|---|---|---|
| BUSM 7018 | Contemporary People Management | 10 |
| ECON 7001 | Economics | 10 |
| ACCT 7015 | Financial Reports for Decision Making | 10 |
| BUSM 7040 | Governance, Ethics and Social Entrepreneurship | 10 |
| BEHV 7036 | Research Internship and Engagement | 10 |
| BUSM 7086 | Strategic Business Management | 10 |
| BUSM 7094 | The Contemporary Business Environment | 10 |
| BUSM 7099 | Understanding Contemporary Organisations | 10 |
| HUMN 4003 | Writing Beyond the Academy: Knowledge Translation and Public Audience Communication | 10 |

## Replaced Subjects

The core subjects listed below count towards completion of this program for students who passed these subjects in 2019 or earlier.

HUMN 4009 Research Design 1: Theories of Enquiry

HUMN 4010 Research Design 2: Practices of Research

# Recommended Sequence 2023

This sequence applies to students who commenced in 2023 or later. If you commenced prior to 2023 please refer to the Sequence 2018 - 2022 tab for details.

Qualification for this award requires the successful completion of 200 credit points as per the recommended sequence below.

## Start-year intake

| Course | Title | Credit Points |
|---|---|---|
| **Year 1** | | |
| **Autumn session** | | |
| INFS 7007 | Systems Analysis and Database Management Systems | 10 |
| COMP 7015 | Programming Proficiency | 10 |
| ENGR 7017 | Professional Practice and Communication | 10 |
| COMP 7013 | Network Technologies | 10 |
| | **Credit Points** | **40** |
| **2H session** | | |
| HUMN 4001 | Researcher Development 1: Reading ,Writing, and the Business of Research | 10 |
| | **Credit Points** | **10** |
| **Spring session** | | |
| INFO 6001 | IT Project Management | 10 |
| INFO 7015 | Applied Cybersecurity | 10 |
| Select one Alternate Subject | | 10 |
| | **Credit Points** | **30** |
| **Year 2** | | |
| **1H session** | | |
| HUMN 4002 | Researcher Development 2: Proposing and Justifying Research | 10 |
| | **Credit Points** | **10** |
| **Autumn session** | | |
| COMP 7003 | Big Data | 10 |
| INFS 7003 | Advanced Topics in ICT | 10 |
| INFO 7003 | Advanced Topics in User System Interaction | 10 |
| | **Credit Points** | **30** |
| **2H session** | | |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | 40 |
| Please note INFO 9002 is a year-long subject | | |
| | **Credit Points** | **40** |
| **Year 3** | | |
| **1H session** | | |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | 40 |
| Please note INFO 9002 is a year-long subject | | |
| | **Credit Points** | **40** |
| | **Total Credit Points** | **200** |

## Mid-year intake

| Course | Title | Credit Points |
|---|---|---|
| **Year 1** | | |
| **Spring session** | | |
| INFS 7007 | Systems Analysis and Database Management Systems | 10 |
| COMP 7015 | Programming Proficiency | 10 |
| ENGR 7017 | Professional Practice and Communication | 10 |
| COMP 7013 | Network Technologies | 10 |
| | **Credit Points** | **40** |
| **1H session** | | |
| HUMN 4001 | Researcher Development 1: Reading ,Writing, and the Business of Research | 10 |
| | **Credit Points** | **10** |
| **Autumn session** | | |
| INFO 7003 | Advanced Topics in User System Interaction | 10 |

| | | |
|---|---|---|
| INFS 7003 | Advanced Topics in ICT | 10 |
| Select one Alternate Subject | | 10 |
| | **Credit Points** | **30** |
| **Year 2** | | |
| **2H session** | | |
| HUMN 4002 | Researcher Development 2: Proposing and Justifying Research | 10 |
| | **Credit Points** | **10** |
| **Spring session** | | |
| INFO 7005 | IT Project Management | 10 |
| COMP 7003 | Big Data | 10 |
| INFO 7015 | Applied Cybersecurity | 10 |
| | **Credit Points** | **30** |
| **1H session** | | |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | 40 |
| Please note INFO 9002 is a year-long subject | | |
| | **Credit Points** | **40** |
| **Year 3** | | |
| **2H session** | | |
| INFO 9002 | Higher Degree Research Thesis - Information Technology | 40 |
| Please note INFO 9002 is a year-long subject | | |
| | **Credit Points** | **40** |
| | **Total Credit Points** | **200** |

## Alternate Subjects

| Subject | Title | Credit Points |
|---|---|---|
| COMP 7018 | Advanced Cloud Computing | 10 |
| PUBH 7001 | Advanced Health Classifications and Coding | 10 |
| INFS 7001 | Advanced Healthcare Data Environments | 10 |
| INFS 7002 | Advanced Healthcare Software and Systems | 10 |
| INFO 7001 | Advanced Machine Learning | 10 |
| INFO 7002 | Advanced Topics in Artificial Intelligence | 10 |
| INFO 7014 | Advanced Topics in Cybersecurity | 10 |
| COMP 7002 | Advanced Topics in Networking | 10 |
| COMP 7019 | Applied Machine Learning | 10 |
| COMP 7020 | Artificial Intelligence Ethics and Organisations | 10 |
| INFO 7018 | Cloud Systems Development | 10 |
| INFS 7004 | Content Management Systems and Web Analytics | 10 |
| COMP 7006 | Data Science | 10 |
| COMP 7028 | Hands-on Quantum Computing | 10 |
| COMP 7007 | Information Security Management | 10 |
| COMP 7008 | Internet of Things | 10 |
| COMP 7021 | Knowledge Representation and Reasoning | 10 |
| COMP 7009 | Mobile Computing | 10 |
| COMP 7011 | Multimedia Communication Systems | 10 |
| COMP 7022 | Natural Language Understanding | 10 |
| COMP 7012 | Network Management | 10 |
| COMP 7023 | Predictive Analytics | 10 |
| COMP 7024 | Programming for Data Science | 10 |
| MATH 7017 | Probabilistic Graphical Models | 10 |
| NATS 7057 | Research Preparation in Post Graduate Studies | 10 |
| COMP 7025 | Social Media Intelligence | 10 |
| INFS 7006 | Software Testing and Automation | 10 |
| INFS 7008 | Systems and Network Security | 10 |
| MATH 7016 | The Nature of Data | 10 |
| COMP 7016 | Visualisation | 10 |
| INFO 7013 | Web Engineering | 10 |
| INFS 7009 | Web Technologies | 10 |
| COMP 7017 | Wireless Networking | 10 |
| INFO 7016 | Postgraduate Project A | 10 |
| INFO 7017 | Postgraduate Project B | 10 |
| HUMN 4003 | Writing Beyond the Academy: Knowledge Translation and Public Audience Communication | 10 |
| HUMN 4001 | Researcher Development 1: Reading ,Writing, and the Business of Research | 10 |