Science, Technology, Engineering and Mathematics (STEM) Schools

Electronic Postgraduate Handbook 2020

Western Sydney University

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Units, courses, and arrangements for courses as stated in the postgraduate and undergraduate electronic handbooks (and any other Western Sydney University publications or announcements) are an expression of intent only and are not to be taken as a firm offer or undertaking.

The University reserves the right to discontinue or vary its units, courses and announcements at any time without notice.

Information contained in this electronic handbook is correct at the time of production (March 2020), unless otherwise noted.

CRICOS Provider Code 00917K

In accordance with the Education Services for Overseas Students (ESOS) Act 2000, the University of Western Sydney is registered on the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS), Provider Code 00917K.

Overseas students studying in Australia must comply with the requirements of the ESOS Act and the National Code. They should consult the Federal Government's Australian International Education webpage for the description of the ESOS legislation and other relevant information. The University's International Postgraduate and Undergraduate Prospectuses, and other promotional material specifically prepared for overseas students, also provide information about CRICOS registered courses and conditions relating to study in Australia.

About the Science, Technology, Engineering and Mathematics (STEM) Electronic Postgraduate Handbook

Sessions and dates

There are two main sessions in 2020: Autumn and Spring. Weeks shown in the dateline refer to the session weeks for these main sessions.

The dateline is available at: https://www.westernsydney.edu.au/currentstudents/current_students/dates/2020_academic_year_dateline.

Unit outlines

Brief outlines of units listed in the course section are given in the second half of this electronic handbook.

The unit outlines give a brief overview of each unit. For some units this information is not available. Please check the Western Sydney University website for more recent information. For more information – details of textbooks, assessment methods, tutorial, group work and practical requirements – contact the unit coordinator.

More information on unit offerings can be found at: http://handbook.westernsydney.edu.au/hbook/UNIT_SEARCH.ASP.

Unit not listed?

If the unit you are looking for is not in the alphabetical units section, consult your course coordinator for details or check the unit search web page for updated details on all units offered in the current year at: http://handbook.westernsydney.edu.au/hbook/UNIT_SEARCH.ASP.

Prerequisites, co-requisites and assumed knowledge

Students wishing to enrol in a unit for which they do not have the prerequisites or assumed knowledge are advised to discuss their proposed enrolment with an academic adviser.

Where it is necessary to limit the number of students who can enrol in a unit through shortage of space, equipment, library resources, and so on, or to meet safety requirements, preference will be given to students who have completed the unit recommended sequence in the course.

Academic credit

In most courses, academic credit will be granted for previous studies. For example, Western Sydney University has a number of agreements with TAFE to grant credit for successfully completed TAFE studies. Seek advice about credit prior to, or at enrolment.

How to use this electronic book

The first part of this electronic book contains information about current postgraduate courses offered by the Schools of Built Environment, Computer, Data and Mathematical Sciences, Engineering, Science and the Graduate Research School. The next part contains details on current postgraduate specialisations in these courses, and the final part has details of all units within the courses.

The courses are arranged mainly alphabetically. If you know the course code, but not the name, consult the COURSE CODE INDEX.

The units are arranged alphabetically. If you know the code, but not the name, consult the UNIT CODE INDEX at the back of the electronic book.

Check Website for Updates

Every effort is taken to ensure that the information contained in this electronic book is correct at time of production. The latest information on course and unit offerings can be found at: http://handbook.westernsydney.edu.au/hbook/

Contents

GRADUATE RESEARCH SCHOOL

Graduate Certificate in Researcher Engagement, Development and Impact

8111.1

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year for this course is 2H, 2018 or later.

The purpose of this course is to formally recognise and acknowledge the many and varied skills you develop during your higher degree by research candidature, as well as providing you with opportunities to enhance and refine the skills you will require for employment in an ever-changing workforce. This course will prepare you for a career both within academia and beyond, including areas such as public policy development, innovation and entrepreneurship. Designed to complement the key milestones that are part of your PhD journey, this course also provides you with a scaffolded structure to ensure timely completion of your research degree. By completing this course, you will become more than a researcher, you will be competitive in an increasingly changing job market and ready for the challenges that lie ahead developing skills in communication, impact and engagement.

Study Mode
Three years part-time.

Location

Campus	Attendance	Mode
Bankstown Campus	Part Time	Internal
Campbelltown Campus	Part Time	Internal
Hawkesbury Campus	Part Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal
Penrith Campus	Part Time	Internal

Admission
Students must be enrolled in a Higher Degree Research Doctoral course (D.Ed, PhD, DCR, DCA, DBA, D. Medicine)

Course Structure
Qualification for this award requires the successful completion of 60 credit points as per the recommended sequence below.

The Graduate Certificate in Researcher Engagement, Development and Impact (GCREDI) has been designed to utilise the current HDR workshop program packaged into units and incorporate the current milestones HDR students are required to complete as part of their candidature. It all commences on day one at Orientation that focusses the student and their supervisor on setting objectives for the future and clarifying the expectations required of them. Orientation provides a structured introduction to the PhD and reinforces the need to develop transferrable skills beyond the thesis during their candidature.

This course consists of 60 credit points (six units), with four compulsory core units, one specialisation unit and one elective.

Core Units

800197.1 Researcher Knowledge and Development
800198.1 Career and Personal Development
800199.1 Knowledge Translation
800209.1 Researcher Engagement and Impact

Specialisation Units
Students choose one unit depending on career development goals

800211.1 Applied Innovation and Entrepreneurship
800212.1 Research and Public Policy

Elective Units
Recommended Elective

800176.2 Internship and Community Engagement (PG)

There is also the possibility for candidates to enrol in a suitable unit already on offer across the university should this address a skills gap identified in the biannual Progress Report. Enrolment in units external to the GRS would require the permission of the relevant unit coordinator and school/institute.

Recommended Sequence

800197.1 Researcher Knowledge and Development
800198.1 Career and Personal Development
800199.1 Knowledge Translation
800209.1 Researcher Engagement and Impact

Choose one of

800211.1 Applied Innovation and Entrepreneurship
800212.1 Research and Public Policy

Or one elective unit agreed with your Supervisor
Choose one of

800176.2 Internship and Community Engagement (PG)

Or one elective unit

SCHOOL OF BUILT ENVIRONMENT

Master of Architecture (Urban Transformation)

3761.1

This course will prepare graduates for professional activities in the field of architecture. Particular emphasis is placed upon developing mastery of architectural design through studio-based teaching in the context of urban transformation and urban reconstruction opportunities of greater metropolitan Sydney and comparable global conditions. Students are required to complete a design-research thesis to demonstrate their ability to think independently, critically, and to resolve complex design issues. Additional studies in urban and contemporary architectural theory, building and design technology, electives, and professional practice constitute the overall degree.

Students enrolled in the Master of Architecture (Urban Transformation) should anticipate expenses of approximately $200 per semester for model-making materials and large format plotting costs. All students must have their own laptop when commencing the course (minimum 8GB RAM, 512GB Hard Drive, multi-core processor, and high performance graphics card).

Completion of the Master of Architecture (Urban Transformation) will prepare students seeking to undertake doctoral level study with the necessary qualification to seek admission as a higher degree by research candidate.

In 2020, all studio units in this course will be offered at our new Westmead campus which will relocate and expand the Parramatta campus offerings.

Study Mode

Two years full-time or four years part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Accreditation

Accreditation of the Master of Architecture (Urban Transformation) will be sought from the NSW Architects Registration Board in late 2021 to coincide with the completion of the degree by the first cohort of graduates. This process is administered by the Architects Accreditation Council of Australia (AACA) and the program is designed to meet the guidelines of the National Competency Standards in Architecture (NCSA). Graduates of this program will be eligible to seek registration as a qualified architect in Australia upon completing a period of internship and registration exam after successfully completing the course.

Admission

Applicants must

- have successfully completed an undergraduate degree, or, higher, in architecture with a minimum GPA of 5 or above.
- submit a high quality, maximum 10 page A4 PDF portfolio showing their past creative work, and any relevant work experience (1 page maximum) which will be assessed by the architectural team at WSU.
- submit a sample of writing, no more than 1000 words, to demonstrate writing and critical reasoning ability. This can be a product of the applicant's previous study such as undergraduate history.

Portfolio (PDF only) formatting and content requirements

- Maximum 5MB file size
- Colour or black and white
- A4 portrait or landscape
- No embedded hyperlinks. Static files only. No security or password protection on the file
- Cover sheet with your name, email address, and phone number and 100 word maximum description of the creative content, explanation of any exceptional circumstances, and articulation of why the field of architecture is of interest
- Save the PDF file using the following name format: M_Arch_SURNAME_FIRSTNAME_portfolio.pdf

For example, M_Arch_SMITH_JOHN_portfolio.pdf

You must upload your portfolio to your UAC or direct application by 2 December 2019 (early bird for early offers) or 16 February 2020 (if spots are left).

Do NOT email or send portfolios to WSU.

Where any work is authored by more than just the applicant, this needs to be clearly identified and credited (such as collaborative projects).

Additional information

International applicants must also provide a full transcript of their undergraduate studies.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills

Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Special Requirements

A construction safety site induction card (e.g. "white card") is required to enable students to participate in site visits and field study.

Course Structure

Qualification for this award requires the successful completion of 160 credit points as per the recommended sequence below.

Recommended Sequence

Full-time

Year 1

1H session

800218.1 Researcher Development 1: Reading , Writing, and the Business of Research

Note: Unit 800218 - Researcher Development 1: Reading , Writing, and the Business of Research replaces 800166 - Research Design 1: Theories of Enquiry from 1H 2020

Autumn session

301237.2 Practice Research Studio 1
301239.2 Advanced Design Communication

2H session

800220.1 Researcher Development 2: Proposing and Justifying Research

Note: Unit 800220 - Researcher Development 2: Proposing and Justifying Research replaces 800169 Research Design 2: Practices of Research from 2H 2020

Spring session

301238.2 Practice Research Studio 2
301240.1 Integrated Building Technology

Summer A session

301104.3 Professional Practice and Building Law

Year 2

Autumn session

301241.1 Urban Transformation Thesis Studio 1
101633.3 Managing Cities: History and Theory

Spring session

301242.1 Urban Transformation Thesis Studio 2
301191.3 Project Procurement Systems

And one Alternate unit from the list below

Note: 301104 Professional Practice and Building Law is offered during the Summer A session only. This is a fully online unit with scheduled weekly Zoom meetings.

Recommended Sequence

Part-time

Year 1

1H session

800218.1 Researcher Development 1: Reading , Writing, and the Business of Research

Note: Unit 800218 - Researcher Development 1: Reading , Writing, and the Business of Research replaces 800166 - Research Design 1: Theories of Enquiry from 1H 2020

Autumn session

301239.2 Advanced Design Communication

2H session

800220.1 Researcher Development 2: Proposing and Justifying Research

Note: Unit 800220 - Researcher Development 2: Proposing and Justifying Research replaces 800169 Research Design 2: Practices of Research from 2H 2020

Spring session

301240.1 Integrated Building Technology

Year 2

Autumn session

301237.2 Practice Research Studio 1

Spring session

301238.2 Practice Research Studio 2

Summer A session

301104.3 Professional Practice and Building Law

Year 3

Autumn session

101633.3 Managing Cities: History and Theory

Spring session

301191.3 Project Procurement Systems

And one Alternate unit from the list below

Year 4

Autumn session

301241.1 Urban Transformation Thesis Studio 1

Spring session

301242.1 Urban Transformation Thesis Studio 2

Note: 301104 Professional Practice and Building Law is offered during the Summer A session only. This is a fully online unit with scheduled weekly Zoom meetings.

Alternate units

Choose one of

300947.3	Building Regulations
101636.3	Developing Sustainable Places
101315.4	Financing Cities in the Global Economy
300708.5	Planning and Development Control
301190.2	Safe and Sustainable Construction
301189.2	Smart Construction
101314.4	Urban Management Practice: Governance and Power in the City

Any other Level 7 elective unit with permission of Director Academic Program

Postgraduate Bridging Program (Architecture)

3768.1

The bridging program is designed for students who wish to pursue postgraduate study in Architecture but don't have a current undergraduate degree in Architecture.

Through studio based projects, industry placements, site visits and exposure to industry professionals, students will develop career relevant skills and insights to apply to their postgraduate study. Areas of foundational knowledge addressed in the program include architectural design, architectural history, construction technology, building regulations, urban studies, professional practice, professional communication, environmental sustainability and social responsibility.

All studio units in this course are offered at our new Westmead campus which will relocate and expand the Parramatta campus offerings.

Study Mode

One year full-time, two years part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission

Minimum admission requirements to this course are

A Bachelor degree or higher in any discipline with a minimum GPA of 5 or above

And

Submit a portfolio showing your past creative work, a short CV and a statement why you are interested in the program

Additional Information

Portfolio (PDF only) formatting and content requirements

- Maximum 5MB file size
- Colour or black and white
- A4 portrait or landscape
- No embedded hyperlinks. Static files only. No security or password protection on the file Cover sheet with your name, email address, and phone number and 100-word maximum description of the creative content, explanation of any exceptional circumstances, and articulation of why the field of architecture is of interest
- Save the PDF file using the following name format: PGBP_Arch_SURNAME_FIRSTNAME_portfolio.pdf

For example, PGBP_Arch _SMITH_JOHN_portfolio.pdf

You must upload your portfolio to your UAC or direct application as requested.

Do NOT email or send portfolios to WSU.

Where any work is authored by more than just the applicant, this needs to be clearly identified and credited (such as collaborative projects).

Shortlisted applicants may be invited to attend an Interview.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

This non-award bridging program requires the successful completion of 80 credit points which include the units listed in the recommended sequence below.

Recommended sequence

All studio units in this course are offered at our new Westmead campus which will relocate and expand the Parramatta campus offerings.

Year 1

Autumn

301197.2	Architecture Studio - Fundamentals of Analogue Design
301226.1	Residential Building

301283.1 Design Graphics: Presenting Innovation

Spring

301316.1 Architecture Studio: Urban Architecture
200471.5 Construction Technology 5 (Envelope)
301227.1 Non-Residential Building

Note: 301197 and 301316 are both 20 credit point units

Master of Building Surveying

3703.3

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was Summer A 2017/2018 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This three year part-time Masters program aims to provide students with the special knowledge and skills to assess and evaluate building solutions. It is relevant to professionals certifying performance solutions under the national construction code and relevant standards. The course enables students to understand performance requirements, fire safety and engineering principles, access and sustainability and other issues related to building surveying practice. Graduates will also acquire the skill to independently appraise the literature and conduct research to address building surveying contemporary issues faced by the building industry.

This course is primarily a Distance Learning course however there are some compulsory workshops. However, a select unit (one in total) has a five day intensive block style compulsory workshop that requires students to attend. This workshop will include fieldwork, site visits or industry tours. Many of the other units have non-compulsory workshops and students are encouraged to attend these workshops to gain the benefit of the face to face interaction within the course.

Study Mode

Three years part-time. Students can fast-track by completing additional units per semester to complete the course in as early as one and a half years.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Accreditation

The course is recognised by NSW Building Professionals Board (BPB) and has full accreditation with the Australian Institute of Building Surveyors (AIBS). This course allows students currently accredited as building surveyors to progress to A2 and A1 professionals under the Building Professions Act.

Admission

Applicants must have an undergraduate degree or higher, in engineering, building, building surveying, construction, planning, bushfire protection or architecture.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 160 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

300713.4 Building Engineering

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Students may exit at this point with a Graduate Certificate in Building Surveying (60 credit points)

Year 2

Summer session

301104.3 Professional Practice and Building Law

Autumn session

300716.4 Building Studies

300947.3 Building Regulations

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

300718.4 Fire Engineering Design and Assessment
200458.4 Building in Bushfire Prone Areas

Students may exit at this point with a Graduate Diploma in Building Surveying (120 credit points)

Year 3

Autumn session

301055.4 Research Project A

Spring session

301056.3 Research Project B

Autumn Intake

Year 1

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Summer session

300713.4 Building Engineering

Students may exit at this point with a Graduate Certificate in Building Surveying (60 credit points)

Year 2

Autumn session

300716.4 Building Studies
300947.3 Building Regulations

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

300718.4 Fire Engineering Design and Assessment
200458.4 Building in Bushfire Prone Areas

Summer session

301104.3 Professional Practice and Building Law

Students may exit at this point with a Graduate Diploma in Building Surveying (120 credit points)

Year 3

Autumn session

301055.4 Research Project A

Spring session

301056.3 Research Project B

Spring Intake

Year 1

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Summer session

300713.4 Building Engineering

Year 2

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Students may exit at this point with a Graduate Certificate in Building Surveying (60 credit points)

Spring session

300718.4 Fire Engineering Design and Assessment
200458.4 Building in Bushfire Prone Areas

Summer session

301104.3 Professional Practice and Building Law

Year 3

Autumn session

300716.4 Building Studies
300947.3 Building Regulations

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Students may exit at this point with a Graduate Diploma in Building Surveying (120 credit points)

Spring session

301055.4 Research Project A

Year 4

Autumn session

301056.3 Research Project B

Graduate Diploma in Building Surveying

3704.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was 2016 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This two year part-time Graduate Diploma program aims to provide students with the special knowledge and skills to assess, evaluate and recommend building solutions. It is relevant to professionals certifying alternative solutions under the performance based building code and other relevant standards and guidelines. The course enables students to understand performance requirements, basic fire technology and engineering principles, building access and sustainability and other issues related to building surveying practice.

This postgraduate course has been designed primarily as a Distance Learning course. However, a select unit (one in total) has a five day intensive block style compulsory workshop that requires students to attend. This workshop will include fieldwork, site visits or industry tours. Many of the other units have non-compulsory workshops and students are encouraged to attend these workshops to gain the benefit of the face to face interaction within the course. This course sets a pathway for further learning at the advanced Master level.

Study Mode
Two years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Accreditation
The course is recognised by NSW Building Professionals Board (BPB) and has full accreditation with the Australian Institute of Building Surveyors (AIBS).

Admission
Applicants must have an undergraduate degree or higher, in engineering, building, building surveying, construction, planning, bushfire protection or architecture;

Or

A Diploma or higher, in engineering, building, building surveying, construction, planning, bushfire protection or architecture and four years full-time equivalent professional work experience in the relevant fields in the building industry, certification consultancy or local government.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure
Qualification for this award requires the successful completion of 120 credit points as per the recommended sequence below.

Recommended Sequence

SummerIntake

Year 1

Summer session

300713.4 Building Engineering

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Students may exit at this point with a Graduate Certificate in Building Surveying (60 credit points)

Year 2

Summer session

301104.3 Professional Practice and Building Law

Autumn session

300716.4 Building Studies

300947.3 Building Regulations

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

300718.4 Fire Engineering Design and Assessment
200458.4 Building in Bushfire Prone Areas

Autumn Intake

Year 1

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Summer session

300713.4 Building Engineering

Students may exit at this point with a Graduate Certificate in Building Surveying (60 credit points)

Year 2

Autumn session

300716.4 Building Studies
300947.3 Building Regulations

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

300718.4 Fire Engineering Design and Assessment
200458.4 Building in Bushfire Prone Areas

Summer session

301104.3 Professional Practice and Building Law

Quarter 3 Intake

Year 1

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Year 2

Summer session

300713.4 Building Engineering

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Students may exit at this point with a Graduate Certificate in Building Surveying (60 credit points)

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

300718.4 Fire Engineering Design and Assessment
200458.4 Building in Bushfire Prone Areas

Year 3

Summer session

301104.3 Professional Practice and Building Law

Autumn session

300716.4 Building Studies
300947.3 Building Regulations

Graduate Certificate in Building Surveying

3712.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was 2016 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This one year part-time Graduate Certificate program which aims to provide students with the knowledge and basic skills to develop, assess and evaluate building solutions for built environment. The course enables students to understand principles; planning and development control, sustainability and other fundamental issues relating to basic fire technology and engineering that are applicable to building surveying practice. This course covers the interpretation building laws, building regulations and associated Australian Standards relating to the built environment for low-rise buildings. Satisfactory completion of this course establishes a pathway to advanced qualification at the Graduate Diploma level.

Study Mode
One year part-time

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Admission
Applicants must have an undergraduate degree, or higher, in any discipline

Or

Diploma in any discipline and four years FTE professional work experience in engineering, building, building surveying, construction, planning, bushfire protection or architecture.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure
Qualification for this award requires the successful completion of 60 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

300713.4 Building Engineering

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Autumn Intake

Year 1

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Summer session

300713.4 Building Engineering

Quarter 3 Intake

Year 1

Quarter 3 session

300708.5 Planning and Development Control

Spring session

300711.4 Building Fire Services
300717.4 Egress and Risk Assessment

Year 2

Summer session

300713.4 Building Engineering

Autumn session

300948.3 Fire Technology and Engineering Principles
301103.2 Interpreting Building Regulations (Residential Buildings)

Master of Bushfire Protection

3708.3

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was Summer A 2017/2018 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer

to the Check My Course Progress page in MySR for the most up to date information for your course.

This three year part-time Master's program provides students with an understanding of the behaviour and community risk of bushfires. Students will gain the knowledge of the relevant planning provisions, building regulations, standards and emergency management arrangements for bushfire protection. Graduates will be able to conduct risk assessments, provide advice on developments in bushfire prone areas and develop alternative performance design solutions. Graduates will also acquire the skill to independently conduct research to address contemporary issues faced by the building industry in bush fire prone areas.

This postgraduate course has been designed primarily as a Distance Learning course. However, select units (three in total) have intensive block style compulsory workshops that require students to attend. These workshops may include fieldwork, site visits or industry tours. Many of the other units have non-compulsory workshops and students are encouraged to attend the workshops to gain the benefit of the face to face interaction within the course.

Study Mode

Three years part-time. Students can fast-track by completing additional units per semester to complete the course earlier.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Accreditation

The course is recognised by Fire Protection Association Australia as a qualification for accreditation under the Bushfire Planning and Design Scheme.

Admission

Applicants must have an undergraduate degree or higher, in bushfire protection, engineering, land surveying, building, building surveying, construction, planning, urban studies, architecture, landscape architecture, physical sciences, environmental studies, natural resource management, emergency management, land-use planning, local government or public sector management.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 160 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

200500.4 Bushfire Fighting

Autumn session

200457.5 Bushfire Behaviour
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 session

300708.5 Planning and Development Control

Spring session

301049.2 Planning for Bushfire Prone Areas
200458.4 Building in Bushfire Prone Areas

Students may exit at this point with a Graduate Certificate in Bushfire Protection (60 credit points) - for Summer Intake only.

Year 2

Summer session

301104.3 Professional Practice and Building Law

Autumn session

300948.3 Fire Technology and Engineering Principles
301002.2 Specialised Software Applications

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200459.4 Emergency Management for Bushfire Prone Areas
200499.6 Alternative Solutions for Bushfire Prone Areas

From Autumn 2020, 200499 will be replaced with the equivalent unit 301265 Performance Solutions for Bushfire Protection

301265.1 Performance Solutions for Bushfire Protection

Students may exit at this point with a Graduate Diploma in Bushfire Protection (120 credit points)

Year 3

Autumn session

301055.4 Research Project A

Spring session

301056.3 Research Project B

Autumn Intake

Year 1

Autumn session

200457.5 Bushfire Behaviour
301103.2 Interpreting Building Regulations (Residential Buildings)

Quarter 3 Session

300708.5 Planning and Development Control

Spring session

200458.4 Building in Bushfire Prone Areas
301049.2 Planning for Bushfire Prone Areas

Summer session

200500.4 Bushfire Fighting

Year 2

Autumn session

300948.3 Fire Technology and Engineering Principles
301002.2 Specialised Software Applications

From Autumn 2020, 301002 will be replaced by equivalent unit 301264 Spatial Tools and Mapping

301264.1 Spatial Tools and Mapping

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200459.4 Emergency Management for Bushfire Prone Areas
200499.6 Alternative Solutions for Bushfire Prone Areas

Summer session

301104.3 Professional Practice and Building Law

Students may exit at this point with a Graduate Diploma in Bushfire Protection (120 credit points)

Year 3

Autumn session

301055.4 Research Project A

Spring session

301056.3 Research Project B

Graduate Diploma in Bushfire Protection

3709.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was 2016 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This two-year part-time Graduate Diploma program provides students with a comprehensive understanding of the behaviour and danger of bushfires in relation to local vegetation, land management and weather conditions. Students will gain the knowledge of emergency management and bushfire fighting techniques. Graduates will be able to provide advice on developments in bushfire prone areas, assess building designs against both the deemed-to-satisfy and performance requirements of the planning provisions, building code and standards. The course is a recognised qualification for accreditation with the relevant professional body.

This postgraduate course has been designed primarily as a Distance Learning course. However, select units (three in total) have intensive block style compulsory workshops that require students to attend. These workshops may include fieldwork, site visits or industry tours. Many of the other units have non-compulsory workshops and students are encouraged to attend the workshops to gain the benefit of the face to face interaction within the course. This course also sets a pathway for further learning at the Master level.

Study Mode

Two years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Accreditation

The course is recognised by Fire Protection Association Australia as a qualification for accreditation under the Bushfire Planning and Design scheme

Admission

Applicants must have an undergraduate degree or higher, in bushfire protection, engineering, land surveying, building, building surveying, construction, planning, urban studies, architecture, landscape architecture, physical sciences, environmental studies, natural resource management, emergency management, land-use planning, local government or public sector management;

Or

An AQF Diploma or higher in the bushfire protection, engineering, land surveying, building, building surveying, construction, planning, urban studies, architecture, landscape architecture, physical sciences, environmental studies, natural resource management, emergency management, land-use planning, local government or public sector management plus four years full-time equivalent professional and/or voluntary work experience in the relevant fields in industry, local government, or state fire services.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 120 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

200500.4 Bushfire Fighting

Autumn session

301103.2 Interpreting Building Regulations (Residential Buildings)
200457.5 Bushfire Behaviour

Workshop attendance in 200457 is required.

Quarter 3 session

300708.5 Planning and Development Control

Spring session

301049.2 Planning for Bushfire Prone Areas
200458.4 Building in Bushfire Prone Areas

Students may exit at this point with a Graduate Certificate in Bushfire Protection (60 credit points) - for Summer Intake only.

Year 2

Summer session

301104.3 Professional Practice and Building Law

Autumn session

300948.3 Fire Technology and Engineering Principles
301002.2 Specialised Software Applications

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200459.4 Emergency Management for Bushfire Prone Areas
200499.6 Alternative Solutions for Bushfire Prone Areas

From Autumn 2020, 200499 will be replaced with the equivalent unit 301265 Performance Solutions for Bushfire Protection

301265.1 Performance Solutions for Bushfire Protection

Autumn Intake

Year 1

Autumn session

301103.2 Interpreting Building Regulations (Residential Buildings)
200457.5 Bushfire Behaviour

Workshop attendance in 200457 is required.

Quarter 3 session

300708.5 Planning and Development Control

Spring session

200458.4 Building in Bushfire Prone Areas
301049.2 Planning for Bushfire Prone Areas

Summer session

200500.4 Bushfire Fighting

Students may exit at this point with a Graduate Certificate in Bushfire Protection (60 credit points) - for Autumn Intake only.

Year 2

Autumn session

300948.3 Fire Technology and Engineering Principles
301002.2 Specialised Software Applications

From Autumn 2020, 301002 will be replaced by equivalent unit 301264 Spatial Tools and Mapping

301264.1 Spatial Tools and Mapping

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200459.4 Emergency Management for Bushfire Prone Areas
200499.6 Alternative Solutions for Bushfire Prone Areas

Summer session

301104.3 Professional Practice and Building Law

Graduate Certificate in Bushfire Protection

3710.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was 2016 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This one-year part-time Graduate Certificate program aims to provide professionals with a comprehensive understanding of the behaviour and danger of bushfires in relation to local vegetation, land management and weather conditions. Students will gain the knowledge of the relevant planning and building regulations, standards and fire fighting. Graduates will be able to provide advice on developments in bushfire prone areas, assess building designs against the deemed-to-satisfy provisions of the building code and standards.

This postgraduate course has been designed primarily as a Distance Learning course. However, select units (two in total) have intensive block style compulsory workshops that require students to attend. These workshops may include fieldwork, site visits or industry tours. Many of the other units have non-compulsory workshops and students are encouraged to attend the workshops to gain the benefit of the face to face interaction within the course. This course sets a pathway for further learning at Graduate Diploma and Masters levels.

Study Mode
One year part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Accreditation
The course is recognised by Fire Protection Association Australia as a qualification for professional accreditation under the Bushfire Planning and Design scheme.

Admission
Applicants must have an undergraduate degree or higher, in bushfire protection, engineering, land surveying, building, building surveying, construction, planning, urban studies, architecture, landscape architecture, physical sciences, environmental studies, natural resource management, emergency management, land-use planning, local government or public sector management;

Or

A Diploma or higher in bushfire protection, engineering, land surveying, building, building surveying, construction, planning, urban studies, architecture, landscape architecture, physical sciences, environmental studies, natural resource management, emergency management, land-use planning, local government or public sector management and two years full-time equivalent professional and/or voluntary work experience in the relevant fields in industry, local government or state fire services;

Or

A Certificate III or higher in bushfire protection, engineering, land surveying, building, building surveying, construction, planning, urban studies, architecture, landscape architecture, physical sciences, environmental studies, natural resource management, emergency management, land-use planning, local government or public sector management or public safety (firefighting) and five years full-time equivalent professional and/or voluntary work experience in the relevant fields in industry, local government or state fire services;

Or

Three years full-time equivalent professional work experience as a member of a state (or territory) fire service or bushfire consultancy firm working in the area of bushfire assessments.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 60 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

200500.4 Bushfire Fighting

Autumn session

301103.2 Interpreting Building Regulations (Residential Buildings)
200457.5 Bushfire Behaviour

Workshop attendance in 200457 is required.

Quarter 3 session

300708.5 Planning and Development Control

Spring session

200458.4 Building in Bushfire Prone Areas
301049.2 Planning for Bushfire Prone Areas

Autumn Intake

Year 1

Autumn session

301103.2 Interpreting Building Regulations (Residential Buildings)
200457.5 Bushfire Behaviour

Workshop attendance in 200457 is required.

Quarter 3 session

300708.5 Planning and Development Control

Spring session

200458.4 Building in Bushfire Prone Areas
301049.2 Planning for Bushfire Prone Areas

Summer session

200500.4 Bushfire Fighting

Master of Fire Safety Engineering

3705.3

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was Summer A 2017/2018 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This three year part-time Master's program aims to provide professionals with the special skills and knowledge to develop, assess and evaluate fire safety engineering solutions for built environment. The course covers fire safety science and engineering principles. It is relevant to professionals developing alternative solutions using the fire engineering guidelines to meet the objectives and performance requirements of building regulations. Graduates will also acquire the skill to independently appraise the literature and address fire safety engineering issues faced by the building industry.

This postgraduate course has been designed primarily as a Distance Learning course. However, a select unit (one in total) has a five day intensive block style compulsory workshop that requires students to attend. Many of the other units have non-compulsory workshops and students are encouraged to attend these workshops to gain the benefit of the face to face interaction within the course.

Study Mode

Three years part-time. Students can fast-track by completing additional units per semester to complete the course earlier.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Admission

Applicants must have an undergraduate degree or higher, in engineering, building, construction, building surveying, bushfire protection, architecture or physical sciences.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 160 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Students may exit at this point with a Graduate Certificate in Fire Safety Engineering (60 credit points)

Year 2

Summer session

301104.3 Professional Practice and Building Law

Autumn session

300710.4 Fire Engineering 2 (Fire Models)
301002.2 Specialised Software Applications

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200458.4 Building in Bushfire Prone Areas
300718.4 Fire Engineering Design and Assessment

Students may exit at this point with a Graduate Diploma in Fire Safety Engineering (120 credit points)

Year 3

Autumn session

301055.4 Research Project A

Spring session

301056.3 Research Project B

Autumn Intake

Year 1

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Students may exit at this point with a Graduate Certificate in Fire Safety Engineering (60 credit points)

Year 2

Autumn session

300710.4 Fire Engineering 2 (Fire Models)
301002.2 Specialised Software Applications

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200458.4 Building in Bushfire Prone Areas
300718.4 Fire Engineering Design and Assessment

Summer session

301104.3 Professional Practice and Building Law

Students may exit at this point with a Graduate Diploma in Fire Safety Engineering (120 credit points)

Year 3

Autumn session

301055.4 Research Project A

Spring session

301056.3 Research Project B

Spring Intake

Year 1

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Year 2

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Students may exit at this point with a Graduate Certificate in Fire Safety Engineering (60 credit points)

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200458.4 Building in Bushfire Prone Areas
300718.4 Fire Engineering Design and Assessment

Summer session

301104.3 Professional Practice and Building Law

Year 3

Autumn session

300710.4 Fire Engineering 2 (Fire Models)
301002.2 Specialised Software Applications

Students may exit at this point with a Graduate Diploma in Fire Safety Engineering (120 credit points)

Spring session

301055.4 Research Project A

Autumn session

301056.3 Research Project B

Graduate Diploma in Fire Safety Engineering

3706.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was 2016 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This two-year part-time Graduate Diploma program aims to provide professionals with the special skills and knowledge to develop, assess and evaluate fire safety engineering solutions for built environment. The course covers fire safety science and engineering principles. It is relevant to professionals developing alternative solutions using the fire engineering guidelines to meet the objectives and performance requirements of building regulations.

This postgraduate course has been designed primarily as a Distance Learning course. However, a select unit (one in total) has a 5 day intensive block style compulsory workshop that requires students to attend. This workshop will include fieldwork, site visits or industry tours. Many of the other units have non-compulsory workshops and students are encouraged to attend these workshops to gain the benefit of the face to face interaction within the course.

Study Mode

Two years part-time. Students can fast-track by completing additional units per semester to complete the course earlier.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Admission

Applicants must have an undergraduate degree or higher, in engineering, building, construction, building surveying, bushfire protection, architecture or physical sciences

Or

A Diploma or higher in engineering, building, construction, building surveying, bushfire protection, architecture or physical sciences plus four years full-time equivalent professional and/or voluntary work experience in the relevant fields in the building industry, local government or state fire services.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 120 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Spring session

300717.4 Egress and Risk Assessment

300711.4 Building Fire Services

Students may exit at this point with a Graduate Certificate in Fire Safety Engineering (60 credit points)

Year 2

Summer session

301104.3 Professional Practice and Building Law

Autumn session

300710.4 Fire Engineering 2 (Fire Models)
301002.2 Specialised Software Applications

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200458.4 Building in Bushfire Prone Areas
300718.4 Fire Engineering Design and Assessment

Autumn Intake

Year 1

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Students may exit at this point with a Graduate Certificate in Fire Safety Engineering (60 credit points)

Year 2

Autumn session

300710.4 Fire Engineering 2 (Fire Models)
301002.2 Specialised Software Applications

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200458.4 Building in Bushfire Prone Areas
300718.4 Fire Engineering Design and Assessment

Summer session

301104.3 Professional Practice and Building Law

Spring Intake

Year 1

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Year 2

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Students may exit at this point with a Graduate Certificate in Fire Safety Engineering (60 credit points)

Quarter 3 session

301050.2 Disaster and Emergency Management (PG)

Spring session

200458.4 Building in Bushfire Prone Areas
300718.4 Fire Engineering Design and Assessment

Summer session

301104.3 Professional Practice and Building Law

Year 3

Autumn session

300710.4 Fire Engineering 2 (Fire Models)
301002.2 Specialised Software Applications

Graduate Certificate in Fire Safety Engineering

3707.1

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was 2015 or later.

This one year part-time Graduate Certificate program aims to provide professionals with the special skills and knowledge to develop, assess and evaluate fire safety engineering solutions for built environment. The course delivers the fundamentals of fire safety science and engineering principles. It introduces the performance based build regulatory framework under which fire safety engineering is practiced. The active building fire services, human response to fires and the concept of risk are also covered. The course is relevant to professionals assessing alternative solutions to meet the objectives and performance requirements of building regulations. The

course sets a pathway to advanced qualification at the Graduate Diploma level.

Study Mode
One year part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Part Time	External

Admission
Applicants must have an undergraduate degree or higher, in engineering, building, construction, building surveying, bushfire protection, architecture or physical sciences;

Or

A Diploma or higher in engineering, building, construction, building surveying, bushfire protection, architecture or physical sciences plus two years full-time equivalent professional and/or voluntary work experience in the relevant fields in the building industry, local government or state fire services.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure
Qualification for this award requires the successful completion of 60 credit points as per the recommended sequence below.

Recommended Sequence

Summer Intake

Year 1

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Autumn Intake

Year 1

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Spring Intake

Year 1

Spring session

300717.4 Egress and Risk Assessment
300711.4 Building Fire Services

Summer session

301048.2 Fire Engineering Science
300713.4 Building Engineering

Year 2

Autumn session

300947.3 Building Regulations
300709.4 Fire Engineering 1 (Fire Dynamics)

Master of Project Management

3752.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is Spring 2019 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This program is aimed at preparing future workforce with solid knowledge and application of key project management concepts and practices in varied professions and cultivating their competencies. It is expected that graduates from the programme will be proficient in domain

specific customising of a project management life cycle and developing comprehensive project plans involving cost and quality control, managing risks and stakeholders and developing efficient schedules while being able to act as an effective communicator within a project team setting. Students have the option to graduate with core project management skills only (Graduate Certificate), to continue to obtain generic or discipline-specific project management skills (Graduate Diploma), or to continue to progress with advanced research skills with a Masters' degree.

Study Mode

Two years full time or four years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Full Time	Internal
Parramatta City Campus-Macquarie Street	Part Time	Internal

Admission

Applicants seeking to specialise in the Construction, Engineering or Information Technology specialisations must have successfully completed an undergraduate degree or higher degree in the construction, engineering or information technology discipline areas.

Applicants seeking to complete the generic Master of Project Management must have successfully completed an undergraduate degree or higher in any discipline plus three years minimum work experience in project management related roles.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 160 credit points as per the recommended sequence below.

Students must complete

- Six 10 credit point and two 20 credit point core units
- Six 10 credit point specialised units

Students must have enrolled and completed one Specialisation in

ST3067.1	Construction
ST3059.1	Information Technology
ST3060.1	Engineering
SP3007.1	Project Management (Generic Program)

Exit Awards

Note: Students may exit with the 3760 - Graduate Diploma in Project Management (120 credit points) or 3759 - Graduate Certificate in Project Management (60 credit points) on completion of the relevant units as specified in the course structure. Please refer to the links below for details.

Recommended sequence

Note: use the Specialisation links above for lists of the Specialisation and Management Units

Start year intake

Year 1

Autumn session

301187.3	Managing Project Teams and Stakeholders
301194.2	Financial Management of Projects
301195.2	Time and Quality Management

Choose one of

Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)

Management Unit (from your specialisation and offered in Quarter 2)

Spring session

301192.2	Risk Management and Decision Making
301193.2	Strategic Project Management
301191.3	Project Procurement Systems

Choose one of

Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)

Management Unit (from your specialisation and offered in Quarter 4)

Year 2

Autumn session

301055.4	Research Project A

Note: 301055 Research Project A is a 20 credit point unit

Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)

Quarter 2
Management Unit (from your specialisation)

Spring session

301056.3 Research Project B

Note: 301056 Research Project B is a 20 credit point unit
Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)

Quarter 4
Management Unit (from your specialisation)

Mid-year intake

Year 1

Spring session

301192.2 Risk Management and Decision Making
301193.2 Strategic Project Management
301191.3 Project Procurement Systems

Choose one of
Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)
Management Unit (from your specialisation and offered in Quarter 4)

Autumn session

301187.3 Managing Project Teams and Stakeholders
301194.2 Financial Management of Projects
301195.2 Time and Quality Management

Choose one of
Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)
Management Unit (from your specialisation and offered in Quarter 2)

Year 2

Spring session

301055.4 Research Project A

Note: 301055 Research Project A is a 20 credit point unit
Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)

Quarter 4
Management Unit (from your specialisation)

Autumn session

301056.3 Research Project B

Note: 301056 Research Project B is a 20 credit point unit
Specialisation Unit (chosen from Construction, Information Technology, Engineering or Generic specialisation)

Quarter 2
Management Unit (from your specialisation)

Graduate Diploma in Project Management (exit only)

3760.2

The course is an early exit point from 3752 - Master of Project Management.

Study Mode
One and a half years full-time or three years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Full Time	Internal
Parramatta City Campus-Macquarie Street	Part Time	Internal

Admission
This course is an early exit point only.
Students enrol in 3752 Master of Project Management and exit with the Graduate Diploma in Project Management.

Course Structure
Qualification for this award requires the successful completion of 120 credit points which must include

- Six 10 credit points core units and
- Six 10 credit point specialised units

Students must have enrolled and completed one Specialisation in

ST3067.1 Construction
ST3059.1 Information Technology
ST3060.1 Engineering
SP3007.1 Project Management (Generic Program)

Core Units

301187.3 Managing Project Teams and Stakeholders
301194.2 Financial Management of Projects
301195.2 Time and Quality Management
301191.3 Project Procurement Systems
301192.2 Risk Management and Decision Making
301193.2 Strategic Project Management

Graduate Certificate in Project Management (exit only)

3759.2

The course is an early exit point from 3752 - Master of Project Management.

Study Mode
One year full-time or two years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Full Time	Internal
Parramatta City Campus-Macquarie Street	Part Time	Internal

Accreditation
Accreditation with Australian Institute of Building (AIB), Royal Institution of Chartered Surveyors (RICS), Australian Institute of Project Management (AIPM) and Project Management Institute (PMI) is currently being sought.

Admission
This course is an early exit point only.

Students enrol in 3752 Master of Project Management and exit with the Graduate Certificate in Project Management.

Course Structure
Qualification for this award requires the successful completion of 60 credit points which must include

- Six 10 credit points core units

Core Units

301187.3 Managing Project Teams and Stakeholders
301194.2 Financial Management of Projects
301195.2 Time and Quality Management
301191.3 Project Procurement Systems
301192.2 Risk Management and Decision Making
301193.2 Strategic Project Management

Specialisations

Postgraduate Specialisation - Project Management (Generic Program)

SP3007.1

Location

Campus	Mode
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

Management Units - these units are offered in Quarter 2 and Quarter 4

Choose three of

200826.1	Contemporary People Management
200821.3	Financial Reports for Decision Making
200848.4	Governance, Ethics and Social Entrepreneurship
200835.2	Managing in the Global Context
200841.2	Strategic Business Management
200329.5	Supply Chain Management

Project Management - Generic Program

Choose three of

201019.1	Business Analytics in Practice
200776.1	Compliance Management
101897.2	Development for Equality
101636.3	Developing Sustainable Places
200828.1	Diversity, Labour Markets and Workforce Planning
102575.2	Emergency and Disaster Management
200717.2	Employment Relations Professional Practice
101315.4	Financing Cities in the Global Economy
400845.3	Health Financial Management
400844.3	Health Services and Facilities Planning
102069.2	Heritage and Planning
200719.2	Industrial Relations and Workplace Change
200792.2	Innovation, Creativity and Entrepreneurship
400235.2	Leadership in Clinical Practice
100701.1	Leadership, Mentoring and Professional Growth
101633.3	Managing Cities: History and Theory
401081.3	Organisational Governance and Performance Management
101634.3	Planning and Environmental Regulation
101895.2	Political Economy of Development
102574.2	Public Health in Complex Emergencies (Advanced)
200721.2	Reward Management
400838.2	Supporting Individuals and Communities in Crisis
400847.4	Surveillance and Disaster Planning
101314.4	Urban Management Practice: Governance and Power in the City
401373.1	Workplace Safety and Risk Management

Please note

The units listed below count towards completion of the course (or major) for students who may have passed these units in 2019 or earlier.

300677.4	Safety and Risk Management

Postgraduate Specialisation - Information Technology

ST3059.1

Location

Campus	Mode
Parramatta City Campus-Macquarie Street	Multi Modal

Specialisation Structure

Management Units - these units are offered in Quarter 2 and Quarter 4

Choose three of

200826.1	Contemporary People Management
200821.3	Financial Reports for Decision Making
200848.4	Governance, Ethics and Social Entrepreneurship
200835.2	Managing in the Global Context
200841.2	Strategic Business Management
200329.5	Supply Chain Management

Information Technology Units

Choose three of

301178.2	Advanced Health Classifications and Coding
301028.2	Advanced Healthcare Data Environments
301029.2	Advanced Healthcare Software and Systems
301196.2	Advanced Topics in Artificial Intelligence
300252.4	Advanced Topics in Networking
301046.2	Big Data
301042.2	Cloud Computing
300697.3	Content Management Systems and Web Analytics
301044.2	Data Science
301162.2	Information Security Management
301175.2	Internet of Things
300260.3	IT Project Management
301163.2	Modern Software Architectures
300256.3	Multimedia Communication Systems
301117.2	Predictive Analytics
301113.2	Programming for Data Science
301116.2	Social Media Intelligence
300770.4	Software Testing and Automation
300696.3	Systems and Network Security
301114.2	The Nature of Data
301112.2	Visualisation
300443.3	Web Engineering
300389.3	Wireless Networking

Postgraduate Specialisation - Engineering

ST3060.1

Location

Campus	Mode
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

Management Units - these units are offered in Quarter 2 and Quarter 4

Choose three of

200826.1	Contemporary People Management
200821.3	Financial Reports for Decision Making
200848.4	Governance, Ethics and Social Entrepreneurship
200835.2	Managing in the Global Context
200841.2	Strategic Business Management
200329.5	Supply Chain Management

Engineering Units

Choose three of

301010.2	Advanced Applied Mechanics
301008.2	Advanced Composite Structures
301023.2	Advanced Computational Fluid Dynamics
301022.2	Advanced Computer Aided Engineering
300603.4	Advanced Control Systems
300173.4	Advanced Data Networks
301019.2	Advanced Dynamic Systems
300601.4	Advanced Electrical Machines and Drives
300604.4	Advanced Geotechnical Engineering
301011.2	Advanced Highway Infrastructure
301014.2	Advanced Hydrogeology
301020.2	Advanced Mobile Robotics
301024.2	Advanced Numerical Methods in Engineering
301025.2	Advanced Power Quality
300599.4	Advanced Robotics
300596.4	Advanced Signal Processing
301026.2	Advanced Smart Grids and Distributed Generation
301013.2	Advanced Statistical Hydrology
300594.5	Advanced Structural Analysis
301021.2	Advanced Thermal and Fluid Engineering
301009.2	Advanced Timber Structures
301017.2	Advanced Waste Management
300595.4	Advanced Water Engineering
301015.2	Deep Foundations
300515.5	Instrumentation and Measurement (PG)
301018.2	Mechanical System Design
300600.4	Mechatronic System Design
300196.4	Personal Communication Systems
300197.4	Power System Planning and Economics
300939.3	Sustainability and Risk Engineering (PG)
301012.2	Water Resources Systems Analysis
301278.1	Wastewater Treatment and Recycling
301279.1	Water Treatment and Distribution

Please note

The units listed below count towards completion of the specialisation for students who may have passed units in the list in 2019 or earlier.

301016.2	Advanced Water and Wastewater Treatment

Postgraduate Specialisation - Construction

ST3067.1

Location

Campus	Mode
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

Management Units - these units are offered in Quarter 2 and Quarter 4

Choose three of

200826.1	Contemporary People Management
200821.3	Financial Reports for Decision Making
200848.4	Governance, Ethics and Social Entrepreneurship
200835.2	Managing in the Global Context
200841.2	Strategic Business Management
200329.5	Supply Chain Management

Construction Units

Choose three of

301188.2	Advanced Contract Management
300947.3	Building Regulations
301050.2	Disaster and Emergency Management (PG)
301103.2	Interpreting Building Regulations (Residential Buildings)
300708.5	Planning and Development Control
301190.2	Safe and Sustainable Construction
301189.2	Smart Construction

SCHOOL OF COMPUTER, DATA AND MATHEMATICAL SCIENCES

Master of Artificial Intelligence

3765.1

The Master of Artificial Intelligence provides students with a broad range of Artificial Intelligence (AI) topics ranging from foundations to state-of-the-art technologies and applications. Students will learn how AI is driving digital disruption, how to work in this dynamic and fast evolving field, and how it is changing every facet of life and society. This course focuses on the most important and up to date AI topics and trends including but not limited to: knowledge representation and reasoning, machine learning, natural language understanding and processing, knowledge graphs, AI ethics and governance as well as relevant specialisation areas in computing and data sciences.

Study Mode
Two years full-time or four years part-time

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Accreditation
Accreditation of the Master of Artificial Intelligence will be sought from the Australian Computer Society in late 2021 to coincide with the completion of the degree by the first cohort of graduates. The program is designed to meet the guidelines of the Australian Computer Society.

Admission
Minimum admission requirements to this course are

Applicants must have successfully completed an undergraduate degree in any discipline.

Additional Information

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure
Qualification for this award requires the successful completion of 160 credit points which include the units listed in the recommended sequence below.

Recommended sequence

Year 1

Autumn session

301116.2 Social Media Intelligence
301313.1 Natural Language Understanding
301312.1 Applied Machine Learning
301046.2 Big Data

At this point, students can exit with a Graduate Certificate in Artificial Intelligence

Spring session

301315.1 Knowledge Representation and Reasoning
301196.2 Advanced Topics in Artificial Intelligence
301314.1 Artificial Intelligence Ethics and Organisations

And one elective unit

Note: Electives must be at Level 7 and from the specialisations below

At this point, students can exit with a Graduate Diploma in Artificial Intelligence

Year 2

Autumn session

301162.2 Information Security Management
301112.2 Visualisation
300597.5 Master Project 1

And one elective unit

Note: Electives must be at Level 7 and from the specialisations below

Spring session

300695.3 Network Technologies
300598.6 Master Project 2

And two elective units

Note: Electives must be at Level 7 and from the specialisations below

Additional requirement

301047.2 ICT Practicum

Specialisations

ST3053.1 Data Analytics
ST3065.1 Cybersecurity
ST3049.1 Networking

ST3050.1 Web and Mobile Computing
ST3052.1 Digital Futures

Exit Awards

Note: Students may exit with the 3766 - Graduate Diploma in Artificial Intelligence (80 credit points) or 3767 - Graduate Certificate in Artificial Intelligence (40 credit points) on completion of the relevant units as specified in the course structure. Please refer to the links below for details.

Graduate Diploma in Artificial Intelligence (Exit only)

3766.1

The course is an early exit point from 3765 - Master of Artificial Intelligence

Study Mode
One year full-time, two years part-time

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission
This course is an early exit point only.

Students enrol in 3765 Master of Artificial Intelligence and exit with the Graduate Diploma in Artificial Intelligence

Course Structure
Qualification for this award requires the successful completion of 80 credit points which include the units listed in the recommended sequence below.

Recommended sequence

Year 1

Autumn session

301116.2 Social Media Intelligence
301313.1 Natural Language Understanding
301312.1 Applied Machine Learning
301046.2 Big Data

At this point, students can exit with a Graduate Certificate in Artificial Intelligence

Spring session

301315.1 Knowledge Representation and Reasoning
301196.2 Advanced Topics in Artificial Intelligence
301314.1 Artificial Intelligence Ethics and Organisations

And one elective unit

Note: Electives must be at Level 7 and from the specialisations below

Specialisations

ST3053.1 Data Analytics
ST3065.1 Cybersecurity
ST3049.1 Networking
ST3050.1 Web and Mobile Computing
ST3052.1 Digital Futures

Exit Awards

Note: Students may exit with 3767 - Graduate Certificate in Artificial Intelligence (40 credit points) on completion of the relevant units as specified in the course structure. Please refer to the link above for Master of Artificial Intelligence for details.

Graduate Certificate in Artificial Intelligence (Exit only)

3767.1

The course is an early exit point from 3765 - Master of Artificial Intelligence

Study Mode
Six months full-time, one year part-time

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission
This course is an early exit point only.

Students enrol in 3765 Master of Artificial Intelligence and exit with the Graduate Certificate in Artificial Intelligence

Course Structure
Qualification for this award requires the successful completion of 40 credit points which include the units listed in the recommended sequence below.

Recommended sequence

Year 1

Autumn session

301116.2 Social Media Intelligence
301313.1 Natural Language Understanding
301312.1 Applied Machine Learning
301046.2 Big Data

Master of Data Science

3735.1

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course was 2016 or later.

Increasingly in the digital age data plays an important role in most, if not all, occupations. Extracting information from data has become a science in itself, blending skill sets from

mathematics, statistics and computing. With a strong applications focus, this course covers the nature of data including Big and Unstructured Data, how to embark on data driven investigations and visual and computational analytics. The course graduates will have the knowledge and skills required to operate effectively in a data driven world.

Study Mode

Two years full-time or four years part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission

To enter the Master of Data Science program applicants must have successfully completed an undergraduate degree, or higher, in any discipline.

Additional Information

Assumed Knowledge:

For a student to successfully complete this course they will need to have an understanding of Mathematics equivalent to 2-unit HSC, and experience with the use of computer software such as Excel or Word. Previous experience of statistics or computer programming will be an advantage but is not essential.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 160 credit points which include the units listed in the recommended sequence below.

Recommended Sequence

Start-year Intake

Year 1

Autumn session

301046.2 Big Data
301112.2 Visualisation
301113.2 Programming for Data Science
301114.2 The Nature of Data

Spring session

301044.2 Data Science
301115.2 Advanced Statistical Methods
301117.2 Predictive Analytics

And one elective

Year 2

Autumn session

300597.5 Master Project 1
301116.2 Social Media Intelligence
301118.2 Genomic Data Science

And one elective

Spring session

300598.6 Master Project 2
301119.2 Advanced Machine Learning

And two electives

All elective units must be at Postgraduate Level 7

Elective units may be used towards obtaining the approved specialisation ST3063 Space Science

ST3063.1 Space Science

Mid-year Intake

Year 1

Spring session

301044.2 Data Science
301113.2 Programming for Data Science
301114.2 The Nature of Data

And one elective

Autumn session

301046.2 Big Data
301112.2 Visualisation
301116.2 Social Media Intelligence

And one elective

Year 2

Spring session

300597.5 Master Project 1
301115.2 Advanced Statistical Methods
301117.2 Predictive Analytics

301119.2 Advanced Machine Learning

Autumn session

300598.6 Master Project 2
301118.2 Genomic Data Science

And two electives

All elective units must be at Postgraduate Level 7

Elective units may be used towards obtaining the approved specialisation ST3063 Space Science

ST3063.1 Space Science

Graduate Diploma in Data Science

3750.1

Increasingly in the digital age data plays an important role in most, if not all, occupations. Extracting information from data has become a science in itself, blending skill sets from mathematics, statistics and computing. With a strong applications focus, this course provides a grounding in the nature of data and skills required to embark on data driven investigations.

Study Mode
One year full-time or two years part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission
Applicants must have successfully completed an undergraduate degree, or higher, in any discipline.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure
Qualification for this award requires the successful completion of 80 credit points which include the units listed below.

Core Units

301046.2 Big Data
301044.2 Data Science
301113.2 Programming for Data Science
301114.2 The Nature of Data
301112.2 Visualisation

Choose three of

301115.2 Advanced Statistical Methods
301118.2 Genomic Data Science
301117.2 Predictive Analytics
301116.2 Social Media Intelligence

Graduate Certificate in Data Science

3751.1

Increasingly in the digital age data plays an important role in most, if not all, occupations. Extracting information from data has become a science in itself, blending skill sets from mathematics, statistics and computing. With a strong applications focus, this course introduces the skills needed to embark on data driven investigations.

Study Mode
Six months full-time or one year part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission
Applicants must have

- Successfully completed an undergraduate degree, or higher, in any discipline; Or
- Have a minimum of five years full-time equivalent professional work experience

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 40 credit points which include the units listed below.

Core Units

301113.2 Programming for Data Science
301114.2 The Nature of Data

Choose two of

301046.2 Big Data
301044.2 Data Science
301118.2 Genomic Data Science
301117.2 Predictive Analytics
301116.2 Social Media Intelligence
301112.2 Visualisation

Master of Information and Communications Technology (Advanced)

3698.4

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is Autumn 2018 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

Master of Information and Communications Technology - Advanced (MICT-Adv) course is for students seeking to progress their knowledge in ICT discipline. This course is designed to provide in-depth knowledge in a range of theories and state-of-the-art developments in ICT. Students will be required to complete a work experience component and a specialisation, in addition to a number of core and elective units. The course aims to develop students with knowledge and skills required in problem solving and research practice and provide opportunities to apply those skills and knowledge in a professional and ethical framework to develop themselves as lifelong learners.

Study Mode

Two and a half years full-time or two years full time depending upon entry qualifications (see Pathways listed under Course Structure below) or the equivalent part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Accreditation

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

Admission

Minimum admission requirements to this course are:

An undergraduate degree or Masters degree in any discipline.

Additional Information

This course has three Pathways (A, B and C) that vary in length and structure based on previous study and work experience.

Pathway A - Applicants must have successfully completed an undergraduate degree in any discipline.

Pathway B - Applicants must have successfully completed an Honours or Master degree in any discipline.

Pathway C - Applicants must have successfully completed an Australian Computer Society accredited (or equivalent) undergraduate degree in Information and Communication Technologies, Computing or Information Systems

Or

An undergraduate degree in any discipline and a Graduate Certificate or Graduate Diploma in ICT.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

The course length and structure varies based on the student's previous study background and level, and work experience.

Students are categorised into three Pathways based on their previous study background and work experience as indicated below and course structure and length is set accordingly. See individual links for detailed course structure.

Pathway A - Two and a half years

Students who have been admitted with non-Computing, non-ICT or non-Information Systems with Bachelor Qualifications are eligible to complete the two and a half year Pathway below.

A3037.1	Master of Information and Communications Technology (Advanced) Pathway A - 2.5 years

Pathway B - Two years

Students who have been admitted with non-Computing, non-ICT or non-Information Systems with Bachelors Honours or Masters Qualifications are eligible to complete the two year Pathway below.

A3038.1	Master of Information and Communications Technology (Advanced) Pathway B - 2 year program

Pathway C - Two years

Students who have been admitted with Computing, ICT or Information Systems with Bachelor or with Bachelor Honours or Masters Qualifications are eligible to complete the two year Pathway below.

A3039.1	Master of Information and Communications Technology (Advanced) Pathway C - 2 years

Additional Completion Requirements

Students must complete a four week full-time or part-time equivalent industry placement as a Work Integrated Learning (WIL) component and must enrol in the ICT Practicum unit to receive recognition for WIL.

301047.2	ICT Practicum

Students must also complete one of the listed Specialisations below.

ST3064.1	Artificial Intelligence
ST3065.1	Cybersecurity
ST3053.1	Data Analytics
ST3052.1	Digital Futures
ST3054.1	Distributed Computing
ST3055.1	Health Informatics
ST3051.1	Innovation and Entrepreneurship
ST3034.1	Management
ST3049.1	Networking
ST3063.1	Space Science
ST3050.1	Web and Mobile Computing

Master of Information and Communications Technology

3699.4

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is Spring 2017 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

Master of Information and Communications Technology (MICT) sets the foundation for students to advance their careers in ICT and/or continue further learning in this discipline. Students will be required to complete a work experience component in addition to a number of core and elective units. Students may also chose to complete a specialisation out of the available specialisations for this course. This course is focused on getting students engaged in enquiry-based learning to acquire knowledge in established theories and recent state-of-the-art developments. Students are also expected to develop skills in problem solving and research practice and apply those skills in a professional and ethical framework to develop themselves as lifelong learners.

Study Mode

Two years full-time or one and a half years full time depending upon entry qualifications (see Pathways listed under Course Structure below) or the equivalent part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal
Sydney City Campus	Full Time	Internal

Accreditation

The Master of Information and Communication Technology is accredited at Professional Level by the Australian Computer Society.

Admission

Minimum admission requirements to this course are:

An undergraduate degree or Masters degree in any discipline.

Additional Information

This course has three Pathways (A, B and C) that vary in length and structure based on previous study and work experience.

Pathway A - Applicants must have successfully completed an undergraduate degree in any discipline.

Pathway B - Applicants must have successfully completed an Honours or Master degree in any discipline.

Pathway C - Applicants must have successfully completed an Australian Computer Society accredited (or equivalent) undergraduate degree in Information and Communication Technologies, Computing or Information Systems

Or

An undergraduate degree in any discipline AND a Graduate Certificate or Graduate Diploma in ICT.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Sydney City Campus

Parramatta Campus

The course length and structure varies based on the student's previous study background and level, and work experience.

Students are categorised into three Pathways based on their previous study background and work experience as indicated below and course structure and length is set accordingly. See individual links for detailed course structure.

Pathway A - Two years

Students who have been admitted with non-Computing, non-ICT or non-Information Systems with Bachelor Qualifications are eligible to complete the two year Pathway below.

A3040.1	Master of Information and Communications Technology Pathway A - 2 years

Pathway B - One and a half years

Students who have been admitted with non-Computing, non-ICT or non-Information Systems with Bachelor Honours or Masters Qualifications are eligible to complete the one and a half year Pathway below.

A3041.1	Master of Information and Communications Technology Pathway B - 1.5 years

Pathway C - One and a half years

Students who have been admitted with Computing, ICT or Information Systems with Bachelor or Bachelor Honours or Masters Qualifications are eligible to complete the one a half year Pathway below.

A3042.1	Master of Information and Communications Technology Pathway C - 1.5 years

Additional Completion Requirements

Students must complete a four week full-time or part-time equivalent industry placement as a Work Integrated Learning (WIL) component and must enrol in the ICT Practicum unit to receive recognition for WIL.

301047.2 ICT Practicum

Students must also complete one of the listed Specialisations below.

Parramatta Campus

ST3064.1	Artificial Intelligence
ST3065.1	Cybersecurity
ST3053.1	Data Analytics
ST3052.1	Digital Futures
ST3054.1	Distributed Computing
ST3055.1	Health Informatics
ST3051.1	Innovation and Entrepreneurship
ST3034.1	Management
ST3049.1	Networking
ST3063.1	Space Science
ST3050.1	Web and Mobile Computing

Sydney City Campus

ST3049.1	Networking
ST3050.1	Web and Mobile Computing

Graduate Diploma in Information and Communications Technology

3700.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is 2017 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

Graduate Diploma in Information and Communications Technology (Grad Dip in ICT) is designed for students from both computing and non-computing backgrounds, to enable them to create pathways into higher studies in Information and Communications Technology and/or commencing a career in ICT. This course is aimed at allowing students to gain knowledge in state of the art developments in the ICT field, apply that knowledge in a professional and ethical framework and develop themselves as lifelong learners.

Study Mode

One and a half years full-time or one year full time depending upon entry qualifications (see Pathways listed under Course Structure below) or the equivalent part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission

Minimum admission requirements to this course are:

A Bachelor qualification in any discipline

Or

A Diploma in ICT/Computing/IS fields and five years full-time equivalent work experience in Information and Communications Technologies which includes experience in applying skills in: programming; networking; database design and development; systems analysis and design; and project management.

Additional Information

This course has three Pathways (A, B and C) that vary in length and structure based on previous study and work experience.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

The course length and structure varies based on the student's previous study background and level, and work experience.

Students are categorised into three Pathways based on their previous study background and work experience as indicated below and course structure and length is set accordingly. See individual links for detailed course structure.

Pathway A - One and a half years

Students who have non-Computing, non-ICT or non-Information Systems with Bachelor qualifications are eligible to complete the one and a half year Pathway below.

A3025.1 Graduate Diploma in Information and Communications Technology Pathway A - 1.5 years

Pathway B - One year

Students who have non-Computing, non-ICT or non-Information Systems with Honours or Masters qualifications are eligible to complete the one year Pathway below.

A3026.1 Graduate Diploma in Information and Communications Technology Pathway B - 1 year

Pathway C - One year

Students who have Computing, ICT or Information Systems with Bachelor or Bachelor Honours or Masters qualifications are eligible to complete the one year Pathway below.

A3027.1 Graduate Diploma in Information and Communications Technology Pathway C - 1 year

Graduate Certificate in Information and Communications Technology

3701.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is 2017 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

Graduate Certificate in Information and Communications Technology (Grad Cert in ICT) is designed for students from both computing and non-computing backgrounds. This course empowers students from computing background to enhance and update their knowledge in core concepts related to Information and Communications Technology domain to further progress their careers. Students from non-computing backgrounds can develop knowledge and skills in core topics related to ICT creating a

pathway to higher studies in ICT and/or commencing a career in ICT.

Study Mode
One year full-time or six months full time depending upon entry qualifications (see Pathways listed under Course Structure below) or the equivalent part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission
Minimum admission requirements to this course are:

A Bachelor qualification in any discipline

Or

A Diploma in ICT/Computing/IS fields and five years full-time equivalent work experience in Information and Communications Technologies which includes experience in applying skills in: programming; networking; database design and development; systems analysis and design; and project management.

Additional Information
This course has three Pathways (A, B and C) that vary in length and structure based on previous study and work experience.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure
The course length and structure varies based on the student's previous study background and level, and work experience.

Students are categorised into three Pathways based on their previous study background and work experience as indicated below and course structure and length is set accordingly. See individual links for detailed course structure.

Pathway A - One year
Students who have non-Computing, non-ICT or non-Information Systems with Bachelor qualifications are eligible to complete the one year Pathway below.

A3028.1 Graduate Certificate in Information and Communications Technology Pathway A - 1 year

Pathway B - Six months
Students who have non-Computing, non-ICT or non-Information Systems with Honours or Masters qualifications are eligible to complete the six month Pathway below.

A3029.1 Graduate Certificate in Information and Communications Technology Pathway B - 0.5 year

Pathway C - Six months
Students who have Computing, ICT or Information Systems with Bachelor OR with Honours or Masters qualifications are eligible to complete the six month Pathway below.

A3030.1 Graduate Certificate in Information and Communications Technology Pathway C - 0.5 year

Master of Information Governance

3748.1

The Master of Information Governance (MiG) is designed to provide a new set of skills and knowledge for next generation managers and consultants, reflecting the increasing demand for training in this area, including the recent rise in information security management issues. The structure of the degree reflects the understanding that the technical, business and legal aspects of information governance are equally important, and that the related knowledge and skills from these areas are interconnected and applied in confluence in practice. The course draws from best practice to provide professionals with systematic knowledge and skills for managing information assets and ensuring regulatory compliance, in a way that is applicable across all industries and independent of any particular technology or vendor solution.

Study Mode
Two years full-time or four years part-time.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Admission

Applicants must have

- Successfully completed an undergraduate degree, or higher, in any discipline, Or
- Have a minimum five years full-time professional work experience in Information and Communications Technologies or related areas and write an expression of interest outlining their experience, knowledge and skills and how it has prepared them for study. The expression of interest will be assessed by the School of Computer, Data and Mathematical Sciences.

Applicants must support their application with a statement of service for all work experience listed on the application.

Standard English entry requirement would be enough for this course.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to the University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 160 credit points which include the units listed in the recommended sequence below.

Recommended sequence

Start Year Intake - Full-time

Year 1

Quarter 1 session

200432.4 Commercial Law

Autumn session

301005.3 Professional Practice and Communication

Quarter 2 session

200433.5 Company Law
200835.2 Managing in the Global Context

Quarter 3 session

200825.3 Understanding Contemporary Organisations
200776.1 Compliance Management

Spring session

200980.1 Security of Ideas

Quarter 4 session

200841.2 Strategic Business Management

Year 2

Autumn session

200958.3 Information and Data Governance Law and Policy
300260.3 IT Project Management
300694.4 Advanced Topics in ICT
301162.2 Information Security Management

Quarter 3 session

200829.3 Business Project

Students must enrol in 200829 Business Project in both Quarter 3 and Quarter 4 sessions.

And one elective

Quarter 4 session

200829.3 Business Project

And one elective

Mid-Year Intake - Full-time

Year 1

Quarter 3 session

200432.4 Commercial Law

Spring session

301005.3 Professional Practice and Communication
200980.1 Security of Ideas

Quarter 4 session

200433.5 Company Law

Autumn session

300260.3 IT Project Management
301162.2 Information Security Management
200958.3 Information and Data Governance Law and Policy

Quarter 2 session

200835.2 Managing in the Global Context

Year 2

Quarter 3 session

200776.1 Compliance Management
200825.3 Understanding Contemporary Organisations

Spring session

300694.4 Advanced Topics in ICT

Quarter 4 session

200841.2 Strategic Business Management

Quarter 1 session

200829.3 Business Project

Students must enrol in 200829 Business Project in both Quarter 3 and Quarter 4 sessions.

And one elective

Quarter 2 session

200829.3 Business Project

And one elective

Start Year Intake - Part-time

Year 1

Quarter 1 session

200432.4 Commercial Law

Quarter 2 session

200835.2 Managing in the Global Context

Spring session

301005.3 Professional Practice and Communication

Quarter 4 session

200433.5 Company Law

Year 2

Quarter 1 session

200776.1 Compliance Management

Quarter 2 session

200825.3 Understanding Contemporary Organisations

Spring session

200980.1 Security of Ideas

Quarter 4 session

200841.2 Strategic Business Management

Year 3

Autumn session

300694.4 Advanced Topics in ICT
300260.3 IT Project Management

Quarter 3 session

One elective

Quarter 4 session

One elective

Year 4

Autumn session

301162.2 Information Security Management
200958.3 Information and Data Governance Law and Policy

Quarter 3 session

200829.3 Business Project

Students must enrol in 200829 Business Project in both Quarter 3 and Quarter 4 sessions.

Quarter 4 session

200829.3 Business Project

Mid-Year Intake - Part-time

Year 1

Quarter 3 session

200432.4 Commercial Law

Quarter 4 session

200433.5 Company Law

Autumn session

301005.3 Professional Practice and Communication
300260.3 IT Project Management

Year 2

Spring session

200980.1 Security of Ideas

Autumn session

301162.2 Information Security Management
200958.3 Information and Data Governance Law and Policy

Quarter 2 session

200835.2 Managing in the Global Context

Year 3

Quarter 3 session

200825.3 Understanding Contemporary Organisations

Quarter 1 session

200776.1 Compliance Management

Autumn session

300694.4 Advanced Topics in ICT

Quarter 4 session

200841.2 Strategic Business Management

Year 4

Quarter 1 session

One elective

Quarter 2 session

One elective

Quarter 3 session

200829.3 Business Project

Students must enrol in 200829 Business Project in both Quarter 3 and Quarter 4 sessions.

Quarter 4 session

200829.3 Business Project

Specialisations

Postgraduate Admission Pathway - Graduate Diploma in Information and Communications Technology Pathway A - 1.5 years

A3025.1

Applicants must have successfully completed an undergraduate degree in any discipline or a Diploma in Information and Communication Technologies, Computing or Information Systems and a minimum of five years full-time equivalent work experience in Information and Communications Technologies which includes experience in applying skills in: programming, networking; database design and development, systems analysis and design, and project management.

Specialisation Structure

Students must be enrolled in the Graduate Diploma in Information and Communications Technology to complete this specialisation.

Qualification for this award requires the successful completion of 120 credit points.

Core Units

300260.3	IT Project Management
300695.3	Network Technologies
301005.3	Professional Practice and Communication

And students in Pathways A and B must also complete the additional three core units.

301045.3	Advanced Topics in User System Interaction
301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems

And six units from Foundation or Specialised unit lists.

Full Time - Start Year Intake

Year 1

Autumn session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
301045.3	Advanced Topics in User System Interaction
300260.3	IT Project Management

Spring session

300695.3	Network Technologies
301005.3	Professional Practice and Communication

And two units from Foundation or Specialised unit lists.

Year 2

Autumn session

And four units from Foundation or Specialised unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
300695.3	Network Technologies
301005.3	Professional Practice and Communication

Autumn session

301045.3	Advanced Topics in User System Interaction
300260.3	IT Project Management

And two units from Foundation or Specialised unit lists.

Year 2

Spring session

And four units from Foundation or Specialised unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3	Advanced Topics in User System Interaction
300697.3	Content Management Systems and Web Analytics
300260.3	IT Project Management
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301038.3	Programming Proficiency
301004.2	Research Preparation in Post Graduate Studies
300977.3	Systems Analysis and Database Management Systems
300696.3	Systems and Network Security
300693.4	Web Technologies

Specialised Units

301178.2	Advanced Health Classifications and Coding
301028.2	Advanced Healthcare Data Environments
301029.2	Advanced Healthcare Software and Systems
301119.2	Advanced Machine Learning
301020.2	Advanced Mobile Robotics
300599.4	Advanced Robotics
301196.2	Advanced Topics in Artificial Intelligence
301236.2	Advanced Topics in Cybersecurity
300694.4	Advanced Topics in ICT
300252.4	Advanced Topics in Networking
301235.2	Applied Cybersecurity
301046.2	Big Data
301042.2	Cloud Computing
301044.2	Data Science
301118.2	Genomic Data Science
301162.2	Information Security Management

301175.2 Internet of Things
301043.3 Mobile Computing
301163.2 Modern Software Architectures
300256.3 Multimedia Communication Systems
300255.3 Network Management
301117.2 Predictive Analytics
301113.2 Programming for Data Science
301116.2 Social Media Intelligence
300770.4 Software Testing and Automation
301114.2 The Nature of Data
301112.2 Visualisation
300443.3 Web Engineering
300389.3 Wireless Networking

The Specialisation units listed below count towards completion of this course for students who passed these units in 2017 or earlier.

300769 - Intelligent Agents for E-Markets

301041 - Service Oriented Architecture

300692 - Workflow Management Systems

Postgraduate Admission Pathway - Graduate Diploma in Information and Communications Technology Pathway B - 1 year

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A3026.1

Applicants must have successfully completed an Honours or Master degree in any discipline.

Specialisation Structure

Students must be enrolled in the Graduate Diploma in Information and Communications Technology to complete this specialisation.

Qualification for this award requires the successful completion of 80 credit points.

Core Units

300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication

And students in Pathways A and B must also complete the additional three core units.

301045.3 Advanced Topics in User System Interaction
301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems

And two units from Foundation or Specialised unit lists.

Full Time - Start Year Intake

Year 1

Autumn session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
301045.3 Advanced Topics in User System Interaction
300260.3 IT Project Management

Spring session

300695.3 Network Technologies
301005.3 Professional Practice and Communication

And two units from Foundation or Specialised unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
300695.3 Network Technologies
301005.3 Professional Practice and Communication

Autumn session

301045.3 Advanced Topics in User System Interaction
300260.3 IT Project Management

And two units from Foundation or Specialised unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3 Advanced Topics in User System Interaction
300697.3 Content Management Systems and Web Analytics
300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301038.3 Programming Proficiency
301004.2 Research Preparation in Post Graduate Studies
300977.3 Systems Analysis and Database Management Systems
300696.3 Systems and Network Security
300693.4 Web Technologies

Specialised Units

301178.2 Advanced Health Classifications and Coding
301028.2 Advanced Healthcare Data Environments
301029.2 Advanced Healthcare Software and Systems
301119.2 Advanced Machine Learning
301020.2 Advanced Mobile Robotics
300599.4 Advanced Robotics
301196.2 Advanced Topics in Artificial Intelligence
301236.2 Advanced Topics in Cybersecurity
300694.4 Advanced Topics in ICT
300252.4 Advanced Topics in Networking
301235.2 Applied Cybersecurity
301046.2 Big Data
301042.2 Cloud Computing
301044.2 Data Science
301118.2 Genomic Data Science
301162.2 Information Security Management
301175.2 Internet of Things
301043.3 Mobile Computing
301163.2 Modern Software Architectures

300256.3 Multimedia Communication Systems
300255.3 Network Management
301117.2 Predictive Analytics
301113.2 Programming for Data Science
301116.2 Social Media Intelligence
300770.4 Software Testing and Automation
301114.2 The Nature of Data
301112.2 Visualisation
300443.3 Web Engineering
300389.3 Wireless Networking

The Specialisation units listed below count towards completion of this course for students who passed these units in 2017 or earlier.

300769 - Intelligent Agents for E-Markets

301041 - Service Oriented Architecture

300692 - Workflow Management Systems

Postgraduate Admission Pathway - Graduate Diploma in Information and Communications Technology Pathway C - 1 year

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A3027.1

Applicants must have successfully completed an undergraduate degree in Information and Communication Technologies, Computing or Information Systems or An undergraduate degree in any discipline and a minimum of five years full-time equivalent work experience in Information and Communications Technologies which includes experience in applying skills in: programming, networking; database design and development, systems analysis and design, and project management or An undergraduate degree in any discipline and a Graduate Certificate or Graduate Diploma in ICT.

Specialisation Structure

Students must be enrolled in the Graduate Diploma in Information and Communications Technology to complete this specialisation.

Qualification for this award requires the successful completion of 80 credit points.

Core Units

300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication

And five units from Foundation or Specialised units lists.

Full Time - Start Year Intake

Year 1

Autumn session

300695.3 Network Technologies
300260.3 IT Project Management
301005.3 Professional Practice and Communication

And one unit from Foundation or Specialised units listed below.

Spring session

Four units from Foundation or Specialised units listed below.

Full Time - Mid-Year Intake

Year 1

Spring session

300695.3 Network Technologies
301005.3 Professional Practice and Communication
300260.3 IT Project Management

And one unit from Foundation or Specialised units listed below.

Autumn session

Four units from Foundation or Specialised units listed below.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3 Advanced Topics in User System Interaction
300697.3 Content Management Systems and Web Analytics
300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301038.3 Programming Proficiency
301004.2 Research Preparation in Post Graduate Studies
300977.3 Systems Analysis and Database Management Systems
300696.3 Systems and Network Security
300693.4 Web Technologies

Specialised Units

301178.2 Advanced Health Classifications and Coding
301028.2 Advanced Healthcare Data Environments
301029.2 Advanced Healthcare Software and Systems
301119.2 Advanced Machine Learning
301020.2 Advanced Mobile Robotics
300599.4 Advanced Robotics
301196.2 Advanced Topics in Artificial Intelligence
301236.2 Advanced Topics in Cybersecurity
300694.4 Advanced Topics in ICT
300252.4 Advanced Topics in Networking
301235.2 Applied Cybersecurity
301046.2 Big Data
301042.2 Cloud Computing
301044.2 Data Science
301118.2 Genomic Data Science
301162.2 Information Security Management
301175.2 Internet of Things
301043.3 Mobile Computing
301163.2 Modern Software Architectures
300256.3 Multimedia Communication Systems
300255.3 Network Management
301117.2 Predictive Analytics
301113.2 Programming for Data Science
301116.2 Social Media Intelligence
300770.4 Software Testing and Automation
301114.2 The Nature of Data

301112.2 Visualisation
300443.3 Web Engineering
300389.3 Wireless Networking

The Specialisation units listed below count towards completion of this course for students who passed these units in 2017 or earlier.

300769 - Intelligent Agents for E-Markets

301041 - Service Oriented Architecture

300692 - Workflow Management Systems

Postgraduate Admission Pathway - Graduate Certificate in Information and Communications Technology Pathway A - 1 year

A3028.1

Applicants must have successfully completed an undergraduate degree in any discipline or a Diploma in Information and Communication Technologies, Computing or Information Systems and a minimum of five years full-time equivalent work experience in Information and Communications Technologies which includes experience in applying skills in: programming, networking; database design and development, systems analysis and design, and project management.

Specialisation Structure

Qualification for this award requires the successful completion of 80 credit points.

Students must be enrolled in the Graduate Certificate in Information and Communications Technology to complete this specialisation.

Core Unit

301005.3 Professional Practice and Communication

And students in Pathways A and B must also complete the additional two core units.

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems

And five units from Foundation unit list.

Full Time - Start Year Intake

Year 1

Autumn session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
301005.3 Professional Practice and Communication

And one unit from Foundation unit list.

Spring session

Four units from Foundation unit list.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
301005.3 Professional Practice and Communication

And one unit from Foundation unit list.

Autumn session

Four units from Foundation unit list.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3 Advanced Topics in User System Interaction
300697.3 Content Management Systems and Web Analytics
300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301038.3 Programming Proficiency
301004.2 Research Preparation in Post Graduate Studies
300696.3 Systems and Network Security
300977.3 Systems Analysis and Database Management Systems
300693.4 Web Technologies

Postgraduate Admission Pathway - Graduate Certificate in Information and Communications Technology Pathway B - 0.5 year

A3029.1

Applicants must have successfully completed an Honours or Master degree in any discipline.

Specialisation Structure

Qualification for this award requires the successful completion of 40 credit points.

Students must be enrolled in the Graduate Certificate in Information and Communications Technology to complete this specialisation.

Core Unit

301005.3 Professional Practice and Communication

And students in Pathways A and B must also complete the additional two core units.

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems

One unit from Foundation unit list.

Full Time - Start Year Intake

Year 1

Autumn session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
301005.3	Professional Practice and Communication

And one unit from Foundation unit list.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
301005.3	Professional Practice and Communication

And one unit from Foundation unit list.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3	Advanced Topics in User System Interaction
300697.3	Content Management Systems and Web Analytics
300260.3	IT Project Management
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301038.3	Programming Proficiency
301004.2	Research Preparation in Post Graduate Studies
300696.3	Systems and Network Security
300977.3	Systems Analysis and Database Management Systems
300693.4	Web Technologies

Postgraduate Admission Pathway - Graduate Certificate in Information and Communications Technology Pathway C - 0.5 year

A3030.1

Applicants must have successfully completed an undergraduate degree in Information and Communication Technologies, Computing or Information Systems or An undergraduate degree in any discipline and a minimum of five years full-time equivalent work experience in Information and Communications Technologies which includes experience in applying skills in: programming, networking; database design and development, systems analysis and design, and project management or An undergraduate degree in any discipline and a Graduate Certificate or Graduate Diploma in ICT.

Specialisation Structure

Students must be enrolled in the Graduate Certificate in Information and Communications Technology to complete this specialisation.

Qualification for this award requires the successful completion of 40 credit points.

Core Unit

301005.3	Professional Practice and Communication

And three units from Foundation unit list.

Full Time - Start Year Intake

Year 1

Autumn session

301005.3	Professional Practice and Communication

And three units from Foundation unit list.

Full Time - Mid-Year Intake

Year 1

Spring session

301005.3	Professional Practice and Communication

And three units from Foundation unit list.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3	Advanced Topics in User System Interaction
300697.3	Content Management Systems and Web Analytics
300260.3	IT Project Management
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301038.3	Programming Proficiency
301004.2	Research Preparation in Post Graduate Studies
300696.3	Systems and Network Security
300977.3	Systems Analysis and Database Management Systems
300693.4	Web Technologies

Postgraduate Admission Pathway - Master of Information and Communications Technology (Advanced) Pathway A - 2.5 years

A3037.1

Applicants must have successfully completed an undergraduate degree in any discipline.

Specialisation Structure

Students must be enrolled in the Master of Information and Communications Technology (Advanced) to complete this specialisation.

Qualification for this award requires the successful completion of 200 credit points including the units listed below plus 120 hours (full time or part-time equivalent) of work experience component.

Core Units

300694.4	Advanced Topics in ICT
301046.2	Big Data
300260.3	IT Project Management
300597.5	Master Project 1
300598.6	Master Project 2
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies
300693.4	Web Technologies

And students in Pathways A and B must also complete the additional three core units.

301045.3	Advanced Topics in User System Interaction
301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems

Students must also enrol in the ICT Practicum unit to receive recognition for Work Integrated Learning.

301047.2	ICT Practicum

And four units from Foundation, Specialised or Multi-disciplinary unit lists in addition to those completed for a Specialisation.

All students must also complete one of the listed Specialisations below. Note: Units for the Specialisations are all included in the Foundation, Specialised or Multi-disciplinary unit lists.

ST3064.1	Artificial Intelligence
ST3065.1	Cybersecurity
ST3053.1	Data Analytics
ST3052.1	Digital Futures
ST3054.1	Distributed Computing
ST3055.1	Health Informatics
ST3051.1	Innovation and Entrepreneurship
ST3034.1	Management
ST3049.1	Networking
ST3050.1	Web and Mobile Computing

Full Time - Start Year Intake

Year 1

Autumn session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
300695.3	Network Technologies
301005.3	Professional Practice and Communication

Spring session

301004.2	Research Preparation in Post Graduate Studies
300694.4	Advanced Topics in ICT
300693.4	Web Technologies

And one unit from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Autumn session

301045.3	Advanced Topics in User System Interaction
301046.2	Big Data
300260.3	IT Project Management
300597.5	Master Project 1

Spring session

300598.6	Master Project 2

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Year 3

Autumn session

Four units from Foundation, Specialised or Multi-disciplinary unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
300695.3	Network Technologies
301005.3	Professional Practice and Communication

Autumn session

301004.2	Research Preparation in Post Graduate Studies
301045.3	Advanced Topics in User System Interaction
300694.4	Advanced Topics in ICT
300260.3	IT Project Management

Year 2

Spring session

300693.4	Web Technologies
300597.5	Master Project 1

And two units from Foundation, Specialised or Multi-disciplinary unit lists.

Autumn session

301046.2	Big Data
300598.6	Master Project 2

And two units from Foundation, Specialised or Multi-disciplinary unit lists.

Year 3

Spring session

Four units from Foundation, Specialised or Multi-disciplinary unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3	Advanced Topics in User System Interaction
300697.3	Content Management Systems and Web Analytics
300260.3	IT Project Management
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301038.3	Programming Proficiency
301004.2	Research Preparation in Post Graduate Studies
300696.3	Systems and Network Security
300977.3	Systems Analysis and Database Management Systems
300693.4	Web Technologies

Specialised Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301178.2	Advanced Health Classifications and Coding
301028.2	Advanced Healthcare Data Environments
301029.2	Advanced Healthcare Software and Systems
301119.2	Advanced Machine Learning
301020.2	Advanced Mobile Robotics
300599.4	Advanced Robotics
301196.2	Advanced Topics in Artificial Intelligence
301236.2	Advanced Topics in Cybersecurity
300694.4	Advanced Topics in ICT
300252.4	Advanced Topics in Networking
301235.2	Applied Cybersecurity
301046.2	Big Data
301042.2	Cloud Computing
301044.2	Data Science
301118.2	Genomic Data Science
301162.2	Information Security Management
301175.2	Internet of Things
301043.3	Mobile Computing
301163.2	Modern Software Architectures
300256.3	Multimedia Communication Systems
300255.3	Network Management
301117.2	Predictive Analytics
301113.2	Programming for Data Science
301116.2	Social Media Intelligence
300770.4	Software Testing and Automation
301114.2	The Nature of Data
301112.2	Visualisation
300443.3	Web Engineering
300389.3	Wireless Networking

Multi-disciplinary Units

A maximum of four units are allowed from this list.

200826.1	Contemporary People Management
102424.1	Cyber Justice (PG)
200425.4	Economics
200850.1	Entrepreneurial Management Capabilities
200821.3	Financial Reports for Decision Making
102300.1	Foundations of Media Arts Production (PG)
102412.1	Global Digital Futures
200848.4	Governance, Ethics and Social Entrepreneurship
200852.3	Innovation, Creativity and Foresight
200851.1	Innovation for New Markets
200845.2	Innovation Through Digital Technology
200737.3	Marketing Systems
101423.3	Media Project Proposal
101743.2	Mobile Media
200849.2	New Venture Finance
101962.1	Researching Convergent Media
200971.1	Start-up
200841.2	Strategic Business Management
200825.3	Understanding Contemporary Organisations

Please note

The units listed below count towards completion of the course for students who may have passed units in the list in 2018 or earlier.

200820.2 - The Contemporary Business Environment

Postgraduate Admission Pathway - Master of Information and Communications Technology (Advanced) Pathway B - 2 year program

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A3038.1

Applicants must have successfully completed an Honours or Master degree in any discipline.

Specialisation Structure

Students must be enrolled in the Master of Information and Communications Technology (Advanced) to complete this specialisation.

Qualification for this award requires the successful completion of 160 credit points including the units listed below plus 120 hours (full time or part-time equivalent) of work experience component.

Core Units

300694.4	Advanced Topics in ICT
301046.2	Big Data
300260.3	IT Project Management
300597.5	Master Project 1
300598.6	Master Project 2
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies
300693.4	Web Technologies

And students in Pathways A and B must also complete the additional three core units.

301045.3	Advanced Topics in User System Interaction
301038.3	Programming Proficiency

300977.3 Systems Analysis and Database Management Systems

Students must enrol in the ICT Practicum unit to receive recognition for Work Integrated Learning.

301047.2 ICT Practicum

All students must also complete one of the listed Specialisations below. Note: Units for the Specialisations are all included in the Foundation, Specialised or Multi-disciplinary unit lists.

ST3064.1 Artificial Intelligence
ST3065.1 Cybersecurity
ST3053.1 Data Analytics
ST3052.1 Digital Futures
ST3054.1 Distributed Computing
ST3055.1 Health Informatics
ST3051.1 Innovation and Entrepreneurship
ST3034.1 Management
ST3049.1 Networking
ST3050.1 Web and Mobile Computing

Full Time - Start Year Intake

Year 1

Autumn session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
300695.3 Network Technologies
301005.3 Professional Practice and Communication

Spring session

301004.2 Research Preparation in Post Graduate Studies
300694.4 Advanced Topics in ICT
300693.4 Web Technologies

And one unit from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Autumn session

301045.3 Advanced Topics in User System Interaction
301046.2 Big Data
300260.3 IT Project Management
300597.5 Master Project 1

Spring session

300598.6 Master Project 2

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
300695.3 Network Technologies
301005.3 Professional Practice and Communication

Autumn session

301004.2 Research Preparation in Post Graduate Studies
301045.3 Advanced Topics in User System Interaction
300694.4 Advanced Topics in ICT
300260.3 IT Project Management

Year 2

Spring session

300693.4 Web Technologies
300597.5 Master Project 1

And two units from Foundation, Specialised or Multi-disciplinary unit lists.

Autumn session

301046.2 Big Data
300598.6 Master Project 2

And two units from Foundation, Specialised or Multi-disciplinary unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3 Advanced Topics in User System Interaction
300697.3 Content Management Systems and Web Analytics
300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301038.3 Programming Proficiency
301004.2 Research Preparation in Post Graduate Studies
300696.3 Systems and Network Security
300977.3 Systems Analysis and Database Management Systems
300693.4 Web Technologies

Specialised Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301178.2 Advanced Health Classifications and Coding
301028.2 Advanced Healthcare Data Environments
301029.2 Advanced Healthcare Software and Systems
301119.2 Advanced Machine Learning
301020.2 Advanced Mobile Robotics
300599.4 Advanced Robotics
301196.2 Advanced Topics in Artificial Intelligence
301236.2 Advanced Topics in Cybersecurity
300694.4 Advanced Topics in ICT
300252.4 Advanced Topics in Networking
301235.2 Applied Cybersecurity
301046.2 Big Data

301042.2	Cloud Computing
301044.2	Data Science
301118.2	Genomic Data Science
301162.2	Information Security Management
301175.2	Internet of Things
301043.3	Mobile Computing
301163.2	Modern Software Architectures
300256.3	Multimedia Communication Systems
300255.3	Network Management
301117.2	Predictive Analytics
301113.2	Programming for Data Science
301116.2	Social Media Intelligence
300770.4	Software Testing and Automation
301114.2	The Nature of Data
301112.2	Visualisation
300443.3	Web Engineering
300389.3	Wireless Networking

Multi-disciplinary Units

A maximum of four units are allowed from this list.

200826.1	Contemporary People Management
102424.1	Cyber Justice (PG)
200425.4	Economics
200850.1	Entrepreneurial Management Capabilities
200821.3	Financial Reports for Decision Making
102300.1	Foundations of Media Arts Production (PG)
102412.1	Global Digital Futures
200848.4	Governance, Ethics and Social Entrepreneurship
200852.3	Innovation, Creativity and Foresight
200851.1	Innovation for New Markets
200845.2	Innovation Through Digital Technology
200737.3	Marketing Systems
101423.3	Media Project Proposal
101743.2	Mobile Media
200849.2	New Venture Finance
101962.1	Researching Convergent Media
200971.1	Start-up
200841.2	Strategic Business Management
200825.3	Understanding Contemporary Organisations

Please note

The units listed below count towards completion of the course for students who may have passed units in the list in 2018 or earlier.

200820.2 - The Contemporary Business Environment

Postgraduate Admission Pathway - Master of Information and Communications Technology (Advanced) Pathway C - 2 years

A3039.1

Applicants must have successfully completed an Australian Computer Society accredited (or equivalent) undergraduate degree in Information and Communication Technologies, Computing or Information Systems OR An undergraduate degree in any discipline and a Graduate Certificate or Graduate Diploma in ICT.

Specialisation Structure

Students must be enrolled in the Master of Information and Communications Technology (Advanced) to complete this specialisation.

Qualification for this award requires the successful completion of 160 credit points including the units listed below plus 120 hours (full time or part-time equivalent) of work experience component.

Core Units

300694.4	Advanced Topics in ICT
301046.2	Big Data
300260.3	IT Project Management
300597.5	Master Project 1
300598.6	Master Project 2
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies
300693.4	Web Technologies

Students must enrol in the ICT Practicum unit to receive recognition for Work Integrated Learning.

301047.2	ICT Practicum

And two units from Foundation or Specialised unit lists in addition to those completed for a Specialisation.

And one unit from Foundation, Specialised or Multi-disciplinary unit lists in addition to those completed for a Specialisation.

All students must also complete one of the listed Specialisations below. Note: Units for the Specialisations are all included in the Foundation, Specialised or Multi-disciplinary unit lists.

ST3064.1	Artificial Intelligence
ST3065.1	Cybersecurity
ST3053.1	Data Analytics
ST3052.1	Digital Futures
ST3054.1	Distributed Computing
ST3055.1	Health Informatics
ST3051.1	Innovation and Entrepreneurship
ST3034.1	Management
ST3049.1	Networking
ST3050.1	Web and Mobile Computing

Full Time - Start Year Intake

Year 1

Autumn session

300695.3	Network Technologies
300260.3	IT Project Management
301005.3	Professional Practice and Communication

And one unit from Foundation units or Specialised unit lists.

Spring session

301004.2	Research Preparation in Post Graduate Studies
300694.4	Advanced Topics in ICT
300693.4	Web Technologies

And one unit from Foundation or Specialised unit lists.

Year 2

Autumn session

301046.2 Big Data
300597.5 Master Project 1

And two units from Foundation, Specialised or Multi-disciplinary unit lists.

Spring session

300598.6 Master Project 2

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

300693.4 Web Technologies
301005.3 Professional Practice and Communication
300695.3 Network Technologies

And one unit from Foundation or Specialised unit lists.

Autumn session

301004.2 Research Preparation in Post Graduate Studies
300694.4 Advanced Topics in ICT
300260.3 IT Project Management

And one unit from Foundation or Specialised unit lists.

Year 2

Spring session

301046.2 Big Data
300597.5 Master Project 1

And two units from Foundation, Specialised or Multi-disciplinary unit lists.

Autumn session

300598.6 Master Project 2

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3 Advanced Topics in User System Interaction
300697.3 Content Management Systems and Web Analytics
300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301038.3 Programming Proficiency
301004.2 Research Preparation in Post Graduate Studies
300696.3 Systems and Network Security
300977.3 Systems Analysis and Database Management Systems
300693.4 Web Technologies

Specialised Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301178.2 Advanced Health Classifications and Coding
301028.2 Advanced Healthcare Data Environments
301029.2 Advanced Healthcare Software and Systems
301119.2 Advanced Machine Learning
301020.2 Advanced Mobile Robotics
300599.4 Advanced Robotics
301196.2 Advanced Topics in Artificial Intelligence
301236.2 Advanced Topics in Cybersecurity
300694.4 Advanced Topics in ICT
300252.4 Advanced Topics in Networking
301235.2 Applied Cybersecurity
301046.2 Big Data
301042.2 Cloud Computing
301044.2 Data Science
301118.2 Genomic Data Science
301162.2 Information Security Management
301175.2 Internet of Things
301043.3 Mobile Computing
301163.2 Modern Software Architectures
300256.3 Multimedia Communication Systems
300255.3 Network Management
301117.2 Predictive Analytics
301113.2 Programming for Data Science
301116.2 Social Media Intelligence
300770.4 Software Testing and Automation
301114.2 The Nature of Data
301112.2 Visualisation
300443.3 Web Engineering
300389.3 Wireless Networking

Multi-disciplinary Units

A maximum of four units are allowed from this list.

200826.1 Contemporary People Management
102424.1 Cyber Justice (PG)
200425.4 Economics
200850.1 Entrepreneurial Management Capabilities
200821.3 Financial Reports for Decision Making
102300.1 Foundations of Media Arts Production (PG)
102412.1 Global Digital Futures
200848.4 Governance, Ethics and Social Entrepreneurship
200852.3 Innovation, Creativity and Foresight
200851.1 Innovation for New Markets
200845.2 Innovation Through Digital Technology
200737.3 Marketing Systems
101423.3 Media Project Proposal
101743.2 Mobile Media
200849.2 New Venture Finance
101962.1 Researching Convergent Media
200971.1 Start-up
200841.2 Strategic Business Management
200825.3 Understanding Contemporary Organisations

Please note

The units listed below count towards completion of the course for students who may have passed units in the list in 2018 or earlier.

200820.2 - The Contemporary Business Environment

Postgraduate Admission Pathway - Master of Information and Communications Technology Pathway A - 2 years

A3040.1

Applicants must have successfully completed an undergraduate degree in any discipline.

Specialisation Structure

Students must be enrolled in the Master of Information and Communications Technology to complete this specialisation.

Qualification for this award requires the successful completion of 160 credit points including the units listed below plus 120 hours (full time or part-time equivalent) of work experience component.

Core Units

300260.3	IT Project Management
300597.5	Master Project 1
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies

And students in Pathways A and B must also complete the additional three core units.

301045.3	Advanced Topics in User System Interaction
301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems

Students must enrol in the ICT Practicum unit to receive recognition for Work Integrated Learning.

301047.2	ICT Practicum

And four units from Foundation, Specialised or Multi-disciplinary unit lists in addition to those completed for a Specialisation.

All students must also complete one of the listed Specialisations below. Note: Units for the Specialisations are all included in the Foundation, Specialised or Multi-disciplinary unit lists.

Parramatta Campus

ST3064.1	Artificial Intelligence
ST3065.1	Cybersecurity
ST3053.1	Data Analytics
ST3052.1	Digital Futures
ST3054.1	Distributed Computing
ST3055.1	Health Informatics
ST3051.1	Innovation and Entrepreneurship
ST3034.1	Management
ST3049.1	Networking
ST3050.1	Web and Mobile Computing

Sydney City Campus

ST3049.1	Networking
ST3050.1	Web and Mobile Computing

Full Time - Start Year Intake

Year 1

Autumn session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
300695.3	Network Technologies
301005.3	Professional Practice and Communication

Spring session

301004.2	Research Preparation in Post Graduate Studies

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Autumn session

301045.3	Advanced Topics in User System Interaction
300260.3	IT Project Management
300597.5	Master Project 1

And one unit from Foundation, Specialised or Multi-disciplinary unit lists.

Spring session

And four units from Foundation, Specialised or Multi-disciplinary unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems
300695.3	Network Technologies
301005.3	Professional Practice and Communication

Autumn session

301004.2	Research Preparation in Post Graduate Studies
301045.3	Advanced Topics in User System Interaction
300260.3	IT Project Management

And one unit from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Spring session

300597.5	Master Project 1

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Autumn session

And four units from Foundation, Specialised or Multi-disciplinary unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3	Advanced Topics in User System Interaction
300697.3	Content Management Systems and Web Analytics
300260.3	IT Project Management
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301038.3	Programming Proficiency
301004.2	Research Preparation in Post Graduate Studies
300696.3	Systems and Network Security
300977.3	Systems Analysis and Database Management Systems
300693.4	Web Technologies

Specialised Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301178.2	Advanced Health Classifications and Coding
301028.2	Advanced Healthcare Data Environments
301029.2	Advanced Healthcare Software and Systems
301119.2	Advanced Machine Learning
301020.2	Advanced Mobile Robotics
300599.4	Advanced Robotics
301196.2	Advanced Topics in Artificial Intelligence
301236.2	Advanced Topics in Cybersecurity
300694.4	Advanced Topics in ICT
300252.4	Advanced Topics in Networking
301235.2	Applied Cybersecurity
301046.2	Big Data
301042.2	Cloud Computing
301044.2	Data Science
301118.2	Genomic Data Science
301162.2	Information Security Management
301175.2	Internet of Things
301043.3	Mobile Computing
301163.2	Modern Software Architectures
300256.3	Multimedia Communication Systems
300255.3	Network Management
301117.2	Predictive Analytics
301113.2	Programming for Data Science
301116.2	Social Media Intelligence
300770.4	Software Testing and Automation
301114.2	The Nature of Data
301112.2	Visualisation
300443.3	Web Engineering
300389.3	Wireless Networking

Multi-disciplinary Units

A maximum of four units are allowed from this list.

200826.1	Contemporary People Management
102424.1	Cyber Justice (PG)
200425.4	Economics
200850.1	Entrepreneurial Management Capabilities
200821.3	Financial Reports for Decision Making
102300.1	Foundations of Media Arts Production (PG)
102412.1	Global Digital Futures
200848.4	Governance, Ethics and Social Entrepreneurship
200852.3	Innovation, Creativity and Foresight
200851.1	Innovation for New Markets
200845.2	Innovation Through Digital Technology
200737.3	Marketing Systems
101423.3	Media Project Proposal
101743.2	Mobile Media
200849.2	New Venture Finance
101962.1	Researching Convergent Media
200971.1	Start-up
200841.2	Strategic Business Management
200825.3	Understanding Contemporary Organisations

Please note

The units listed below count towards completion of the course for students who may have passed units in the list in 2018 or earlier.

200820.2 - The Contemporary Business Environment

Postgraduate Admission Pathway - Master of Information and Communications Technology Pathway B - 1.5 years

A3041.1

Applicants must have successfully completed an Honours or Master degree in any discipline.

Specialisation Structure

Students must be enrolled in the Master of Information and Communications Technology to complete this specialisation.

Qualification for this award requires the successful completion of 120 credit points including the units listed below plus 120 hours (full time or part-time equivalent) of work experience component.

Core Units

300260.3	IT Project Management
300597.5	Master Project 1
300695.3	Network Technologies
301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies

And students in Pathways A and B must also complete the additional three core units.

301045.3	Advanced Topics in User System Interaction
301038.3	Programming Proficiency
300977.3	Systems Analysis and Database Management Systems

Students must enrol in the ICT Practicum unit to receive recognition for Work Integrated Learning.

301047.2 ICT Practicum

All students must also complete one of the listed Specialisations below. Note: Units for the Specialisations are all included in the Foundation, Specialised or Multi-disciplinary unit lists.

Parramatta Campus

ST3064.1 Artificial Intelligence
ST3065.1 Cybersecurity
ST3053.1 Data Analytics
ST3052.1 Digital Futures
ST3054.1 Distributed Computing
ST3055.1 Health Informatics
ST3051.1 Innovation and Entrepreneurship
ST3034.1 Management
ST3049.1 Networking
ST3050.1 Web and Mobile Computing

Sydney City Campus

ST3049.1 Networking
ST3050.1 Web and Mobile Computing

Full Time - Start Year Intake

Year 1

Autumn session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
300695.3 Network Technologies
301005.3 Professional Practice and Communication

Spring session

301004.2 Research Preparation in Post Graduate Studies

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Autumn session

301045.3 Advanced Topics in User System Interaction
300260.3 IT Project Management
300597.5 Master Project 1

And one unit from Foundation, Specialised or Multi-disciplinary unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

301038.3 Programming Proficiency
300977.3 Systems Analysis and Database Management Systems
300695.3 Network Technologies
301005.3 Professional Practice and Communication

Autumn session

301004.2 Research Preparation in Post Graduate Studies
301045.3 Advanced Topics in User System Interaction
300260.3 IT Project Management

And one unit from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Spring session

300597.5 Master Project 1

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3 Advanced Topics in User System Interaction
300697.3 Content Management Systems and Web Analytics
300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301038.3 Programming Proficiency
301004.2 Research Preparation in Post Graduate Studies
300696.3 Systems and Network Security
300977.3 Systems Analysis and Database Management Systems
300693.4 Web Technologies

Specialised Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301178.2 Advanced Health Classifications and Coding
301028.2 Advanced Healthcare Data Environments
301029.2 Advanced Healthcare Software and Systems
301119.2 Advanced Machine Learning
301020.2 Advanced Mobile Robotics
300599.4 Advanced Robotics
301196.2 Advanced Topics in Artificial Intelligence
301236.2 Advanced Topics in Cybersecurity
300694.4 Advanced Topics in ICT
300252.4 Advanced Topics in Networking
301235.2 Applied Cybersecurity
301046.2 Big Data
301042.2 Cloud Computing
301044.2 Data Science
301118.2 Genomic Data Science
301162.2 Information Security Management
301175.2 Internet of Things
301043.3 Mobile Computing
301163.2 Modern Software Architectures
300256.3 Multimedia Communication Systems
300255.3 Network Management
301117.2 Predictive Analytics
301113.2 Programming for Data Science
301116.2 Social Media Intelligence

300770.4 Software Testing and Automation
301114.2 The Nature of Data
301112.2 Visualisation
300443.3 Web Engineering
300389.3 Wireless Networking

Multi-disciplinary Units

A maximum of four units are allowed from this list.

200826.1 Contemporary People Management
102424.1 Cyber Justice (PG)
200425.4 Economics
200850.1 Entrepreneurial Management Capabilities
200821.3 Financial Reports for Decision Making
102300.1 Foundations of Media Arts Production (PG)
102412.1 Global Digital Futures
200848.4 Governance, Ethics and Social Entrepreneurship
200852.3 Innovation, Creativity and Foresight
200851.1 Innovation for New Markets
200845.2 Innovation Through Digital Technology
200737.3 Marketing Systems
101423.3 Media Project Proposal
101743.2 Mobile Media
200849.2 New Venture Finance
101962.1 Researching Convergent Media
200971.1 Start-up
200841.2 Strategic Business Management
200825.3 Understanding Contemporary Organisations

Please note

The units listed below count towards completion of the course for students who may have passed units in the list in 2018 or earlier.

200820.2 - The Contemporary Business Environment

Postgraduate Admission Pathway - Master of Information and Communications Technology Pathway C - 1.5 years

A3042.1

Applicants must have successfully completed an Australian Computer Society accredited (or equivalent) undergraduate degree in Information and Communication Technologies, Computing or Information Systems or An undergraduate degree in any discipline and a Graduate Certificate or Graduate Diploma in ICT.

Specialisation Structure

Students must be enrolled in the Master of Information and Communications Technology to complete this specialisation.

Qualification for this award requires the successful completion of 120 credit points including the units listed below plus 120 hours (full time or part-time equivalent) of work experience component.

Core Units

300260.3 IT Project Management
300597.5 Master Project 1
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301004.2 Research Preparation in Post Graduate Studies

Students must enrol in the ICT Practicum unit to receive recognition for Work Integrated Learning.

301047.2 ICT Practicum

And one unit from Foundation or Specialised unit lists in addition to those completed for a Specialisation.

And two units from Foundation, Specialised or Multi-disciplinary unit lists in addition to those completed for a Specialisation.

All students must also complete one of the listed Specialisations below. Note: Units for the Specialisations are all included in the Foundation, Specialised or Multi-disciplinary unit lists.

Parramatta Campus

ST3064.1 Artificial Intelligence
ST3065.1 Cybersecurity
ST3053.1 Data Analytics
ST3052.1 Digital Futures
ST3054.1 Distributed Computing
ST3055.1 Health Informatics
ST3051.1 Innovation and Entrepreneurship
ST3034.1 Management
ST3049.1 Networking
ST3050.1 Web and Mobile Computing

Sydney City Campus

ST3049.1 Networking
ST3050.1 Web and Mobile Computing

Full Time - Start Year Intake

Year 1

Autumn session

300695.3 Network Technologies
300260.3 IT Project Management
301005.3 Professional Practice and Communication

And one unit from Foundation or Specialised unit lists.

Spring session

301004.2 Research Preparation in Post Graduate Studies

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Autumn session

300597.5 Master Project 1

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Full Time - Mid-Year Intake

Year 1

Spring session

300695.3 Network Technologies
301005.3 Professional Practice and Communication

And two units from Foundation or Specialised unit lists.

Autumn session

301004.2 Research Preparation in Post Graduate Studies
300260.3 IT Project Management

And two units from Foundation, Specialised or Multi-disciplinary unit lists.

Year 2

Spring session

300597.5 Master Project 1

And three units from Foundation, Specialised or Multi-disciplinary unit lists.

Foundation Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301045.3 Advanced Topics in User System Interaction
300697.3 Content Management Systems and Web Analytics
300260.3 IT Project Management
300695.3 Network Technologies
301005.3 Professional Practice and Communication
301038.3 Programming Proficiency
301004.2 Research Preparation in Post Graduate Studies
300696.3 Systems and Network Security
300977.3 Systems Analysis and Database Management Systems
300693.4 Web Technologies

Specialised Units

Note: Units in this list may be included in the course structure as Core Units and cannot be selected as one of the list units.

301178.2 Advanced Health Classifications and Coding
301028.2 Advanced Healthcare Data Environments
301029.2 Advanced Healthcare Software and Systems
301119.2 Advanced Machine Learning
301020.2 Advanced Mobile Robotics
300599.4 Advanced Robotics
301196.2 Advanced Topics in Artificial Intelligence
301236.2 Advanced Topics in Cybersecurity
300694.4 Advanced Topics in ICT
300252.4 Advanced Topics in Networking
301235.2 Applied Cybersecurity
301046.2 Big Data
301042.2 Cloud Computing
301044.2 Data Science
301118.2 Genomic Data Science
301162.2 Information Security Management
301175.2 Internet of Things
301043.3 Mobile Computing
301163.2 Modern Software Architectures
300256.3 Multimedia Communication Systems
300255.3 Network Management
301117.2 Predictive Analytics
301113.2 Programming for Data Science
301116.2 Social Media Intelligence
300770.4 Software Testing and Automation
301114.2 The Nature of Data
301112.2 Visualisation
300443.3 Web Engineering
300389.3 Wireless Networking

Multi-disciplinary Units

A maximum of four units are allowed from this list.

200826.1 Contemporary People Management
102424.1 Cyber Justice (PG)
200425.4 Economics
200850.1 Entrepreneurial Management Capabilities
200821.3 Financial Reports for Decision Making
102300.1 Foundations of Media Arts Production (PG)
102412.1 Global Digital Futures
200848.4 Governance, Ethics and Social Entrepreneurship
200852.3 Innovation, Creativity and Foresight
200851.1 Innovation for New Markets
200845.2 Innovation Through Digital Technology
200737.3 Marketing Systems
101423.3 Media Project Proposal
101743.2 Mobile Media
200849.2 New Venture Finance
101962.1 Researching Convergent Media
200971.1 Start-up
200841.2 Strategic Business Management
200825.3 Understanding Contemporary Organisations

Please note

The units listed below count towards completion of the course for students who may have passed units in the list in 2018 or earlier.

200820.2 - The Contemporary Business Environment

Postgraduate Specialisation - Management

ST3034.1

Management specialisation, in Master of Information and Communication Technology and Master of Information and Communication Technology - Advanced courses, brings the key areas of contemporary management practices into the ICT discipline. The aim of the specialisation is to prepare students to move from technical positions such as programmer, network administrators and business analyst into a supervisory, senior management, executive or CIO role within the IT industry. In this specialisation emphasis will be placed in topics such as strategic management, understanding contemporary business environment, financial reporting, economics, and people and organisation management.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Students must complete

200821.3 Financial Reports for Decision Making
200825.3 Understanding Contemporary Organisations
200820.2 The Contemporary Business Environment

From Autumn 2019, 200820 The Contemporary Business Environment will be replaced by 200737 Marketing Systems. Students are advised to select 200737.

200737.3 Marketing Systems

And one unit from the following

200826.1 Contemporary People Management
200425.4 Economics
200848.4 Governance, Ethics and Social Entrepreneurship
200841.2 Strategic Business Management

Postgraduate Specialisation - Networking

ST3049.1

The Networking specialisation is aimed at providing students with knowledge in emerging areas of networking. It focuses on essential fundamentals as well as advanced knowledge on the principles, practices, protocols and standards in some key areas of the networking discipline. This specialisation prepares students for careers in network security and management, multimedia and wireless communications, and other contemporary and emerging networking areas. The specialisation is also designed to introduce students to trends and key research areas in some emerging fields in networking so as to provide students with initial skills and knowledge for future research studies or careers.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal
Sydney City Campus	Internal

Specialisation Structure

Students must complete four units from the following

300252.4 Advanced Topics in Networking
301175.2 Internet of Things
300256.3 Multimedia Communication Systems
300696.3 Systems and Network Security
300389.3 Wireless Networking

Postgraduate Specialisation - Web and Mobile Computing

ST3050.1

The widespread deployment of web and mobile devices has made them a target of choice for companies to carry out their everyday business. The contemporary developers are expected to understand the strengths and limitations of web and mobile technologies and fit these to create successful user-friendly web and/or mobile applications. This specialisation is aimed at developing knowledge and skills in theoretical concepts and practical technologies needed to design and develop complex software applications across a range of web and mobile platforms. Students with these knowledge and skills will have greater prospects of finding employment with reputable companies or building their career as self-employed developers.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal
Sydney City Campus	Internal

Specialisation Structure

Students must complete four of the following units

301045.3 Advanced Topics in User System Interaction
301043.3 Mobile Computing
301163.2 Modern Software Architectures
300770.4 Software Testing and Automation
300443.3 Web Engineering

Postgraduate Specialisation - Innovation and Entrepreneurship

ST3051.1

Entrepreneurship, innovation and new markets are pertinent activities that have collectively become cornerstones of how firms grow and interact with society. This specialisation is aimed at developing knowledge and skills in the processes to create new economic and social value, seeking funding for new ventures, application of digital technologies in emerging businesses and developing start-ups and rejuvenating existing businesses.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Students must complete the following two units

200852.3 Innovation, Creativity and Foresight
200849.2 New Venture Finance

And two units or 20 credit points from the following

200850.1	Entrepreneurial Management Capabilities
200851.1	Innovation for New Markets
200845.2	Innovation Through Digital Technology
200971.1	Start-up

Postgraduate Specialisation - Digital Futures

ST3052.1

Digital technology is influencing practically every aspect of today's knowledge economy and is driving advances in all sectors of society. Many jobs require broad competencies and understandings of the powerful role of technology in society. There is also an increasing demand for practical computing and software skills including for research and analysis of data. This specialisation will allow students to develop practical as well as theoretical skills in this field.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Students must complete the following two units

102412.1	Global Digital Futures
101743.2	Mobile Media

And two units or 20cp from the following

102424.1	Cyber Justice (PG)
102300.1	Foundations of Media Arts Production (PG)
101423.3	Media Project Proposal
101962.1	Researching Convergent Media

Postgraduate Specialisation - Data Analytics

ST3053.1

Extracting information from data has become a science in itself, blending skill sets from mathematics, statistics and computing. With a strong applications focus, this specialisation covers the nature of data, how to embark on data driven investigations and visual and computational analytics. Graduates will have the knowledge and skills required to operate effectively in a data driven world.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Multi Modal

Specialisation Structure

Students must complete the following three units

301044.2	Data Science
301117.2	Predictive Analytics
301114.2	The Nature of Data

And one unit from the following

301113.2	Programming for Data Science
301116.2	Social Media Intelligence
301112.2	Visualisation

Postgraduate Specialisation - Distributed Computing

ST3054.1

The Distributed Computing Specialisation provides the students with in-depth knowledge for the analysis, design, and evaluation of distributed systems. It offers the students the opportunity to develop the research and technical skills needed for development and management of a broad range of large-scale systems including distributed systems, Cloud computing and Big Data applications.

Specialisation Structure

Students must complete the following four units

301042.2	Cloud Computing
301046.2	Big Data
301163.2	Modern Software Architectures
300696.3	Systems and Network Security

Postgraduate Specialisation - Health Informatics

ST3055.1

The widespread adoption of ICT solutions within the health sector and related developments such as electronic health records and health systems interoperability have created a need for ICT professionals who understand their context and are well equipped to operate within it. This specialisation is aimed at developing knowledge and skills in theoretical concepts and practical technologies needed to design and develop complex software applications across a range of eHealth settings. Students with these knowledge and skills will have greater prospects of finding employment with major healthcare providers or building their career as self-employed developers.

Specialisation Structure

Students must complete the following three units

301178.2	Advanced Health Classifications and Coding
301028.2	Advanced Healthcare Data Environments
301029.2	Advanced Healthcare Software and Systems

And one unit from the following:

301118.2	Genomic Data Science
301163.2	Modern Software Architectures
301112.2	Visualisation

Postgraduate Specialisation - Space Science

ST3063.1

Space Science is a fast-growing area in science with a broad range of applications. The Space Science specialisation aims to equip graduates with advanced knowledge and skills in the disciplines of Space Science, Computing and Data Science. This specialisation covers fundamental Space Science, statistical analysis, machine learning, deep learning, Data Science, ICT, Space Law, Astrophysics, as well as various Space Science applications. Students will also learn the basic theories and algorithms that are essential in the design and development of Space Science.

Specialisation Structure

Students must complete 40 credit points as follows:

301247.1	A Cosmic Perspective
200963.2	International Space Law - Commercial Aspects
301248.1	Space Instrumentation, Technology and Communication
301249.1	Space Science, Planetary Science and Meteorology

Postgraduate Specialisation - Artificial Intelligence

ST3064.1

Artificial Intelligence (AI) is a fast growing area in computer science with a broad range of applications. The Artificial Intelligence specialisation aims to develop graduates with advanced knowledge and skills in the discipline of artificial intelligence and machine learning. This specialisation covers fundamental statistical analysis, machine learning, deep learning as well as AI applications. Students will also learn the basic theories and algorithms that are essential in the design and development of intelligent systems.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Students must complete 40 credit points as follows

301119.2	Advanced Machine Learning
301196.2	Advanced Topics in Artificial Intelligence
301117.2	Predictive Analytics
301114.2	The Nature of Data

Postgraduate Specialisation - Cybersecurity

ST3065.1

Cybersecurity is a fundamental aspect of information and communication systems and protecting these systems from various attacks and threats is becoming one of the major technology challenges for public and private sectors. The Cybersecurity specialisation aims to develop graduates with advanced knowledge and skills in the discipline of information and communication security. This specialisation covers fundamental knowledge in system and network security, security protocols and their applications in computer systems and networked systems such as cloud computing. Students will also learn other related topics such as artificial intelligence and visualisation and their application in cybersecurity development.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Students must complete 40 credit points as follows

Complete the following three units

301236.2	Advanced Topics in Cybersecurity
301235.2	Applied Cybersecurity
300696.3	Systems and Network Security

Choose one of

301042.2	Cloud Computing
301196.2	Advanced Topics in Artificial Intelligence
301162.2	Information Security Management
301112.2	Visualisation

SCHOOL OF ENGINEERING

Master of Engineering

3693.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is 2020 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

The Master of Engineering has been designed to meet Engineers Australia professional accreditation requirements. It enables professionals in Engineering and recent graduates to adapt to a dynamically developing and changing technological environment through the upgrading of their skills and knowledge. The course provides students with training opportunities to foster a culture of life-long learning. Graduates of the course will have a firm foundation to further build their skills as their specialised professional field evolves. Advanced standing may be granted for relevant prior studies.

Study Mode

Two years full-time or four years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Full Time	Internal
Parramatta City Campus-Macquarie Street	Part Time	Internal

Accreditation

This Master of Engineering has Full Accreditation at the level of Professional Engineer at Parramatta City Campus in Civil, Environmental, Mechanical, Mechatronic, Electrical, and Telecommunications. Graduates of this program in these six areas are eligible to apply for full membership of Engineers Australia. They are eligible to apply for Chartered Professional Engineering registration upon successful completion of required engineering practice period specified by Engineers Australia. In 2020, professional accreditation from Engineers Australia for Master of Engineering (Biomedical) will be sought.

Inherent requirements

There are inherent requirements for this course that you must meet in order to complete your course and graduate. Make sure you read and understand the requirements for this course online.

Admission

Applicants must have successfully completed a recognised four year undergraduate degree, or higher, in engineering in one of the specialisations, e.g. Civil, Biomedical, Environmental, Mechatronic, Mechanical, Electrical, Telecommunication.

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.

Additional Information

Advanced standing may be granted for relevant prior studies for students who have successfully completed an Engineers Australia accredited 4-year Bachelor of Engineering program.

Students who have successfully completed a recognised three year undergraduate degree in Science or four year Bachelor of Engineering in a different specialisation or equivalent qualifications must undertake and complete specified non-award undergraduate engineering units with approval of the Director of Academic Program before articulation to the Master of Engineering.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 160 credit points including the units listed below.

Students must complete six core units, seven specialised alternates from chosen area of specialisation and three 10 credit point electives at Level 7.

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Core Units

300597.5	Master Project 1
300598.6	Master Project 2
301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies
301002.2	Specialised Software Applications
301003.2	Sustainable Systems

Specialisations

All students must enrol in a Specialisation before enrolling in their units

Students enrolled in 3693 Master of Engineering choose seven specialist units

ST3068.1	Civil
ST3069.1	Electrical
ST3070.1	Environmental
ST3071.1	Mechanical
ST3072.1	Mechatronic
ST3073.1	Telecommunication
ST3074.1	Biomedical

Recommended Sequence

Year 1

First session

301005.3	Professional Practice and Communication
301003.2	Sustainable Systems

Specialised Alternate 1

Specialised Alternate 2

Second session

301004.2	Research Preparation in Post Graduate Studies
301002.2	Specialised Software Applications

Specialised Alternate 3

Specialised Alternate 4

Year 2

Third session

300597.5	Master Project 1

Elective 1

Specialised Alternate 5

Specialised Alternate 6 or Elective 2

Fourth session

300598.6	Master Project 2

Specialised Alternate 6 or Elective 2

Specialised Alternate 7

Elective 3

Note: Specialist alternate offering is subject to sufficient student demand and may not be offered annually.

Students must also complete (as a condition for Engineers Australia (EA) accreditation) a 12-week industrial experience training program

301027.2	Industrial Experience (PG)

Graduate Diploma in Engineering (exit only)

3694.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is 2020 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

This is an exit award only. Students may choose to exit the Master of Engineering after completing 120 Credit Points with the degree of Graduate Diploma in Engineering.

The Graduate Diploma in Engineering provides an opportunity for professionals in Engineering and recent graduates to adapt to a dynamically developing and changing technological environment through the upgrading of their skills and knowledge. The course provides students with opportunities to foster a culture of life-long learning. Graduates of the course will have a foundation to maintain their skills as their specialised professional field evolves.

Study Mode

One and a half years full time or three years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Full Time	Internal
Parramatta City Campus-Macquarie Street	Part Time	Internal

Admission

Graduate Diploma in Engineering will not be offered to commencing students. It will be made available only as an exit point for Master of Engineering students.

Course Structure

The Graduate Diploma is a 120 credit point degree and is an exit award only from the Master of Engineering.

Students may exit with the Graduate Diploma on completion of five core units, five specialised alternates from chosen area of specialisation and two 10 credit point electives.

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Core Units

301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies
301002.2	Specialised Software Applications
301003.2	Sustainable Systems
300597.5	Master Project 1

Specialisations

All students must enrol in a Specialisation before enrolling in their units

Students exiting with 3694 Graduate Diploma in Engineering (Exit only), choose five specialised alternate units

ST3068.1	Civil
ST3069.1	Electrical
ST3070.1	Environmental
ST3071.1	Mechanical
ST3072.1	Mechatronic
ST3073.1	Telecommunication
ST3074.1	Biomedical

Graduate Certificate in Engineering

3695.2

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is 2020 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course.

The Graduate Certificate in Engineering enhances the specialist training of students at a postgraduate level and enables them to adapt to a dynamically developing and changing technological environment. The course also prepares students, especially those coming from a non-Australian learning background, for higher level postgraduate training.

Study Mode

One year full time or two years part-time.

Location

Campus	Attendance	Mode
Parramatta City Campus-Macquarie Street	Full Time	Internal
Parramatta City Campus-Macquarie Street	Part Time	Internal

Admission

Applicants must have successfully completed an Engineers Australia accredited three year undergraduate degree in Engineering Science or a recognised four year undergraduate degree in Engineering in one of the following specialisations: Civil, Biomedical, Environmental, Mechatronic, Mechanical, Electrical, Telecommunication.

Additional Information

Advanced standing may be granted for relevant prior studies for students who have successfully completed an Engineers Australia accredited four year Bachelor of Engineering program.

Those who have successfully completed a recognised three year undergraduate degree in Science or four year Bachelor of Engineering in another specialisation or equivalent qualifications must undertake and complete specified non-award undergraduate engineering units with approval of the Director of Academic Program before articulation to the Graduate Certificate in Engineering.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to Western Sydney University via the International Office.

International students applying to The University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Course Structure

Qualification for this award requires the successful completion of 80 credit points including the units listed below.

Students must complete three core units and five specialised alternates from chosen area of specialisation.

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Core Units

301005.3	Professional Practice and Communication
301004.2	Research Preparation in Post Graduate Studies
301003.2	Sustainable Systems

Specialisations

All students must enrol in a Specialisation before enrolling in their units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

ST3068.1	Civil
ST3069.1	Electrical
ST3070.1	Environmental
ST3071.1	Mechanical
ST3072.1	Mechatronic
ST3073.1	Telecommunication
ST3074.1	Biomedical

Specialisations

Postgraduate Specialisation - Civil

ST3068.1

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal
Parramatta City Campus-Macquarie Street	Multi Modal

Specialisation Structure

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Civil Specialised Alternate units

Specialist alternate unit offerings are subject to sufficient student demand and may not be offered annually.

Students enrolled in 3693 Master of Engineering choose seven specialist units from the list below

Students exiting with 3694 Graduate Diploma in Engineering (Exit only) choose five specialised alternate units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

301010.2	Advanced Applied Mechanics
301008.2	Advanced Composite Structures
300604.4	Advanced Geotechnical Engineering
301011.2	Advanced Highway Infrastructure
301014.2	Advanced Hydrogeology
301013.2	Advanced Statistical Hydrology
301024.2	Advanced Numerical Methods in Engineering
300594.5	Advanced Structural Analysis
301009.2	Advanced Timber Structures
301017.2	Advanced Waste Management
301016.2	Advanced Water and Wastewater Treatment
300595.4	Advanced Water Engineering
301015.2	Deep Foundations
300939.3	Sustainability and Risk Engineering (PG)
301012.2	Water Resources Systems Analysis
301278.1	Wastewater Treatment and Recycling
301279.1	Water Treatment and Distribution

Postgraduate Specialisation - Electrical

ST3069.1

Location

Campus	Mode
Parramatta Campus - Victoria Road	Multi Modal
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Electrical Specialised Alternate Units

Specialist alternate unit offerings are subject to sufficient student demand and may not be offered annually.

Students enrolled in 3693 Master of Engineering choose seven specialist units from the list below

Students exiting with 3694 Graduate Diploma in Engineering (Exit only) choose five specialised alternate units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

300603.4	Advanced Control Systems
300601.4	Advanced Electrical Machines and Drives
301025.2	Advanced Power Quality
300596.4	Advanced Signal Processing
301026.2	Advanced Smart Grids and Distributed Generation
300515.5	Instrumentation and Measurement (PG)
300196.4	Personal Communication Systems
300197.4	Power System Planning and Economics

Postgraduate Specialisation - Environmental

ST3070.1

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Environmental Specialised Alternate Units

Specialist alternate unit offerings are subject to sufficient student demand and may not be offered annually.

Students enrolled in 3693 Master of Engineering choose seven specialist units from the list below

Students exiting with 3694 Graduate Diploma in Engineering (Exit only) choose five specialised alternate units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

301017.2	Advanced Waste Management
200458.4	Building in Bushfire Prone Areas
101634.3	Planning and Environmental Regulation
300939.3	Sustainability and Risk Engineering (PG)
301264.1	Spatial Tools and Mapping
301278.1	Wastewater Treatment and Recycling
301279.1	Water Treatment and Distribution
401373.1	Workplace Safety and Risk Management

Postgraduate Specialisation - Mechanical

ST3071.1

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Mechanical Specialised Alternate Units

Specialist alternate unit offerings are subject to sufficient student demand and may not be offered annually.

Students enrolled in 3693 Master of Engineering choose seven specialist units from the list below

Students exiting with 3694 Graduate Diploma in Engineering (Exit only) choose five specialised alternate units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

301022.2	Advanced Computer Aided Engineering
301023.2	Advanced Computational Fluid Dynamics
301019.2	Advanced Dynamic Systems
301024.2	Advanced Numerical Methods in Engineering
300599.4	Advanced Robotics
301021.2	Advanced Thermal and Fluid Engineering
301018.2	Mechanical System Design
300600.4	Mechatronic System Design

Postgraduate Specialisation - Mechatronic

ST3072.1

Location

Campus	Mode
Parramatta Campus - Victoria Road	Multi Modal
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Mechatronic Specialised Alternate Units

Specialist alternate unit offerings are subject to sufficient student demand and may not be offered annually.

Students enrolled in 3693 Master of Engineering choose seven specialist units from the list below

Students exiting with 3694 Graduate Diploma in Engineering (Exit only) choose five specialised alternate units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

300603.4	Advanced Control Systems
301019.2	Advanced Dynamic Systems
300601.4	Advanced Electrical Machines and Drives
301020.2	Advanced Mobile Robotics
300599.4	Advanced Robotics
301018.2	Mechanical System Design
300600.4	Mechatronic System Design

Postgraduate Specialisation - Telecommunication

ST3073.1

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal
Parramatta City Campus-George Street	Internal

Specialisation Structure

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Telecommunication Specialised Alternate Units

Specialist alternate unit offerings are subject to sufficient student demand and may not be offered annually.

Students enrolled in 3693 Master of Engineering choose seven specialist units from the list below

Students exiting with 3694 Graduate Diploma in Engineering (Exit only) choose five specialised alternate units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

300196.4	Personal Communication Systems
300256.3	Multimedia Communication Systems
300389.3	Wireless Networking
300515.5	Instrumentation and Measurement (PG)
300596.4	Advanced Signal Processing
300173.4	Advanced Data Networks
301211.2	Advanced Biomedical Data and Images

Postgraduate Specialisation - Biomedical

ST3074.1

Location

Campus	Mode
Parramatta Campus - Victoria Road	Multi Modal

Campus	Mode
Parramatta City Campus-Macquarie Street	Internal

Specialisation Structure

To complete some of the components within the units in this course, students may be required to travel to other Western Sydney University campuses.

Biomedical Specialised Alternate Units

Specialist alternate unit offerings are subject to sufficient student demand and may not be offered annually.

Students enrolled in 3693 Master of Engineering choose seven specialist units from the list below

Students exiting with 3694 Graduate Diploma in Engineering (Exit only) choose five specialised alternate units

Students enrolled in 3695 Graduate Certificate in Engineering choose five specialised alternate units

300596.4	Advanced Signal Processing
300515.5	Instrumentation and Measurement (PG)
301209.2	Advanced Biomedical Electronics
301210.2	Human Physiology and Biomedical Technologies
301211.2	Advanced Biomedical Data and Images
401077.2	Introduction to Biostatistics
300599.4	Advanced Robotics

SCHOOL OF SCIENCE

Master of Forensic Science

3741.1

The course is designed for applicants who need advanced level knowledge across a range of forensic disciplines including crime scene investigation, fingerprint detection and identification, forensic chemistry, forensic biology, forensic toxicology, illicit drug analysis, and forensic medicine. The fully-online nature of the units and the flexibility available with unit selection means that the course can be adapted to suit applicants working or intending to work in areas that include forensic science laboratories, toxicology and pathology laboratories, drug assessment agencies, customs and border protection, law enforcement, and areas related to national security. The Master of Forensic Science includes two compulsory research units.

• This course is part of a collaborative education partnership with the University of Florida and the University of Canberra.

Study Mode
One and a half years full-time or three years part-time

Location

Campus	Attendance	Mode
Online	Full Time	Multi Modal
Online	Part Time	Multi Modal

Admission
Applicants must have successfully completed an undergraduate degree in natural or physical sciences.

It is recommended that applicants have completed chemistry and biology units in their undergraduate degree.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Course Structure
Qualification for this award requires the successful completion of 120 credit points including the units listed below.

Students may exit with a Graduate Diploma (80 credit points) or Graduate Certificate (40 credit points) on completion of the relevant units. Refer to links below for structure requirements for these two exit awards.

Compulsory Units (20 credit points)

301129.2	Forensic Research 1
301130.2	Forensic Research 2

Choose at least 10 credit points from the following

301131.2	Crime Scene Investigation (PG)
301132.2	Fingerprint Detection and Identification

Select the remaining credit points from

301151.2	Advanced Criminalistics
301154.2	Biological Agents 1
301155.2	Biological Agents 2
301149.2	Blood Distribution and Spatter
301139.2	Drug Biotransformation and Molecular Mechanisms of Toxicity
301152.2	Environmental Forensics 1
301153.2	Environmental Forensics 2
301156.2	Explosives
301148.2	Forensic Analysis of DNA
301147.2	Forensic Anthropology (PG)
301144.2	Forensic Genetics
301146.2	Forensic Immunology
301133.2	Forensic Medicine I
301134.2	Forensic Medicine II
301136.2	Forensic Toxicology I
301137.2	Forensic Toxicology II
301135.2	General Toxicology
301140.2	Medicinal Chemistry of Drugs of Abuse
301141.2	Natural Medicinal Products
301143.2	Pharmaceutical Analysis
301142.2	Synthetic Medicinal Chemistry
301138.2	Toxic Substances
301150.2	Toxicology of Chemical Weapons

Please note

The units listed below count towards completion of the course for students who may have passed units in the list below in 2017 or earlier.

301145 - Forensic Entomology

Graduate Diploma in Forensic Science

3742.1

The course is designed for applicants who need advanced level knowledge across a range of forensic disciplines including crime scene investigation, fingerprint detection and identification, forensic chemistry, forensic biology, forensic toxicology, illicit drug analysis, and forensic medicine. The fully-online nature of the units and the flexibility available with unit selection means that the course can be adapted to suit applicants working or intending to work in areas that include forensic science laboratories, toxicology and pathology laboratories, drug assessment agencies, customs and border protection, law enforcement, and areas related to national security.

• This course is part of a collaborative education partnership with the University of Florida and the University of Canberra.

Study Mode
One year full-time, two years part-time.

Location

Campus	Attendance	Mode
Online	Full Time	Multi Modal
Online	Part Time	Multi Modal

Admission
Applicants must have successfully completed an undergraduate degree in natural or physical sciences.

It is recommended that applicants have completed chemistry and biology units in their undergraduate degree.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Course Structure
Qualification for this award requires the successful completion of 80 credit points including the units listed below.

Students may exit with a Graduate Certificate (40 credit points) on completion of the relevant units. Refer to link below for structure requirements for this exit award.

Choose at least 20 credit points from the following

301131.2	Crime Scene Investigation (PG)
301132.2	Fingerprint Detection and Identification
301129.2	Forensic Research 1
301130.2	Forensic Research 2

Select the remaining credit points from

301151.2	Advanced Criminalistics
301154.2	Biological Agents 1
301155.2	Biological Agents 2
301149.2	Blood Distribution and Spatter
301139.2	Drug Biotransformation and Molecular Mechanisms of Toxicity
301152.2	Environmental Forensics 1
301153.2	Environmental Forensics 2
301156.2	Explosives
301148.2	Forensic Analysis of DNA
301147.2	Forensic Anthropology (PG)
301144.2	Forensic Genetics
301146.2	Forensic Immunology
301133.2	Forensic Medicine I
301134.2	Forensic Medicine II
301136.2	Forensic Toxicology I
301137.2	Forensic Toxicology II
301135.2	General Toxicology
301140.2	Medicinal Chemistry of Drugs of Abuse
301141.2	Natural Medicinal Products
301143.2	Pharmaceutical Analysis
301142.2	Synthetic Medicinal Chemistry
301138.2	Toxic Substances
301150.2	Toxicology of Chemical Weapons

Please note

The units listed below count towards completion of the course for students who may have passed units in the list below in 2017 or earlier.

301145 - Forensic Entomology

Graduate Certificate in Forensic Science

3743.1

The course is designed for applicants who need advanced level knowledge across a range of forensic disciplines including crime scene investigation, fingerprint detection and identification, forensic chemistry, forensic biology, forensic toxicology, illicit drug analysis, and forensic medicine. The fully-online nature of the units and the flexibility available with unit selection means that the course can be adapted to suit applicants working or intending to work in areas that include forensic science laboratories, toxicology and pathology laboratories, drug assessment agencies, customs and border protection, law enforcement, and areas related to national security.

• This course is part of a collaborative education partnership with the University of Florida and the University of Canberra.

Study Mode
Six months full-time or one year part-time.

Location

Campus	Attendance	Mode
Online	Full Time	Multi Modal
Online	Part Time	Multi Modal

Admission
Applicants must have successfully completed an undergraduate degree in natural or physical sciences.

It is recommended that applicants have completed chemistry and biology units in their undergraduate degree.

Or

Three years full-time equivalent work experience in a forensic science or military forensic exploitation environment.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

Course Structure

Qualification for this award requires the successful completion of 40 credit points including the units listed below.

Choose at least 10 credit points from the following

301131.2	Crime Scene Investigation (PG)
301132.2	Fingerprint Detection and Identification
301129.2	Forensic Research 1
301130.2	Forensic Research 2

Select the remaining credit points from

301151.2	Advanced Criminalistics
301154.2	Biological Agents 1
301155.2	Biological Agents 2
301149.2	Blood Distribution and Spatter
301139.2	Drug Biotransformation and Molecular Mechanisms of Toxicity
301152.2	Environmental Forensics 1
301153.2	Environmental Forensics 2
301156.2	Explosives
301148.2	Forensic Analysis of DNA
301147.2	Forensic Anthropology (PG)
301144.2	Forensic Genetics
301146.2	Forensic Immunology
301133.2	Forensic Medicine I
301134.2	Forensic Medicine II
301136.2	Forensic Toxicology I
301137.2	Forensic Toxicology II
301135.2	General Toxicology
301140.2	Medicinal Chemistry of Drugs of Abuse
301141.2	Natural Medicinal Products
301143.2	Pharmaceutical Analysis
301142.2	Synthetic Medicinal Chemistry
301138.2	Toxic Substances
301150.2	Toxicology of Chemical Weapons

Please note

The units listed below count towards completion of the course for students who may have passed units in the list below in 2017 or earlier.

301145 - Forensic Entomology

Graduate Diploma in Protected Cropping

3772.1

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is Spring 2020 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course

Protected cropping is one of the fastest growing food producing sectors in Australia. This unique Graduate Diploma/Graduate Certificate in Protected Cropping offers you exciting learning opportunities to extend your knowledge and further develop your expertise in the areas of science, technology and business with a strong focus on intensive horticulture. The highlight for your learning journey is the Masterclass experience, where you will be meeting with industry experts and working on real life industry challenges in a world-class greenhouse facility. Themes for the Masterclass include software and hardware systems, crop and produce management, integrated pest management and fertigation systems. In addition, you will have the opportunity to set up and complete your own protected cropping industry project by integrating and applying what you have learned. It will also help you to harness and showcase leadership, communication and business skills. This versatile degree will open up more doors for your future, including articulation into postgraduate study, bringing back the latest research findings and practices to your workplace, or exploring new career options in the field of horticulture with an elevated perspective and a new skillset.

Study Mode

One year full-time or two years part-time

Location

Campus	Attendance	Mode
Hawkesbury Campus	Full Time	Internal
Hawkesbury Campus	Part Time	Internal

Accreditation

The Graduate Certificate in Protected Cropping and the Graduate Diploma in Protected Cropping are recognised by Protected Cropping Australia and the Hydroponic Farmers Federation.

Admission

Applicants must have successfully completed:

an undergraduate degree, or higher, in agriculture, horticulture, environment, science, technology or business

Or

An undergraduate degree, or higher, in any discipline and two years full-time equivalent professional experience in technical or management roles in the agriculture, horticulture, environment, science, technology or business industry areas.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to the University via the International Office. International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University

Course Structure

Qualification for this award requires the successful completion of 80 credit points which include the units listed in the recommended sequence below.

Session 1

301357.1	Plant-Climate Interactions in Controlled Environments
301358.1	Advanced Greenhouse Technology
301361.1	Industry Project
200838.1	Business Operations and Logistics

Session 2

301359.1	Greenhouse Control Systems
301360.1	Greenhouse Crop Production
301362.1	Industry Project (Extended)
200841.2	Strategic Business Management

Graduate Certificate in Protected Cropping

3773.1

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is Spring 2020 or later.

Units may be revised or replaced to ensure students are provided with up to date curriculum throughout their studies, and this may result in a new course version. Refer to the Check My Course Progress page in MySR for the most up to date information for your course

Protected cropping is one of the fastest growing food producing sectors in Australia. This unique Graduate Diploma/Graduate Certificate in Protected Cropping offers you exciting learning opportunities to extend your knowledge and further develop your expertise in the areas of science, technology and business with a strong focus on intensive horticulture. The highlight for your learning journey is the Masterclass experience, where you will be meeting with industry experts and working on real life industry challenges in a world-class greenhouse facility. Themes for the Masterclass include software and hardware systems, crop and produce management, integrated pest management and fertigation systems. In addition, you will have the opportunity to set up and complete your own protected cropping industry project by integrating and applying what you have learned. It will also help you to harness and showcase leadership, communication and business skills. This versatile degree will open up more doors for your future, including articulation into postgraduate study, bringing back the latest research findings and practices to your workplace, or exploring new career options in the field of horticulture with an elevated perspective and a new skillset.

Study Mode

6 months full-time or one year part-time

Location

Campus	Attendance	Mode
Hawkesbury Campus	Full Time	Internal
Hawkesbury Campus	Part Time	Internal

Accreditation

The Graduate Certificate in Protected Cropping and the Graduate Diploma in Protected Cropping are recognised by Protected Cropping Australia and the Hydroponic Farmers Federation.

Admission

Applicants must have successfully completed:

an undergraduate degree, or higher, in agriculture, horticulture, environment, science, technology or business

Or

An undergraduate degree, or higher, in any discipline

And

Two years full-time equivalent professional experience in technical or management roles.

Or

Five years full-time equivalent professional experience and/or training in technical or management roles

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the

Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to the University via the International Office. International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University

Course Structure

Qualification for this award requires the successful completion of 40 credit points which include the units listed in the recommended sequence below.

Session 1

301361.1 Industry Project

Choose two of

301357.1 Plant-Climate Interactions in Controlled Environments
301358.1 Advanced Greenhouse Technology
301359.1 Greenhouse Control Systems
301360.1 Greenhouse Crop Production

Choose one of

200838.1 Business Operations and Logistics
200841.2 Strategic Business Management

Master of Science

3749.1

Students should follow the course structure for the course version relevant to the year they commenced. This version applies to students whose commencement year in this course is 2018 or later.

The Master of Science is an advanced course that can be taken in one of the two specialisations; Public Health Nutrition or Food Science. The course builds upon the professional experience and/or prior qualifications to develop advanced expertise and critical understanding in science and in Public Health Nutrition or Food Science. The course is completed with a capstone unit that is designed to integrate the various themes that flow throughout the program and develop research skills in science. Depending on specialisation, students may find employment at a senior level in a wide range of destinations, including federal, state and local government bodies, universities, research organisations, private companies, health facilities, science-based industries, or private consultancies.

Study Mode

One to two years full-time depending upon entry qualifications (see Pathways listed under Course Structure below) or the equivalent part-time. Students will be required to attend the Hawkesbury campus for some learning experiences.

Location

Campus	Attendance	Mode
Parramatta Campus - Victoria Road	Full Time	Internal
Parramatta Campus - Victoria Road	Part Time	Internal

Accreditation

On completion of this Course graduates with the Food Science Specialisation will be eligible for professional membership of the Australian Institute of Food Science and Technology. On completion of this Course graduates with the Public Health Nutrition Specialisation will be eligible for apply to be an Associate Nutritionist (Anutr) or a Registered Public Health Nutritionist (RPHNutr) if combined with three years of suitable work experience with the Nutrition Society of Australia and/or a Certified Public Health Nutritionist (cPHN) with the World Public Health Nutrition Association. Students may also be eligible to apply for professional membership of Public Health Association of Australia and Australian Health Promotion Association.

Admission

Master of Science -160 credit points

Applicants must have a Bachelor Degree in any science, health science, or engineering discipline;

Or

A Graduate Certificate in food science, food technology, food engineering, human nutrition, dietetics, chemistry, biology, microbiology, health science and a minimum two years full-time equivalent work experience in food, human nutrition, dietetic, or related industries professions may be considered for entry.

Master of Science -120 credit points

Applicants must have:

Successfully completed an undergraduate degree, or higher, in science , applied science or health and have a minimum of one year full-time professional work experience (or equivalent) in a field that is related to the intended Specialisation.

Or

A Bachelor Degree in any science, health science, or engineering discipline and a minimum two years full-time equivalent work experience in food, human nutrition, dietetic, hospitality or related industries professions.

Master of Science -80 credit points

Applicants must have an Honours, Graduate Diploma or higher in science, health science, medical science or engineering with a major in food science, food technology, food engineering, human nutrition, dietetics, chemistry, biology, microbiology, or chemical engineering.

International applicants must achieve IELTS 6.5 overall score with a minimum 6.0 in each subset.

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.

Applications from Australian and New Zealand citizens and holders of permanent resident visas must be made via the

Universities Admissions Centre (UAC). Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local and International applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Special Requirements

Unit 400850 Professional Topic has enrolment restrictions: Student must have permission from the Unit Coordinator to enrol in the unit. Students enrolling in unit 400850 must fully comply with the unit's special requirements which relate to placements in NSW health service sites (for example hospitals and allied health service organisations).

Course Structure

Pathway/Specialisations

All students must enrol in a Pathway/Specialisation before enrolling in their units

Food Science

The Master of Science specialising in Food Science is designed for graduates interested in furthering a career in food science and technology, working in a variety of settings, such as food manufacturing, research and development, regulatory affairs, technical and senior management. Graduates will develop knowledge and skills to meet future challenges to the food supply including sustainability, food safety, and health and nutrition, applicable to both Australian and global contexts. This specialisation develops essential content knowledge, analytical skills and mastery of laboratory methods and quality assurance through an integrated set of units in food processing, quality assurance, food evaluation techniques and new product development. In particular, these units are all directed towards solving current and future challenges. Students will be prepared to become professional food scientists with the cognitive, technical and critical thinking skills to analyse issues and articulate appropriate solutions. Students will become familiar with the University's food pilot plant and commercial kitchen and be able use these facilities to practise their skills and application of knowledge and skills. A capstone unit involving professional research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

A4038.1	Master of Science (Food Science) - 2 year pathway
A4039.1	Master of Science (Food Science) - 1.5 year pathway
A4040.1	Master of Science (Food Science) - 1 year pathway

Public Health Nutrition

The Master of Science specialising in Public Health Nutrition is designed for human nutrition graduates seeking to further their career in public health and health promotion; working in a variety of settings, such as local, state or national health organisations, non-government organisations, population health units, community health centres, and international aid agencies. Roles may include, health promotion officer, research and evaluation officer, monitoring and surveillance officer, and health policy officer. The program draws on and complements the Master of Public Health, providing an attractive postgraduate pathway for students with prior nutrition knowledge. This specialisation build an integrated understanding of relevant aspects of community and public health nutrition and its interrelation with other relevant disciplines including, behavioural sciences and nutrition/ health education, social sciences, economics, politics, food and nutrition systems, and public health systems. A capstone unit involving a public health nutrition research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

A4041.1	Master of Science (Public Health Nutrition) - 2 year pathway
A4042.1	Master of Science (Public Health Nutrition) - 1.5 year pathway
A4043.1	Master of Science (Public Health Nutrition) - 1 year pathway

Specialisations

Postgraduate Admission Pathway - Master of Science (Food Science) - 2 year pathway

A4038.1

The Master of Science specialising in Food Science is designed for graduates interested in furthering a career in food science and technology, working in a variety of settings, such as food manufacturing, research and development, regulatory affairs, technical and senior management. Graduates will develop knowledge and skills to meet future challenges to the food supply including sustainability, food safety, and health and nutrition, applicable to both Australian and global contexts. This specialisation develops essential content knowledge, analytical skills and mastery of laboratory methods and quality assurance through an integrated set of units in food processing, quality assurance, food evaluation techniques and new product development. In particular, these units are all directed towards solving current and future challenges. Students will be prepared to become professional food scientists with the cognitive, technical and critical thinking skills to analyse issues and articulate appropriate solutions. Students will become familiar with the University's food pilot plant and commercial kitchen and be able use these facilities to practise their skills and application of knowledge and skills. A capstone unit involving professional research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Applicants must have a Bachelor Degree in any science, health science, or engineering discipline;

Or

A Graduate Certificate in food science, food technology, food engineering, human nutrition, dietetics, chemistry, biology, microbiology, health science and a minimum two years full-time equivalent work experience in food, human nutrition, dietetic, or related industries professions may be considered for entry.

Qualification for this award requires the successful completion of 160 credit points which include six core units and two alternates.

Recommended sequence

Master of Science (Food Science) 160 credit points

Core units

Students must complete the following core units

301181.2	Food Evaluation
301180.2	Food Preservation and Packaging Technologies
301183.2	Food Product Design
301182.2	Food Quality Management
401077.2	Introduction to Biostatistics
301004.2	Research Preparation in Post Graduate Studies

Capstone Research Unit

Students must complete at least 20 credit points from the following units

401079.3	Dissertation (Full Time)
401282.2	Dissertation (Part Time)

401282 Dissertation (Part time) is completed over two teaching sessions, thus students will need to enrol twice in this unit.

400850.4	Professional Topic
401078.3	Research Project
401080.3	Research Protocol Design and Practice

Alternate Food Science Unit Pool (all Level 7)

Students select up to 80 credit points from the 'Alternate Food Science unit pool' to complete 160 credit points

301017.2	Advanced Waste Management
301279.1	Water Treatment and Distribution

Note: Unit 301279 - Water Treatment and Distribution replaces 301016 - Advanced Water and Wastewater Treatment from Spring 2020

200838.1	Business Operations and Logistics
201022.1	Customer Experience

Note: Unit 201022 - Customer Experience replaces 200823 Buyer Behaviour from Autumn 2019

400840.3	Communicable Diseases
301186.2	Community and Public Health Nutrition
200776.1	Compliance Management
800170.1	Ecosystems in a Changing World
800186.1	Emerging Technologies for Biological Science
200717.2	Employment Relations Professional Practice
400975.1	Ethics in Health Research
200719.2	Industrial Relations and Workplace Change
200852.3	Innovation, Creativity and Foresight
200851.1	Innovation for New Markets
401076.2	Introduction to Epidemiology
200737.3	Marketing Systems
301185.2	Nutrition Promotion
301184.2	Nutritional Assessment Methods
300391.3	Occupational Health Management

101634.3	Planning and Environmental Regulation
301005.3	Professional Practice and Communication
51240.5	Project Management
300677.4	Safety and Risk Management
200329.5	Supply Chain Management
301003.2	Sustainable Systems

Postgraduate Admission Pathway - Master of Science (Food Science) - 1.5 year pathway

A4039.1

The Master of Science specialising in Food Science is designed for graduates interested in furthering a career in food science and technology, working in a variety of settings, such as food manufacturing, research and development, regulatory affairs, technical and senior management. Graduates will develop knowledge and skills to meet future challenges to the food supply including sustainability, food safety, and health and nutrition, applicable to both Australian and global contexts. This specialisation develops essential content knowledge, analytical skills and mastery of laboratory methods and quality assurance through an integrated set of units in food processing, quality assurance, food evaluation techniques and new product development. In particular, these units are all directed towards solving current and future challenges. Students will be prepared to become professional food scientists with the cognitive, technical and critical thinking skills to analyse issues and articulate appropriate solutions. Students will become familiar with the University's food pilot plant and commercial kitchen and be able use these facilities to practise their skills and application of knowledge and skills. A capstone unit involving professional research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Applicants must have successfully completed an undergraduate degree, or higher, in science , applied science or health and have a minimum of one year full-time professional work experience (or equivalent) in a field that is related to the intended Specialisation.

Or

A Bachelor Degree in any science, health science, or engineering discipline and a minimum two years full-time equivalent work experience in food, human nutrition, dietetic, hospitality or related industries professions.

Master of Science (Food Science) 120 credit points

Core Units

Students must complete the following core units

301181.2	Food Evaluation
301180.2	Food Preservation and Packaging Technologies
301183.2	Food Product Design
301182.2	Food Quality Management
401077.2	Introduction to Biostatistics
301004.2	Research Preparation in Post Graduate Studies

Capstone Research Unit

Students must complete at least 20 credit points from the following units

401079.3	Dissertation (Full Time)
401282.2	Dissertation (Part Time)

401282 Dissertation (Part time) is completed over two teaching sessions, thus students will need to enrol twice in this unit.

400850.4	Professional Topic
401078.3	Research Project
401080.3	Research Protocol Design and Practice

Alternate Units

Students select up to 40 credit points from the 'Alternate Food Science unit pool' to complete 120 credit points

Alternate Food Science Unit Pool (all Level 7)

301017.2	Advanced Waste Management
301279.1	Water Treatment and Distribution

Unit 301279 - Water Treatment and Distribution replaces 301016 - Advanced Water and Wastewater Treatment from Spring 2020

200838.1	Business Operations and Logistics
201022.1	Customer Experience

Note: Unit 201022 - Customer Experience replaces 200823 Buyer Behaviour from Autumn 2019

400840.3	Communicable Diseases
301186.2	Community and Public Health Nutrition
200776.1	Compliance Management
800170.1	Ecosystems in a Changing World
800186.1	Emerging Technologies for Biological Science
200717.2	Employment Relations Professional Practice
400975.1	Ethics in Health Research
200719.2	Industrial Relations and Workplace Change
200852.3	Innovation, Creativity and Foresight
200851.1	Innovation for New Markets
401076.2	Introduction to Epidemiology
200737.3	Marketing Systems
301185.2	Nutrition Promotion
301184.2	Nutritional Assessment Methods
300391.3	Occupational Health Management
101634.3	Planning and Environmental Regulation
301005.3	Professional Practice and Communication
51240.5	Project Management
300677.4	Safety and Risk Management
200329.5	Supply Chain Management
301003.2	Sustainable Systems

Postgraduate Admission Pathway - Master of Science (Food Science) - 1 year pathway

A4040.1

The Master of Science specialising in Food Science is designed for graduates interested in furthering a career in food science and technology, working in a variety of settings, such as food manufacturing, research and development, regulatory affairs, technical and senior management. Graduates will develop knowledge and skills to meet future challenges to the food supply including sustainability, food safety, and health and nutrition, applicable to both Australian and global contexts. This specialisation develops essential content knowledge, analytical skills and mastery of laboratory methods and quality assurance through an integrated set of units in food processing, quality assurance, food evaluation techniques and new product development. In particular, these units are all directed towards solving current and future challenges. Students will be prepared to become professional food scientists with the cognitive, technical and critical thinking skills to analyse issues and articulate appropriate solutions. Students will become familiar with the University's food pilot plant and commercial kitchen and be able use these facilities to practise their skills and application of knowledge and skills. A capstone unit involving professional research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Applicants must have an Honours, Graduate Diploma or higher in science, health science, medical science or engineering with a major in food science, food technology, food engineering, human nutrition, dietetics, chemistry, biology, microbiology, or chemical engineering.

Master of Science (Food Science) 80 credit points

Students must complete the following core units

301181.2	Food Evaluation
301180.2	Food Preservation and Packaging Technologies
301183.2	Food Product Design
301182.2	Food Quality Management
401077.2	Introduction to Biostatistics
301004.2	Research Preparation in Post Graduate Studies

Capstone Research Unit

Students must complete at least 20 credit points from the following units

400850.4	Professional Topic
401078.3	Research Project
401080.3	Research Protocol Design and Practice

Postgraduate Admission Pathway - Master of Science (Public Health Nutrition) - 2 year pathway

A4041.1

The Master of Science specialising in Public Health Nutrition is designed for human nutrition graduates seeking to further their career in public health and health promotion; working in a variety of settings, such as local, state or national health organisations, non-government organisations, population health units, community health centres, and international aid agencies. Roles may include, health promotion officer, research and evaluation officer, monitoring and surveillance officer, and health policy officer. The program draws on and complements the Master of Public Health, providing an attractive postgraduate pathway for students with prior nutrition knowledge. This specialisation build an integrated understanding of relevant aspects of community and public health nutrition and its interrelation with other relevant disciplines including, behavioural sciences and nutrition/ health education, social sciences, economics, politics, food and nutrition systems, and public health systems. A capstone unit involving a public health nutrition research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Applicants must have a Bachelor Degree in any science, health science, or engineering discipline;

Or

A Graduate Certificate in food science, food technology, food engineering, human nutrition, dietetics, chemistry, biology, microbiology, health science and a minimum two years full-time equivalent work experience in food, human nutrition, dietetic, or related industries professions may be considered for entry.

Recommended Sequence

Master of Science (Public Health Nutrition) 160 credit points

Qualification for this award requires the successful completion of 160 credit points which include five core units, one capstone unit (selected from two options), and two alternates.

Core Units

Students must complete the following core units

301186.2	Community and Public Health Nutrition
401077.2	Introduction to Biostatistics
401076.2	Introduction to Epidemiology

301184.2	Nutritional Assessment Methods
301185.2	Nutrition Promotion
400416.3	Public Health, Policy and Society

Capstone Research Unit

Students must complete at least 20 credit points from the following units

401079.3	Dissertation (Full Time)
401282.2	Dissertation (Part Time)

401282 Dissertation (Part time) is completed over two teaching sessions, thus students will need to enrol twice in this unit.

400850.4	Professional Topic
401078.3	Research Project
401080.3	Research Protocol Design and Practice

Alternate Public Health Nutrition Unit Pool (all Level 7)

Students select up to 80 credit points from the 'Alternate Public Health Nutrition unit pool' to complete 160 credit points

400841.4	A Global Perspective on Social Determinants of Health
401175.1	Analytic Approaches in Epidemiology
400846.3	Building Organisational Capacity in Health Care
201022.1	Customer Experience

Note: Unit 201022 - Customer Experience replaces 200823 Buyer Behaviour from Autumn 2019

400840.3	Communicable Diseases
401178.1	Controversies in Epidemiology
401179.2	Data Management and Programming for Epidemiology
301044.2	Data Science
101636.3	Developing Sustainable Places
401174.1	Epidemiology of Non-Communicable Diseases
400975.1	Ethics in Health Research
301181.2	Food Evaluation
301180.2	Food Preservation and Packaging Technologies
301183.2	Food Product Design
301182.2	Food Quality Management
301118.2	Genomic Data Science
400418.5	Health Advancement and Health Promotion
400837.3	Health and Socio-political Issues in Aged Care
400967.3	Health Economics and Comparative Health Systems
400844.3	Health Services and Facilities Planning
400843.4	Health Workforce Planning
200852.3	Innovation, Creativity and Foresight
200851.1	Innovation for New Markets
401173.1	Introduction to Clinical Epidemiology
401081.3	Organisational Governance and Performance Management
400238.3	Policy, Power and Politics in Health Care Provision
51240.5	Project Management
401238.2	Qualitative Research Methodology in Health
301004.2	Research Preparation in Post Graduate Studies
301116.2	Social Media Intelligence
401176.1	Statistical Methods in Epidemiology
400847.4	Surveillance and Disaster Planning
301114.2	The Nature of Data
102180.3	Translation from Theory and Research to Policy
301112.2	Visualisation

Postgraduate Admission Pathway - Master of Science (Public Health Nutrition) - 1.5 year pathway

A4042.1

The Master of Science specialising in Public Health Nutrition is designed for human nutrition graduates seeking to further their career in public health and health promotion; working in a variety of settings, such as local, state or national health organisations, non-government organisations, population health units, community health centres, and international aid agencies. Roles may include, health promotion officer, research and evaluation officer, monitoring and surveillance officer, and health policy officer. The program draws on and complements the Master of Public Health, providing an attractive postgraduate pathway for students with prior nutrition knowledge. This specialisation build an integrated understanding of relevant aspects of community and public health nutrition and its interrelation with other relevant disciplines including, behavioural sciences and nutrition/ health education, social sciences, economics, politics, food and nutrition systems, and public health systems. A capstone unit involving a public health nutrition research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Applicants must have successfully completed an undergraduate degree, or higher, in science , applied science or health and have a minimum of one year full-time professional work experience (or equivalent) in a field that is related to the intended Specialisation.

Or

A Bachelor Degree in any science, health science, or engineering discipline and a minimum two years full-time equivalent work experience in food, human nutrition, dietetic, hospitality or related industries professions.

Master of Science (Public Health Nutrition) 120 credit points

Core Units

Students must complete the following core units

301186.2	Community and Public Health Nutrition
401077.2	Introduction to Biostatistics
401076.2	Introduction to Epidemiology
301184.2	Nutritional Assessment Methods
301185.2	Nutrition Promotion
400416.3	Public Health, Policy and Society

Capstone Research Unit

Students must complete at least 20 credit points from the following units

401079.3	Dissertation (Full Time)
401282.2	Dissertation (Part Time)

401282 Dissertation (Part time) is completed over two teaching sessions, thus students will need to enrol twice in this unit.

400850.4	Professional Topic
401078.3	Research Project
401080.3	Research Protocol Design and Practice

Alternate Public Health Nutrition Unit Pool (all Level 7)

Students select up to 40 credit points from the 'Alternate Public Health Nutrition unit pool' to complete 120 credit points

400841.4	A Global Perspective on Social Determinants of Health
401175.1	Analytic Approaches in Epidemiology
400846.3	Building Organisational Capacity in Health Care
201022.1	Customer Experience

Note: Unit 201022 - Customer Experience replaces 200823 Buyer Behaviour from Autumn 2019

400840.3	Communicable Diseases
401178.1	Controversies in Epidemiology
401179.2	Data Management and Programming for Epidemiology
301044.2	Data Science
101636.3	Developing Sustainable Places
401174.1	Epidemiology of Non-Communicable Diseases
400975.1	Ethics in Health Research
301181.2	Food Evaluation
301180.2	Food Preservation and Packaging Technologies
301183.2	Food Product Design
301182.2	Food Quality Management
301118.2	Genomic Data Science
400418.5	Health Advancement and Health Promotion
400837.3	Health and Socio-political Issues in Aged Care
400967.3	Health Economics and Comparative Health Systems
400844.3	Health Services and Facilities Planning
400843.4	Health Workforce Planning
200852.3	Innovation, Creativity and Foresight
200851.1	Innovation for New Markets
401173.1	Introduction to Clinical Epidemiology
401081.3	Organisational Governance and Performance Management
400238.3	Policy, Power and Politics in Health Care Provision
51240.5	Project Management
401238.2	Qualitative Research Methodology in Health
301004.2	Research Preparation in Post Graduate Studies
301116.2	Social Media Intelligence
401176.1	Statistical Methods in Epidemiology
400847.4	Surveillance and Disaster Planning
301114.2	The Nature of Data
102180.3	Translation from Theory and Research to Policy
301112.2	Visualisation

Postgraduate Admission Pathway - Master of Science (Public Health Nutrition) - 1 year pathway

A4043.1

The Master of Science specialising in Public Health Nutrition is designed for human nutrition graduates seeking to further their career in public health and health promotion; working in a variety of settings, such as local, state or national health organisations, non-government organisations, population health units, community health centres, and international aid agencies. Roles may include, health promotion officer, research and evaluation officer, monitoring and surveillance officer, and health policy officer. The program draws on and complements the Master of Public Health, providing an attractive postgraduate pathway for students with prior nutrition knowledge. This specialisation build an integrated understanding of relevant aspects of community and public health nutrition and its interrelation with other relevant disciplines including, behavioural sciences and nutrition/ health education, social sciences, economics, politics, food and nutrition systems, and public health systems. A capstone unit involving a public health nutrition research project allows students to integrate their knowledge and skills developed from the whole program and build on research skills that are scaffolded through the curriculum.

Location

Campus	Mode
Parramatta Campus - Victoria Road	Internal

Specialisation Structure

Applicants must have an Honours, Graduate Diploma or higher in science, health science, medical science or engineering with a major in food science, food technology, food engineering, human nutrition, dietetics, chemistry, biology, microbiology, or chemical engineering.

Master of Science (Public Health Nutrition) 80 credit points

Core Units

Students must complete the following core units

301186.2	Community and Public Health Nutrition
401077.2	Introduction to Biostatistics
401076.2	Introduction to Epidemiology
301184.2	Nutritional Assessment Methods

301185.2 Nutrition Promotion
400416.3 Public Health, Policy and Society

Capstone Research Unit

Students must complete at least 20 credit points from the following units

400850.4 Professional Topic
401078.3 Research Project
401080.3 Research Protocol Design and Practice

Units

301247.1 A Cosmic Perspective

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge of Mathematics equivalent to 2-unit HSC, and experience with the use of computer software such as Excel or Word would be beneficial. Previous experience of statistics or computer programming will be an advantage but is not essential.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The unit explores and challenges scientific as well as cultural perspectives on the cosmos, from its composition, expansion and the development and endings of the stars and planets, to life, its limits, evolution and mass extinctions on Earth. The unit also considers the development of consciousness, astrology vs astronomy, expanding horizons, space travel and space exploration.

400841.4 A Global Perspective on Social Determinants of Health

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Evidence is mounting that the health of individuals, groups and whole populations is significantly determined by social factors – the social determinants. The related research has its origins in concern for the growing inequalities in health both within and between countries. This unit examines the framework of the social determinants of health in a global perspective and includes a reflection on the phenomenon of globalisation and its impact, both positive and negative on people's health. Students will critically reflect on this relatively new and emerging body of knowledge and research which clearly situates the maintenance of health and healthy societies within their socioeconomic and socio-cultural contexts. They will also examine implications for policy, health systems and different groups within society.

301010.2 Advanced Applied Mechanics

Credit Points 10 **Level** 7

Assumed Knowledge

Students should have prior knowledge of strain, stress and deflection analysis of simple structures as well as knowledge of energy principle for structural analysis.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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Applied mechanics deals with the mechanical responses of structural components under various loading and support conditions. This unit will introduce the theory of elasticity and study the bending, buckling and vibration behaviours of beams, plates and shells and their associated applications in engineering practices.

301211.2 Advanced Biomedical Data and Images

Credit Points 10 **Level** 7

Assumed Knowledge

Signals theory; computer skills including use of MATLAB

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit will cover advanced biomedical signal and data analysis including electrocardiography, electroencephalography, human-computer-interface, electromyography, machine learning and biomedical images. This unit will have a strong practical design focus with laboratories and tutorials focused on the design of usable software packages dealing with real biomedical signals.

301209.2 Advanced Biomedical Electronics

Credit Points 10 **Level** 7

Assumed Knowledge

General principle of circuits analysis and simulation Electronic amplifiers Principle of Instrumentation and Measurements

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit will cover advanced design of biomedical electronic devices including, implanted devices, human-computer-interface, bioinstrumentation and neuromorphic engineering. Topics covered span from the bioelectromagnetism and related applications to regulatory aspects (IEC standards and TGA/FDA approval processes) and electrical safety of instrumentation. This unit will have a strong practical design focus with laboratories and tutorials focused on the design of real instrumentation (including manufacturing) dealing with real biomedical signals.

301008.2 Advanced Composite Structures

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit enables students to gain an in-depth knowledge into composite structures based on Australian Standards and International Standards. Recent advances in the design of composite beams, slabs, columns and connections will be introduced.

301023.2 Advanced Computational Fluid Dynamics

Credit Points 10 **Level** 7

Assumed Knowledge

Finite element methods, Thermal dynamics and Fluid mechanics.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit introduces students to commonly used numerical methods used in computational fluid dynamics (CFD). The unit covers the theory and the application of CFD for solving engineering problems. The numerical methods for solving the in viscid flow and the viscous flow problems will be introduced. The students learn the application of the engineering software in the engineering problems.

301022.2 Advanced Computer Aided Engineering

Credit Points 10 **Level** 7

Assumed Knowledge

Students are assumed to have a good understanding on basics of finite element method and analysis, fundamentals and advanced topics in mechanics of materials, fundamentals on fluid mechanics and heat transfer and thermal dynamics.

Unit Enrolment Restrictions

Students must be enrolled in 3693 Master of Engineering, 3695 Graduate Certificate in Engineering, or the Master of Research.

Special Requirements - Essential Equipment

Finite element analysis packages - Abaqus, ANSYS and SolidWorks

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This unit focuses on advanced topics in computer aided engineering and their applications in mechanical engineering in analysing a wide range of engineering problems. The objective of this unit is to advance students' knowledge and skill level on the finite element method (FEM)-based computer aided engineering (CAE) and its advanced applications in the fields of solid mechanics, fluid mechanics, thermodynamics and heat transfer and product design and development as well. Academic skills on research and communication are ensured to be achieved through conducting FEM-based CAE projects.

301188.2 Advanced Contract Management

Credit Points 10 **Level** 7

Assumed Knowledge

Basic knowledge of construction management.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

.....

This unit introduces various contract types and risks involved in construction project management. The unit extends to examining contractual claims management and procedures together with alternative dispute resolution methods. The unit will further help students to understand change management process and develop a change management plan.

300603.4 Advanced Control Systems

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge is assumed in Continuous time control systems, the use of Laplace and Z-transforms, Analog to digital, digital to analog conversion, Vector matrix difference equations, State variable models and familiarity with Matlab or similar software Knowledge is assumed in: Continuous time control systems; The use of Laplace and Z-transforms; Analog to digital, digital to analog conversion; Vector matrix difference equations; State variable models; Introductory Classical Control Systems Theory; Familiarity with MATLAB.

Incompatible Units

300211 - Digital Control, 300172 - Advanced Control Systems

Unit Enrolment Restrictions

Students must have competence in the use of test equipment, components and data sheets. Students must be enrolled in a postgraduate course.

.....

This unit covers continuous and discrete control systems. It reviews and builds on the fundamental concepts of the theory of feedback in continuous and discrete time to examine the analysis and design of advanced continuous and discrete time linear control systems. Transfer function and state variable methods are employed. Instruction makes use of extensive experimental tasks. There is also considerable use of Matlab simulations.

301151.2 Advanced Criminalistics

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit is designed to provide an in-depth knowledge of the following eight evidence categories: glass, textile fibres, paint, fire debris, explosives, firearm discharge residues, illicit drugs, and hair. Each stand-alone module introduces the evidence type and its forensic significance, details the relevant distinguishing and discriminating characteristics for the trace material in question, presents the analytical techniques commonly applied in the criminalistics laboratory, and discusses data interpretation and evidential value. The unit is unique in terms of its coverage of these trace evidence categories from an operational forensic science perspective. This unit is taught by the University of Canberra as part of a collaborative venture between the University of Canberra and Western Sydney University.

Note: Further information on this unit is available from the University of Canberra.

300173.4 Advanced Data Networks

Credit Points 10 **Level** 7

Assumed Knowledge

Communication Systems / Digital Communication

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit covers all major network technologies: asynchronous transfer mode (ATM), Internet, and telephony. Essential networking topics such as protocol layering, multiple access, switching, scheduling, routing, congestion control, error and flow control, and network security are covered in detail. An engineering approach is taken to provide insight into network design.

301239.2 Advanced Design Communication

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3761 Master of Architecture (Urban Transformation)

Special Requirements - Essential Equipment

Laptop with required software, per course 3761 requirements.

.....

Advanced Design Communication is a core architecture seminar in the Master of Architecture (Urban Transformation) course that will explore contemporary methods of design generation and visualisation, representation techniques, and collaboration tools, including but not limited to digital fabrication, computational and algorithmic design, simulation, virtual and augmented reality, building information modelling, parametric design, and scripting. Students will undertake case studies from the community of practice and precedents in this disciplinary domain, including an investigation of how emerging technologies are used in existing professional settings locally and internationally. Students will develop their own design-based enquiry to apply knowledge and skills acquired in the seminar that result in a project and report of their work.

301019.2 Advanced Dynamic Systems

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit covers three-dimensional kinematics and kinetics of a rigid body. The principles of virtual work are used to investigate the equilibrium and dynamics of mechanisms. Some key aspects of mechanical vibrations are introduced, including vibration response, vibration isolation and vibration measurement.

300601.4 Advanced Electrical Machines and Drives

Credit Points 10 **Level** 7

Assumed Knowledge

Electric Circuits and Basic Electro magnetics.

Incompatible Units

300208 - Variable Speed Electric Drives, 300204 - Special Electrical Machines

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

The subject covers various types of electrical motors and drive systems, their applications and control. The unit aims to introduce an advanced study of electrical machines and drives. It also covers application considerations and modern developments in high performance drive systems. This course covers various types of the speed control, the starting, the braking and the dynamics of different electrical machines and drives.

300604.4 Advanced Geotechnical Engineering

Credit Points 10 **Level** 7

Assumed Knowledge

Fundamental knowledge of soil mechanics.

Equivalent Units

300520 - Foundation Engineering (PG)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit will provide an overview of soil mechanics concepts required for the solution of practical geotechnical engineering problems. Students will be taught soil and foundation analysis including design techniques. The topics will cover shallow foundations, pile foundations, the stability of earth retaining structures, excavations, soft soils, groundwater flow and stability of slopes. Practical engineering cases will be emphasized.

301358.1 Advanced Greenhouse Technology

Credit Points 10 **Level** 7

Assumed Knowledge

Students entering this unit may have basic knowledge of crop physiology and production, and basic understanding of the physical principles pertaining to glass house design. Student may also have knowledge and experience in one of the following subject areas: horticultural production systems; environmental sustainability analytics; technological design and development; marketing principles and business management.

.....

This unit explores a range of advanced greenhouse technologies in Australia and overseas—from simple low-cost options, through to cutting-edge technology in energy

and water-efficient production. Students will observe current status and future trends in the industry to examine how advanced technologies can improve sustainability measures along with the reliability of horticultural output. This unit focuses on engineering aspects of greenhouse horticulture systems as well as crop growth and development. The basics of crop growth and development and the physical principles of greenhouse systems at different levels will be taught. The main in depth topics of the unit are: the selection of suitable greenhouse technology, physics of greenhouse climate, greenhouse systems (passive greenhouse, climate controlled, closed or semi-closed greenhouse), cropping systems, cover materials and smart glass technologies, energy saving technologies, water and nutrient recycling, and robotics for de-leafing and picking.

301178.2 Advanced Health Classifications and Coding

Credit Points 10 **Level** 7

Assumed Knowledge

Student must have a general knowledge in relation to healthcare systems

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

.....

This unit is designed to enable the student to classify diseases and interventions using the current version of the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification, the Australian Classification of Health Interventions and the Australian Coding Standards (ICD-10-AM/ACHI/ACS). The unit will also include the historical development of clinical classification systems as well as the purpose and value of classifying diseases and interventions within the health system. The students will become familiar with the structure and content of ICD-10-AM ACHI/ACS and be introduced to the rules and conventions associated within ICD-10-AM/ACHI. Further, students will carry out research based analytical tasks gaining an in-depth knowledge in relation to health classification systems and terminology systems such as SNOMED-CT (Systematized Nomenclature of Medicine - Clinical Terms).

301028.2 Advanced Healthcare Data Environments

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

.....

This unit extends the students knowledge of Health Informatics by introducing concepts relating to electronic communications within the health industry. It exposes students to a variety of environments used to create, store, transfer and deliver healthcare data. Areas include minimum data sets, data linkage, messaging concepts/ standards, terminologies, healthcare evaluation, electronic health records and related standards, security, privacy and trust, medico legal, epidemiology and population health together with TeleHealth/TeleMedicine approaches, methodologies, tools and techniques. Advanced skills and knowledge on researching into recent developments in specific sub-topics will be acquired through assessment components in the unit.

301029.2 Advanced Healthcare Software and Systems

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

.....

In this unit students will learn the concepts underpinning the services computing paradigm of "bridging the gap between Business Services and IT Services". Services Computing technology includes Web services and service-oriented architecture (SOA), business consulting methodology and utilities, business process modelling, transformation and integration. Students will learn, through the development of practical examples, how to utilise these technologies within a healthcare context. Advanced knowledge and knowledge of recent developments in specific sub-topics will also be acquired through practical components in the unit.

301011.2 Advanced Highway Infrastructure

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

.....

This unit teaches bridge superstructure design and ground engineering design prior to construction of the highway. The aim is to provide students with advanced knowledge in bridge construction, loading and structural design, ground improvement techniques to deal with soft and weak grounds, and construction of highway embankments. These aspects will be taught in relation to Australian design codes.

301014.2 Advanced Hydrogeology

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit covers occurrence of groundwater, groundwater movement, groundwater hydraulics, water wells, quality of groundwater, groundwater modelling and groundwater management. The objectives of this unit are to enable students to learn the associated concept of groundwater and apply the learnt concepts in solving groundwater problems in advanced engineering practice.

301119.2 Advanced Machine Learning

Credit Points 10 **Level** 7

Assumed Knowledge

Fundamentals of computer programming and basic linear algebra.

Prerequisite

301113.1 Programming for Data Science

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer is required.

.....

Advanced Machine Learning explores modern methods of classification, clustering and regression to make predictions and analyse different forms of data. Issues that face all machine learning methods, such as model evaluation, assessment and generalisation will also be analysed.

301020.2 Advanced Mobile Robotics

Credit Points 10 **Level** 7

Assumed Knowledge

Some basic skills in MATLAB and C/C++ programming.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit is designed to develop an understanding of the concepts involved in Mobile Robotics. The areas of mobile robot mechanics, localisation, map building and path planning will be introduced. Various sensors and their applications in mobile robotics are also to be introduced.

301024.2 Advanced Numerical Methods in Engineering

Credit Points 10 **Level** 7

Assumed Knowledge

Students should have prior knowledge of strain, stress and deflection analysis of simple structures as well as knowledge of energy principle for structural analysis.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

The finite element method is an essential tool for the analysis and design of machine parts and civil engineering structures. The objective of this unit is to introduce the principles of finite element method and the applications of one, two and three dimensional elements in solving various engineering problems.

301025.2 Advanced Power Quality

Credit Points 10 **Level** 7

Assumed Knowledge

Students are expected to be familiar with basic power system calculations including balanced and unbalanced three-phase systems.

Unit Enrolment Restrictions

Students must be enrolled in 3693 Master of Engineering, 3695 Graduate Certificate in Engineering or the Master of Research.

.....

This unit is to introduce students to power quality phenomena such as voltage sag/swell, distortions, unbalance, and flicker that occur in power systems. The unit also introduces terms and definitions associated with power quality, following which each phenomenon, that is, voltage sag/swell, transient overvoltage, and harmonics. In addition, flicker is presented and discussed in detail for students to understand the sources and impact of these occurrences on power system as well as typical mitigation techniques. Finally, students are introduced to power quality benchmarking, monitoring, assessment. In addition Advanced knowledge on network frequency responses is presented.

300599.4 Advanced Robotics

Credit Points 10 **Level** 7

Assumed Knowledge

Some Knowledge of MATLAB/Simulink

Incompatible Units

300176 - Advanced Robotics, 300192 - Mobile Robotic Systems

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit is designed to introduce the engineering concepts involved in Robotics. The kinematics, dynamics, control and sensing aspects in robotics will be introduced. In addition, the concepts of artificial intelligence and their applications in robotics will also be discussed and assessed.

300596.4 Advanced Signal Processing

Credit Points 10 **Level** 7

Assumed Knowledge

Engineering mathematics, circuit theory, signals and systems.

Equivalent Units

300200 - Signal Processing 1

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit covers the principles and techniques in signal processing. The subject matter includes advanced topics in discrete-time signals and systems, the z-transform and its applications in signal processing, advanced topics in the sampling of continuous-time signals, FIR and IIR filter design, filter structures, and the discrete Fourier transform and its computation. Students develop skills of analysing and designing digital signal processing systems.

301026.2 Advanced Smart Grids and Distributed Generation

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit is designed to model, analyse and control of newly developing areas of distributed generation and smart grids. The unit will cover modelling, control, simulation and protection of such systems. The unit will also cover the impacts of renewable sources and power electronics on the operation of smart grids and micro-grids. The unit will also cover environmental and economic impacts of such systems.

301013.2 Advanced Statistical Hydrology

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

.....

This unit covers at-site flood frequency analysis, regional flood frequency analysis, trend analysis of hydrological data, linear regression analysis and multivariate statistical techniques to solve advanced hydrological problems.

301115.2 Advanced Statistical Methods

Credit Points 10 **Level** 7

Prerequisite

301113.1 Programming for Data Science AND **301114.1** The Nature of Data

Corequisite

301044.1 Data Science

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer is required.

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There has been a significant trend away from simple statistical models for complex and Big Data. Advanced Statistical Methods is a technical unit that looks at computer intensive statistical techniques for modelling complex data. Students will learn about methods including Density Estimation, the Expectation-Maximisation (EM) algorithm, Bayesian, Markovian and Hidden Markov Models, enabling them to apply sophisticated statistical tools in a Data Science setting.

300594.5 Advanced Structural Analysis

Credit Points 10 **Level** 7

Assumed Knowledge

Students must have knowledge in engineering mathematics, engineering mechanics at intermediate level and structural analysis at fundamental level.

Incompatible Units

300205 - Linear and Nonlinear Analysis of Structures, 300367 - Advanced Structural Engineering, 300195 - Numerical and Finite Element Methods

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit will introduce students at postgraduate level to structural analysis of trusses, beams, frames and plates. It covers the slope defection method and matrix method for analysis of beams, trusses and frames, and the bending and buckling analysis of beams and plates under various loading conditions. The theories learned in classes will be reinforced in practical sessions by using computer software packages.

301021.2 Advanced Thermal and Fluid Engineering

Credit Points 10 **Level** 7

Assumed Knowledge

Fundamental knowledge of fluid mechanics, theory of thermodynamics, knowledge of heat transfer including conduction, convection.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit covers fundamental principles in the thermal and fluid engineering. While the main focus will remain on incompressible fluids, effects of compressible fluids will also be discussed. The contents of this unit include fluid mechanics, thermodynamics and heat transfer. Students will learn the engineering applications of thermal and fluid principles.

301009.2 Advanced Timber Structures

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit enables students to gain an in-depth knowledge into timber structures based on Australian Standards. Design of timber beams, floors, columns and connections will be introduced with a focus on the use of plywood, round timbers, glue-laminated timber and structural laminated veneer lumber.

301196.2 Advanced Topics in Artificial Intelligence

Credit Points 10 **Level** 7

Assumed Knowledge

This unit requires basic skills in programming with either JAVA or C++ as the programming language.

Incompatible Units

300245 Intelligent Agents; 300385 Automated Negotiation and e-Trading; 300769 Intelligent Agents for eMarkets

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit introduces the most fundamental techniques of artificial intelligence (AI), including knowledge representation, searching, machine learning and intelligent

agents. Students will learn the basic theories and algorithms that are essential in the design and development of intelligent systems. The unit will focus on two typical AI applications: game playing and e-trading. Students will have the chance of using existing multiagent system platforms to design and develop intelligent software for game playing and automated trading in e-markets.

301236.2 Advanced Topics in Cybersecurity

Credit Points 10 **Level** 7

Assumed Knowledge

The students should be familiar with the fundamentals of computer networking and security. It is advisable that the students must have either taken appropriate units in these areas (e.g., 300695 Network Technologies and 300696 Systems and Network Security) or have equivalent knowledge.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit focuses on the advanced features of Cybersecurity, contemporary views on security, and the solutions that aim to protect the emerging services and technologies. The emphasis is on the development of student skills to enable them to do proficient research and development works and studies in the cybersecurity discipline. On successful completion of this unit, students will be equipped with an in-depth understanding of relevant issues, attacks on massively interconnected systems, and the evolving approaches to improve the reliability of advanced services.

300694.4 Advanced Topics in ICT

Credit Points 10 **Level** 7

Prerequisite

301005.1 Professional Practice and Communication

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The information and communications technologies are advancing at an ever-increasing rate. The whole world is now interconnected. The World Wide Web community is actively engaged in developing the next generation of the Web. Social networking on the Internet is facilitated by the latest developments such as Facebook, YouTube and MySpace. Artificial Intelligence is increasingly intertwined with the decisions we make every day. Large scale storage technologies are leading to Cloud Computing where data and applications may reside anywhere in the world. Research in how to access meaningful data from the vast amounts on the Web has led to initiatives such as Semantic Web and Linked Data. Mashups mix data from disparate sources to enable users to work more efficiently. Wireless and mobile computing are changing the market place. All of these trends are still in their early stages. To make sense of all these developments, the top echelons of the World Wide Web Consortium are actively engaged in creating a new discipline called Web Science. Advanced Topics in ICT will enable the students to appreciate the scale of new developments and create prototypes of applications in their desired ambit. This unit consists of three Topics selected each semester. Assessment will be by a series of discussion paper assignments here students will show they have met the unit learning outcomes.

300252.4 Advanced Topics in Networking

Credit Points 10 **Level** 7

Assumed Knowledge

Students should be familiar with the fundamentals of computer networking. In particular, students should have a good understanding of the OSI model, the TCP/IP protocol suite, and current Internet and networking technologies. Therefore, it is strongly advised that students must have either taken an appropriate unit in computer networking (e. g., 300695 Network Technologies), or have equivalent knowledge.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit focuses on the advanced features of networked systems and the emerging network technologies and services. The unit provides students with an in-depth understanding of relevant protocols, the emerging standards, and standards organisations. The emphasis of the unit is on development of the student skills to enable them to do proficient research and development works and studies in the computer networking discipline.

301045.3 Advanced Topics in User System Interaction

Credit Points 10 **Level** 7

Incompatible Units

300570 - Human-Computer Interaction; 300901 - Human-Computer Interaction (Advanced)

Unit Enrolment Restrictions

Students must be enrolled in 3698 Master of Information and Communications Technology (Advanced), 3699 Master of Information and Communications Technology, 3700 Graduate Diploma in Information and Communications Technology, 3701 Graduate Certificate in Information and Communications Technology, 3702 Master of Information and Communications Technology (Research), 1836 Master of Digital Humanities or 2761 Master of Business Administration.

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The domain of User System Interaction or also known as Human Computer Interaction (HCI) dictates that IT graduates must be able to develop and evaluate interfaces that not only look professional but are usable, functional and accessible. This post graduate unit also examines HCI as a field of research and discusses novel areas of research in the area. Students in this unit will be required to complete a research project alongside a literature review document both of which comprise of content that is of a standard of being able to be considered for publication and/ or presentation in a HCI conference or journal.

301017.2 Advanced Waste Management

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit covers sources, identification and characterisation of solid and hazardous waste generated from the community. Sustainable management of waste incorporating minimisation, recycle, recovery and disposable options is discussed. Also, atmospheric pollutants and their control, greenhouse gases and their impact on climate change are examined.

300595.4 Advanced Water Engineering

Credit Points 10 **Level** 7

Assumed Knowledge

Exposure to basic hydraulics and engineering hydrologic principles.

Incompatible Units

300766 Hydrology; 300983 Surface Water Hydrology

Unit Enrolment Restrictions

This is a specialised unit in a specialist discipline in Master of Engineering program. Students must be enrolled in a postgraduate engineering program undertaking a Civil Engineering specialisation or in the Master of Research.

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This unit introduces advanced principles of engineering hydrology as it pertains to the surface water component of the hydrologic cycle. Students are exposed to floodplain analysis techniques. The focus is on practical engineering solutions to issues originating from catchment development. Students are exposed to commonly used hydraulic and hydrologic software packages to delineate flooded areas resulting from such developments.

200499.6 Alternative Solutions for Bushfire Prone Areas

Credit Points 10 **Level** 7

Assumed Knowledge

Students must have prior knowledge of Bushfire behaviour, planning, building, bushfire fighting and emergency management.

Prerequisite

200457.4 Bushfire Behaviour AND **300708.4** Planning and Development Control AND **301049.1** Planning for Bushfire Prone Areas AND **301103.1** Interpreting Building Regulations (Residential Buildings) AND **200458.3** Building in Bushfire Prone Areas AND **200500.3** Bushfire Fighting AND **300948.2** Fire Technology and Engineering Principles

Corequisite

200459.3 Emergency Management for Bushfire Prone Areas

Unit Enrolment Restrictions

Students must be enrolled in 3709 Graduate Diploma in Bushfire Protection or 3708 Masters in Bushfire Protection.

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This unit describes the processes and techniques available to develop performance outcomes to the planning and building of structures required for bushfire protection in Australia. The course builds on previous units in the course to consider the concept of bushfire protection measures in combination and associated methods so as to reduce the impacts of bushfire on life, property and the environment. It also introduces the 'bushfire protection guidelines' and processes similar to that used in developing performance solutions under the National Construction Code. These include the use of event tree analysis, verification methods, consideration of climate change and the use of annual exceedance probabilities when developing performance solutions. Students are required to develop suitable measures through a performance solution for bushfire protection of a building.

401175.1 Analytic Approaches in Epidemiology

Credit Points 10 **Level** 7

Assumed Knowledge

Introductory skills in epidemiology, including measures of disease frequency and association, epidemiologic study designs, and principles of bias and confounding.

Prerequisite

401076.1 Introduction to Epidemiology OR **401173.1** Introduction to Clinical Epidemiology

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit extends the basic principles of epidemiology introduced in 401076 ‘Introduction to Epidemiology’ and equips students with practical analytical skills to design and conduct epidemiological studies. The unit considers the principle models of causation and analytical approaches to epidemiological study design and analysis. Students will use causal diagrams and evidence from the literature to develop analytic strategies for specific study designs, develop practical skills in calculating and interpreting measures of association and effect modification, and be introduced to principles and strategies for quantitative bias analysis.

301235.2 Applied Cybersecurity

Credit Points 10 **Level** 7

Prerequisite

300695.2 Network Technologies

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit covers the current approaches, technologies, and applied practices pertinent to cybersecurity and helps the student to understand important related protocols and

standards. It describes the features needed for the mitigation of cyber vulnerabilities for improving the reliability of the underlying systems, privacy preservation, and achieving protections against cybercrime and internet fraud. It also examines the basics of ethical hacking, network assurance, cyber risk management, and incident analysis. The unit discusses the trends in applied cybersecurity and introduces some of the relevant current key research issues and features of the field.

800211.1 Applied Innovation and Entrepreneurship

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a PhD course or course 8111 - Graduate Certificate in Researcher Engagement, Development and Impact

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Entrepreneurial & innovative skills are more important than ever for today's graduates where applying creativity to drive commercial outcomes is commonplace both for those working inside organisations and those developing their own business. This unit, based on the fundamental principle of 'doing', proposes to deliver principles and content through a highly applied approach. This is a unit that teaches entrepreneurship in a fundamentally different way to the traditional course structures. The unit is delivered through Western Sydney University's highly successful "Launch Pad Innovation Centre" which provides both Tech Start-up and SME business support. This unit maximises the opportunity for real-world application by delivering through a case study driven approach and utilising a mix of presenters including: academia, business mentors, industry specialists from Launch Pad partners such as KPMG, NAB and government industry representatives, and actual start-up and SME business owners as guest lecturers.

301312.1 Applied Machine Learning

Credit Points 10 **Level** 7

Assumed Knowledge

Some probability and statistics knowledge would be advantageous.

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This unit introduces the foundation and concepts underpinning Machine Learning (ML) at a more abstract level, and provides more focus on its practical applications in areas such as: the classification and extraction of text data from various documents and web pages, image processing, Google's PageRank algorithm and relational data mining (RDM). These learning objectives are achieved through various ML software and a series of practicals and projects. The unit covers the concepts and notions of supervised, unsupervised and reinforcement learning, perceptron, neural networks, support vector machines (SVM), knowledge representation (KR) based RDM, and a comprehensive introduction to the Scikit-learn ML Python libraries.

301197.2 Architecture Studio - Fundamentals of Analogue Design

Credit Points 20 **Level** 2

Unit Enrolment Restrictions

Must be enrolled in 3753 Bachelor of Architectural Design or 3768 Postgraduate Bridging Program (Architecture). Students not enrolled in 3753 or 3768 who wish to enrol into this unit should have a 5.0 minimum GPA and are required to discuss with the Academic Course Advisor.

Special Requirements - Essential Equipment

Drawing and model making supplies (pencils, pens, hardcover sketchbook, architectural scale ruler). A full list will be issued during orientation. A personal laptop is recommended for students who undertake the full 6 semester degree sequence to facilitate their studies (512MB hard drive, 8GB RAM, high quality graphics processor) – specifications will be issued during orientation. Each semester will require students to purchase consumables such as paper, card, plastic, plywood, adhesives, blades, and other essential materials required for assessment tasks.

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This unit will introduce students to fundamentals of spatial composition as it relates to visual and temporal experience in architectural contexts. Project-based assessments will involve the creation of 2D and 3D compositions that explore traditional organisational strategies, classical principles of geometry, materiality, experiential phenomena, and representation. Students will work with analogue and traditional tools including freehand drawing and conventional shop equipment. The unit will also provide an introduction to the history, theory, and discourse of architecture from 4000BC to the Enlightenment.

301316.1 Architecture Studio: Urban Architecture

Credit Points 20 **Level** 4

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This unit will introduce students to urban architecture with complex brief requirements, site conditions and technological considerations. Emphasis is on design resolution considering historical, geographical and social aspects. Experimentation at various theoretical levels is expected and students are encouraged to deliver ambitious and imaginative architectural responses.

301314.1 Artificial Intelligence Ethics and Organisations

Credit Points 10 **Level** 7

Assumed Knowledge

General knowledge of artificial intelligence technologies and applications, including machine learning, robotics and autonomous systems, natural language processing and expert systems.

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Artificial Intelligence Ethics and Organisations provides students with a comprehensive grounding in the ethical

issues of AI technologies. Students will learn about the relevant laws, regulations and policies with respect to AI ethics, and the existing framework and research trend in the field. With a series of case studies, students will learn how to apply general principles and guidelines in practice. They will also learn to identify potential risks and impacts, to ensure AI ethics are followed in different circumstances regarding data governance, automatic decisions, predictive analytics, autonomous system design and deployment, and structure changes of labour markets.

301046.2 Big Data

Credit Points 10 **Level** 7

Assumed Knowledge

It is expected that students enrolled in this unit should have basic programming skills in any programming language and working knowledge in elementary probability and statistics, including the concepts of random variables, basic probability distributions, expectations, mean and variance.

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"Big data" is the label for the ever-increasing gigantic amount of data with which humanity has to cope. The availability of data and the development of cloud computing architectures to process and analyse these data have made data analytics a central tool in our endeavours. This unit will introduce students to the realm of “big data", covering the important principles and technologies of retrieving, processing and managing massive real-world data sets. It is designed to provide the basic techniques required by any discipline that needs to make sense out of the growing amount of data, and to equip students with the knowledge and key set of skills set to be competitive in the growing job market in the analytics field.

301154.2 Biological Agents 1

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit introduces students to the key concepts involved in Biosecurity and Microbial Forensics, with a focus on understanding the types of biological agents that pose potential security risks and the system and practices involved in investigation and management of potential threats. This unit is taught by the University of Canberra as part of a collaborative venture between the University of Canberra and Western Sydney University. Note: Further information on this unit is available from the University of Canberra.

301155.2 Biological Agents 2

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit builds on the knowledge gained in the Biological Agents 1 and develops students' understanding of the tools and processes involved in the field of biosecurity. This unit is taught by the University of Canberra as part of a collaborative venture between the University of Canberra and Western Sydney University. Note: Further information on this unit is available from the University of Canberra.

301149.2 Blood Distribution and Spatter

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit will provide an in-depth review of the principles of blood spatter creation, and blood stain interpretation as it pertains to biological evidence. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

300713.4 Building Engineering

Credit Points 10 **Level** 7

Equivalent Units

EN808A - Building Engineering

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The aim of this unit is to provide students with an understanding of the factors that contribute to decisions in building design in respect of compliance with building regulations and standards. Topics include soil classification for construction, footing systems, loadings and their evaluation, structural materials and systems, structural behaviour and strength, and failure and rectification.

300711.4 Building Fire Services

Credit Points 10 **Level** 7

Assumed Knowledge

Building surveying, fire safety engineering and related disciplines.

Equivalent Units

PE806A - Building Fire Services

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit describes the various types and application of building services and fire safety systems. It introduces appropriate standards for building fire service system design and the methods of applying recommendations of fire engineering assessments with respect to building services and fire safety systems.

200458.4 Building in Bushfire Prone Areas

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit describes the basis for the design and construction of buildings to withstand bushfire attack, the measures that can be incorporated into building design to achieve this and the legislative building requirements affecting bushfire environments. The unit examines the mechanisms of bushfire attack on structures, the role of landscaping on building survival and how materials perform in the presence of a bushfire event. The unit describes the role of the Building Code of Australia (BCA) and Australian Standards in the construction of various building types and the legislative and regulatory environment in which this operates.

400846.3 Building Organisational Capacity in Health Care

Credit Points 10 **Level** 7

Equivalent Units

400778 - Leadership and the Development of Organisational Capacity in Health Care

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The concept, form and structure of health care organisations are explored. Organisational theory is used to analyse contemporary health care structures. Factors which influence organisational design, function and effectiveness are discussed including: organisational behaviour, strategy, culture, power and politics, technology, sustainability and effectiveness. A major focus is planning for strategic organisational development to meet the challenges of rapid change and the need for performance improvements in patient care delivery. Concepts related to the strategic development of workforce capacity in the health care arena considered through the application of theories including the learning organisation. Leadership is examined with emphasis on change management.

300947.3 Building Regulations

Credit Points 10 **Level** 7

Assumed Knowledge

This unit assumes that the student has undertaken coursework in building construction, building surveying, engineering, architecture or a related area or has the relevant AQF qualification and gained basic building regulation knowledge by working in the construction industry in an appropriate capacity for at least four years.

Equivalent Units

300719 - Fire and Building Regulations

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit introduces the role and functions of the building surveyor and the National Construction Code of Australia (NCCA). The topics include building legislation, NCCA general provisions, structure and philosophy. Students are required to understand the objectives, the function statements and the performance requirements of various sections of Volume One of NCCA. The concept of performance based approach is discussed and compared with the prescriptive approach. The content covers the relationship between research in the development of building codes and the role played by approval/certifying authorities in building assessment and approval. Legal obligations of building surveyors, their tasks of assessment, enforcement and documentation are also explained.

200457.5 Bushfire Behaviour

Credit Points 10 **Level** 7

Assumed Knowledge

This unit assumes that the student has undertaken undergraduate coursework in building surveying, planning or related areas or has gained the equivalent building construction knowledge by working in the construction industry in an appropriate capacity for at least four years.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit describes the factors affecting bushfire behaviour and the models which are used to predict bushfire behaviour, the principles of fire ecology, and the assessment of bushfire hazards on property and the environment. Topics include the measurement of fuel, rates of spread and flame length equations, fire danger indices and landscape issues, topographical influences on fire behaviour, the importance of fire regimes and fire thresholds on flora and fauna, habitat and fire impacts on environmental services such as soils and water catchments. The role of fire behaviour in determining impacts on structures is also described.

200500.4 Bushfire Fighting

Credit Points 10 **Level** 7

Assumed Knowledge

This subject assumes that the student has undertaken undergraduate coursework in building surveying, planning or related areas or has gained the equivalent building construction knowledge by working in the construction industry in an appropriate capacity for at least four years.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit describes the techniques, hardware and extinguishing agents used to fight and control bushfires and focuses on the logistics involved in ensuring safe, efficient and effective control. The content includes bushfire fighting strategies in the context of rural and interface environments, hazard reduction and brigade structure arrangements. The role of planning in supporting

firefighting through water supply and access is also considered as are the findings from various Public Inquiries.

201019.1 Business Analytics in Practice

Credit Points 10 **Level** 7

Equivalent Units

200822 - Applied Marketing Solutions

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This unit will explore and analyse ideas and concepts related to business intelligence and advanced analytics in business and broader economic contexts. The ability to identify, gather, extract, and analyse data is vital to organisations. Business analytics uses a variety of software applications to transform such data into useful information that can then be used for constructive decision making, improving operational effectiveness and efficiencies and identifying new business opportunities.

200838.1 Business Operations and Logistics

Credit Points 10 **Level** 7

Equivalent Units

200782 - Business Operations Management

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course, 3693 Master of Engineering, 3749 Master of Science, 3772 Graduate Diploma in Protected Cropping or 3773 Graduate Certificate in Protected Cropping

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This unit introduces students to operations and logistics management theory and practice. Operations and logistics management is an important element of business strategy and it is integral to both service and manufacturing industries. Students will develop an appreciation of the latest trends in business operations and logistics management and the applications currently adopted in organisations and industries. They will also learn to apply quantitative techniques for formulating/analysing problems and providing recommended solutions. This unit provides an excellent foundation for further specialisation in logistics and supply chain management but also works well for students in general business operations programs.

200829.3 Business Project

Credit Points 20 **Level** 7

Assumed Knowledge

Understanding of the business environment and organisational structures, business communications skills, business strategy, as well as substantial knowledge in the discipline of specialisation.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or in course 3748 Master of Information Governance. Students in the following course must have successfully completed 60 credit points before undertaking this unit: 2764 Master of Commerce (Human Resource Management). Students in the following courses must have successfully completed 40 credit points before undertaking this unit: 2624 Master of Business (Operations Management) and 2725 Master of Commerce (Property Investment and Development). Students in course 2761 Master of Business Administration must have completed all core units plus 40 credit points of specialisation units (i.e. a total of 80 credit points) and must obtain permission of the Director of Academic Program.

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Business Project equips professionals to address contemporary challenges through research and applying knowledge developed in earlier units of study. This student-centred unit provides close supervision of research and analytical practices to enhance skill development and capacity to engage with problems confronting organisations, taking account of contexts and multiple stakeholders. Students will have scope to focus on issues that are of particular concern to organisations or interest for their careers. As an integrating unit, it demands participants bring together their knowledge and curiosity to develop recommendations in a format that can showcase their achievements. In order to complete this unit, students must have studied this unit over two teaching periods.

800198.1 Career and Personal Development

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a PhD course or course 8111 - Graduate Certificate in Researcher Engagement, Development and Impact

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A key skill in becoming a professional researcher is learning how to manage your career options. Fundamental aspects of this include making strategic choices regarding research focus and employment directions, learning to build professional networks both locally and internationally, and undertaking self-directed learning to continually expand your abilities and knowledge. This unit is designed to provide a structured approach to these aspects of career planning, and will include collaborative workshops where experienced researchers join the group to discuss the art of navigating around external constraints while forging your own path forward. As an early application of these principles, the unit involves completion of your Confirmation of Candidature proposal.

301042.2 Cloud Computing

Credit Points 10 **Level** 7

Assumed Knowledge

Basic knowledge of networking and computer systems.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Cloud computing has become a driving force for information technology over the past several years, and it is moving towards a future in which we won't rely on local computers, but on centralised facilities operated by third-party compute and storage utilities. Governments, research institutes, and industry leaders are rushing to adopt Cloud Computing to solve their ever-increasing computing and storage problems arising in the Internet Age. This unit

offers “Academy Cloud Foundations” (ACF) curriculum as part of Amazon Web Services (AWS) Academy. Students will develop knowledge and skills in the areas of virtualization technologies, cloud architecture, AWS core services and their pricing, security, architecture, and support.

200432.4 Commercial Law

Credit Points 10 **Level** 7

Incompatible Units

200014 - Commercial Law

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or in course 3748 Master of Information Governance. Other students wishing to take this unit as an elective need approval from the Academic Course Advisor. The online offerings for this unit are only available to students enrolled in the fully online courses 2793 Master of Financial Planning and 2795 Graduate Certificate in Financial Planning.

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In this unit, students learn about the concepts of law, its impact on businesses, and how to apply the law to solve practical legal problems that arise in business. The unit is designed to help you identify where potential legal issues or problems can arise in business. It deals with concepts of Australian law and commercial legal obligations that are of importance both to professional practice and to studies in later units. The unit topics are: Australian Legal Institutions and Sources of Law, Case Law and Doctrine of Precedent, Legislation and Statutory Interpretation, The Australian Federation and Concepts of Constitutional Law, Principles of Tortious Liability, the formation, vitiation, performance and discharge of contracts, forms of business structure, consumer transactions, consumer protection and agency.

400840.3 Communicable Diseases

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit will encompass clinical aspects, epidemiology, prevention and control of important communicable diseases, both in Australia, and globally. Specific topics covered include causative agents, routes of transmission, host responses, risk factors, environmental influences, vector- and food-borne diseases, vaccine-preventable diseases, legislative requirements, surveillance, outbreak investigations, bioterrorism, strategies for prevention and control and emerging challenges.

301186.2 Community and Public Health Nutrition

Credit Points 10 **Level** 7

Assumed Knowledge

Undergraduate knowledge of human nutrition, including nutrition science, life cycle nutrition, and the relationship between diet and disease.

Unit Enrolment Restrictions

Unit coordinator permission is required, to ensure that prospective students have completed sufficient undergraduate study (the equivalent of 30 credit points of undergraduate study at Western) that focus on nutrition science, life cycle nutrition, and the relationship between diet and disease. This is essential, assumed knowledge for this unit, as the unit does not teach these topics.

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This unit examines the principles of public health nutrition and a systems approach, and enables students to use them to identify and analyse nutrition issues and outcomes. Students will learn about the food and nutrition system and its drivers, and examine their impact on current food, nutrition and nutrition-related health issues. They will explore public health nutrition priorities in Australia and ‘at risk’ groups such as Aboriginal and Torres Strait Islander peoples, culturally and linguistically diverse groups, and other vulnerable groups. They will learn to interrogate nutrition-related policies in relation to public health nutrition priorities and contemporary topics in Australia and similar contexts. Students will learn about the role of advocacy in promoting a sustainable and equitable food supply system, and improving food and nutrition outcomes for populations.

200433.5 Company Law

Credit Points 10 **Level** 7

Prerequisite

200432.4 Commercial Law

Equivalent Units

51227 - Company Law (PG)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or in course 3748 Master of Information Governance. Students wishing to take this unit as an elective need approval from the Academic Course Advisor.

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This unit mainly deals with legal issues concerning various aspects of companies: incorporation, regulation, membership and capital, company management, corporate officers, meetings, relations of the company with outsiders, accounts, reports and other disclosures, arrangements and reconstruction, receivers and winding up, and share acquisition and takeovers. It also considers public policy issues underlying the law in the above areas. Other forms of business organisation, such as partnership, trusts and sole traders, are also dealt with.

200776.1 Compliance Management

Credit Points 10 **Level** 7

Equivalent Units

200224 - Management of Quality

Incompatible Units

200227 - Performance Measurement and Benchmarking; H7072 - Risk Management

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit comprises three modules that focus on quality management, risk management, and performance measurement and benchmarking. The quality systems module explores quality management principles, systems, and frameworks, and the role that quality management plays in creating customer value, improving competitiveness and enhancing organisational effectiveness. The risk management module examines the important risks that need to be managed by businesses, especially in a global business setting, and introduces common frameworks that can be used to develop risk management strategies. The performance measurement and benchmarking module elaborates upon the evolution of performance measurement frameworks and introduces approaches that can be used by businesses to assess the status of their business processes and enhance performance through benchmarking. It will draw upon the concepts and theories covered in the quality and risk management modules. All three modules incorporate aspects related to economic, social and environmental responsibility. Students are required to study all three modules.

200471.5 Construction Technology 5 (Envelope)

Credit Points 10 **Level** 4

Corequisite

Students in 2607 Bachelor of Construction Management must enrol in 300724 Industry Based Learning before enrolling in this unit.

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After undertaking this unit, you should understand the way internal spaces are designed and constructed to optimise thermal, visual and acoustic comfort and for energy efficiency.

200826.1 Contemporary People Management

Credit Points 10 **Level** 7

Equivalent Units

46518 - Human Resource Management, 200718 - Human Resource Management

Unit Enrolment Restrictions

Students must be enrolled in a Business postgraduate course, 3693 Master of Engineering, 3698 Master of Information and Communications Technology (Advanced), 3699 Master of Information and Communications Technology, 3752 Master of Project Management or 1850 - Master of Education (Leadership and Management).

.....

The unit serves as an introduction to human resource management for those considering careers in employment relations and those who will potentially have people management responsibilities. HR processes and practices are studied in contexts and with a consideration of stakeholders' interests, leading to an appreciation of the contribution of human resource management to organisational success. Students will evaluate particular approaches to human resource management through analysing real-world cases and practical activities.

300697.3 Content Management Systems and Web Analytics

Credit Points 10 **Level** 7

Assumed Knowledge

Web development and HTML basics.

Equivalent Units

300264 Web Site Management and Security

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Content management systems (CMS) is a collective name for a wide range of web applications used by organisations/ institutions/enterprises and social communities in establishing a continuing web presence. They may connect to backend systems and can provide complete web application services. This unit builds on both the conceptual and practical skills/knowledge to develop and utilise CMS's; in their management; in technical, legal, ethical and security issues; and in utilising web analytics to obtain business intelligence of their operation and impact.

401178.1 Controversies in Epidemiology

Credit Points 10 **Level** 7

Prerequisite

401076.1 Introduction to Epidemiology OR **401173.1** Introduction to Clinical Epidemiology

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit offers students an opportunity to synthesise theories and methodologies from epidemiology. It highlights current controversies and practices in epidemiology. Students attend weekly presentations on topics related to content area interests, and other relevant seminars. Students will convene with faculty to reflect on and critique components of research presentations relevant to the students' interest and to the contemporaneous topics being covered in the core epidemiology curriculum. Course assignments involve critical appraisal of conceptual and methodological issues presented in the seminars, and related issues relevant to student's own research.

301131.2 Crime Scene Investigation (PG)

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge of general science as obtained via an undergraduate science degree (with completion of chemistry and biology units highly recommended)

Unit Enrolment Restrictions

Students must be enrolled in the Master of Forensic Science, the Graduate Diploma in Forensic Science, or the Graduate Certificate in Forensic Science.

Special Requirements - Essential Equipment

Students will require internet access via a laptop or desktop computer (the unit is delivered via a web browser)

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A substantial amount of forensic evidence used in the prosecution of criminal cases is initially established at the crime scene. Recognising, detecting, recovering, preserving and recording this evidence forms a critical function within forensic science and criminal investigation. This unit explores the main aspects of crime scene investigation, including: crime scene processes, recognition of evidence, documentation of crime scenes, evidence detection and enhancement, maintaining evidence integrity, and bloodstain pattern analysis. It also covers professional practices associated with evidence handling and case file management.

201022.1 Customer Experience

Credit Points 10 **Level** 7

Assumed Knowledge

An understanding of marketing theory and relevant principles is assumed.

Equivalent Units

200823 - Buyer Behaviour

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business program or 3749 - Master of Science.

Special Requirements - Essential Equipment

Prescribed text, stationery, access to computer, Internet and Library.

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Customer experiences occur when there is interaction between a company and their customers for the duration of their relationship. It comprises the customer journey, the consumer-brand 'touchpoints' and the environment in which these experiences happen. Increasing digitisation of the organisation-customer interface has resulted in a shift of buyer expectations where it is easier to compare market offerings and where communication is no longer a one way interaction. This unit considers the complexity of the technology driven relationship where customers become co-creators of their own personalized experiences and how companies can be part of this.

102424.1 Cyber Justice (PG)

Credit Points 10 **Level** 7

Assumed Knowledge

Previous study of cultural and social analysis, history and political thought, law, psychology or criminology would be useful, but is not required. Experience of using social media would also be useful but not required.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This subject explores the evolving relationship between digital technology, justice and crime. How are the temptations and risks associated with harmful or illicit behaviour being re-shaped by information and communication technologies, by social media and the computer networks that increasingly hold organisations together? Cyber crime is typically understood as use of information and communication technologies to assist in the commission of other crimes, actions that target computer networks or software, or new offences that could only exist with the technology. Cyber justice meanwhile emphasises the use of information and communication technologies to improve access to justice and the efficiency of justice procedures, not just to deal with cyber crime. How does the law keep up with the emergence of new crimes and technology-enhanced versions of old ones, and how do forensic investigators and analysts contribute to this process? The subject examines how justice processes and spaces, as well as criminal networks and strategies, are being reimagined to take advantage of the new technologies.

401179.2 Data Management and Programming for Epidemiology

Credit Points 10 **Level** 7

Assumed Knowledge

High school mathematics (arithmetic, formulas and algebra, reading graphs). Basic computer competency and basic programming skills.

Corequisite

401077.1 Introduction to Biostatistics

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Home computer or laptop or access to a machine on which software can be installed. (Necessary for assignments). Software required includes Git (free, open-source, multi-platform) and R (free, open-source, multi-platform).

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Modern epidemiology deals with ever increasing volumes of data and complexity of analysis. This course is aimed at equipping students with effective practices for managing data and programme code and ensuring the security of their data. Students will be taught the fundamentals of managing code and data in a revision control system as well as good programming practices and techniques which can form a basis for a robust, repeatable and test-driven research methodology. Programming instruction and exercises will use the SAS and R languages, and SQL databases.

301044.2 Data Science

Credit Points 10 **Level** 7

Assumed Knowledge

Basic Statistics, Computer Programming

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The explosion of data in the internet age opens up new possibilities for agencies and business to better serve and market to its customers. To take full advantage of these opportunities requires the ability to consolidate, manage and extract information from very large diverse data sets. In

science, data sets are growing rapidly, with projects routinely generating terabytes of data. In this unit we examine the software tools and analytic methods that underpin a successful Data Science Project and gain experience in big data analytics.

301015.2 Deep Foundations

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit covers advanced analysis and design criteria for deep foundations. Both statically and dynamically loaded deep foundations are covered including the site investigation methods and field testing methods adopted in practice for determining integrity and load carrying capacity. Appropriate computer software will be introduced to carry out the deep foundation design according to the Australian Standards.

301283.1 Design Graphics: Presenting Innovation

Credit Points 10 **Level** 1

Equivalent Units

300302 Industrial Graphics 1: Presentation 301074 Graphics 1: 2D & 3D Industrial Design Communication

Special Requirements - Essential Equipment

USB or external storage device to store graphic files Basic drawing equipment: A3 Layout paper HB lead pencil Black Artliners eg 0.4, 0.5, 0.8 Pentel Sign Pen or Heavy black Artliner

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Design visualisation in the form of 2D and 3D graphics is fundamental to the overall design process. This unit provides students with essential knowledge of design principles as used in visual communication. Students will employ graphic techniques to effectively convey a design proposal using creativity, technical skill, and quality design principles in a manner that is consistent with industry expectations. Students will produce graphic work that is portfolio-ready and suitable to display to potential clients and employers.

101636.3 Developing Sustainable Places

Credit Points 10 **Level** 7

Equivalent Units

101345 - Land Use Strategy Design, 101311 - Urban Challenges: Developing Sustainable Places

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit provides an understanding of environmental, economic and social issues arising from the effects of urban development within city regions and examines the relationship between sustainable development and metropolitan planning in the Australian and global context. It focuses on the concepts related to sustainability, sustainable development and sustainable cities. It also looks into recent initiatives towards the realisation of sustainable cities.

101897.2 Development for Equality

Credit Points 10 **Level** 7

Prerequisite

101895.1 Political Economy of Development

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The eight Millennium Development Goals (MDGs) were established in 2000 as a blueprint to meet the needs of the world's poorest and quickly became the dominant paradigm driving global development. The goals were targeted to be met by 2015 but no country has yet to approach success in achieving the goals. This unit critically examines the MDGs and in particular their impact on and engagement with women and other groups who remain the poorest and most vulnerable across the globe. Through this critique students will identify the structures, institutions and systems producing global inequalities; the significance of dominant development discourses in creating and continuing inequalities; and the intersections with social categories such as race, gender, sexuality, disability, class, religion and ethnicity. In order to demonstrate their understanding and critique, students will design a program for a specific disadvantaged group in a targeted region with a particular need to be met, such that the proposed program can sit within a suite of programs so as to ensure the ultimate aim of sustainable development.

301050.2 Disaster and Emergency Management (PG)

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit consists of project based studies that explore how human societies prepare for and respond to disasters and emergencies. The unit uses case studies to investigate the historical practice of preparation, prevention, response and recovery strategies for community safety during times of critical incidents. The unit will facilitate improved understanding by developing scenarios of impending issues such as natural disasters and man made emergencies. Focus will be on Australian national and State coordination arrangements for disaster planning including the comprehensive approach to emergency management. Students will need to attend a 5 day workshop and undertake a group presentation and report as well as an exercise in Incident Control System principles at a workshop.

401079.3 Dissertation (Full Time)

Credit Points 40 **Level** 7

Assumed Knowledge

It is assumed that the student would have completed core (or foundational) units associated with their Masters

program, ideally in relevant research design and practice related disciplines.

Corequisite

For students enrolled in the 4702 Master of Public Health course: 401080 Research Protocol Design and Practice and 401077 Introduction to Biostatistics. For students enrolled in the 3749 Master of Science and 4738 Master of Epidemiology courses: 401077 Introduction to Biostatistics. For all students: 401076 Introduction to Epidemiology

Equivalent Units

The two units below are equivalent to each other: 401079 Dissertation (Full-time) 401282 Dissertation (Part-time)

Unit Enrolment Restrictions

To enrol in this unit, students must be enrolled in a post-graduate course and have a GPA of 5.5 or greater. Furthermore, permission is required for enrolment. Students must have an approved Masters Dissertation Proposal before enrolling. Students must submit prior to enrolment a proposal no longer than 3 pages comprising the following: 1. Proposed title 2. Background and rationale 3. Research objectives 4. Research plan (including study design, data sources, and analytic strategy) 5. Expected outcomes and benefits 6. Ethical implications 7. Budget and how research costs are to be met (if required) 8. Timeline 9. Supervisor endorsement. Approval of the Dissertation Proposal must be provided by the Unit Coordinator to ensure that the project meets the expected scale and scope of a 40 credit point Dissertation. For students enrolled in the Master of Public Health or Master of Health Science, they are also required to have completed 80cp before they can enrol in this unit.

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This unit requires students to complete a substantial piece of independent research. Dissertations will involve the in-depth examination of a particular topic/question, and should demonstrate evidence of ability to undertake sustained critical analysis. The dissertation provides an opportunity for students to demonstrate that they can consolidate knowledge acquired throughout their course of study, understand how existing evidence/information relates to research topics, and how their own work adds to this body of knowledge. Independent thinking is required, including the ability to critique one's own work and that of others, as well as articulating the implications of their own research and support their findings through their written dissertation. Students will have the opportunity to participate in workshops where they will gain skills in defining a clear research question, preparing a formal research proposal, conducting a literature review, ethics and research, and formal writing at a professional standard. Findings of student work with be presented at an end of semester research seminar. This unit can also be taken over two semesters (see 401282 Dissertation (Part-Time)).

401282.2 Dissertation (Part Time)

Credit Points 40 **Level** 7

Assumed Knowledge

It is assumed that the student would have completed core (or foundational) units associated with their Masters program, ideally in relevant research design and practice related disciplines.

Corequisite

For students enrolled in the 4702 Master of Public Health course: 401080 Research Protocol Design and Practice and 401077 Introduction to Biostatistics. For students enrolled in the 3749 Master of Science and 4738 Master of Epidemiology courses: 401077 Introduction to Biostatistics. For all students: 401076 Introduction to Epidemiology

Equivalent Units

The two units below are equivalent to each other: 401079 Dissertation (Full-time) 401282 Dissertation (Part-time)

Unit Enrolment Restrictions

To enrol in this unit, students must be enrolled in a post-graduate course and have a GPA of 5.5 or greater. Furthermore, permission is required for enrolment. Students must have an approved Masters Dissertation Proposal before enrolling. Students must submit prior to enrolment a proposal no longer than 3 pages comprising the following: 1. Proposed title 2. Background and rationale 3. Research objectives 4. Research plan (including study design, data sources, and analytic strategy) 5. Expected outcomes and benefits 6. Ethical implications 7. Budget and how research costs are to be met (if required) 8. Timeline 9. Supervisor endorsement. Approval of the Dissertation Proposal must be provided by the Unit Coordinator to ensure that the project meets the expected scale and scope of a 40 credit point Dissertation. For students enrolled in the Master of Public Health or Master of Health Science, they are also required to have completed 80cp before they can enrol in this unit.

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This unit requires students to complete a substantial piece of independent research. Dissertations will involve the in-depth examination of a particular topic/question, and should demonstrate evidence of ability to undertake sustained critical analysis. The dissertation provides an opportunity for students to demonstrate that they can consolidate knowledge acquired throughout their course of study and understand how existing evidence/information relates to research topics, and how their own work adds to this body of knowledge. Independent thinking is required, including the ability to critique one's own work and that of others, as well as articulating the implications of their own research and support their findings through their written dissertation. Students will have the opportunity to participate in workshops where they will gain skills in defining a clear research question, preparing a formal research proposal, conducting a literature review, ethics and research, and formal writing at a professional standard. Findings of student work with be presented at an end of semester research seminar. This unit can also be taken over one semester (see 401079 Dissertation (Full Time)).

301139.2 Drug Biotransformation and Molecular Mechanisms of Toxicity

Credit Points 10 **Level** 7

Prerequisite

301135.1 General Toxicology

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit provides a strong conceptual foundation of enzymology and mechanisms of drug biotransformation pathways. As a foundation for learning we will provide examples of drugs and other xenobiotics that exhibit toxicity related to biotransformation. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

200425.4 Economics

Credit Points 10 **Level** 7

Equivalent Units

51265 Economics (PG)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or postgraduate Information and Communications Technology program.

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This unit presents a broad overview of economics and the way economic activity, institutions and regulations shape social and business outcomes, knowledge that is critical for any student in a business-related discipline. Students will reflect critically on the key economic processes, theories and ideas. We study the way economics defines growth and wellbeing and the economic theories of income determination and business cycles that shape macroeconomic policy. Students will form perspectives on globalisation, trade, colonisation and development and the causes of, and solutions to, inequalities between Indigenous and non-Indigenous Australians. In the microeconomic component of the unit, we study the way economics understands and models individuals and the consumer, production and firms, markets and market structures, the role of government intervention and regulation, environmental outcomes and policy to control processes of economic power.

800170.1 Ecosystems in a Changing World

Credit Points 10 **Level** 7

Assumed Knowledge

A Bachelor of Science in Biology, Environmental Science, or Agricultural Science, with some background in plant science and ecology.

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Natural and managed ecosystems on our planet are experiencing a rapidly changing environment as a consequence of changing patterns of land and resource use, loss of biodiversity, altered atmospheric composition and anthropogenic climate change. This unit will introduce students to ecosystem concepts in the context of ecological and evolutionary responses to global change. Students will obtain practical experience in quantitative analysis of carbon, nutrient, water and energy budgets, and explore the consequences of global change for ecosystem services and biodiversity over a range of spatial and temporal scales. Teaching will be led by HIE staff with expertise in ecosystem responses to environmental change, soil microbial contributions to ecosystem function and the impacts of environmental change on plants, animals and their interactions.

300717.4 Egress and Risk Assessment

Credit Points 10 **Level** 7

Assumed Knowledge

This unit assumes that the student has undertaken coursework in building construction, building surveying, engineering, science, architecture or a related area or has gained the equivalent knowledge by working in the construction industry in an appropriate capacity for at least four years.

Equivalent Units

BG810A - Fire Safety Systems 1 (Property)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit introduces the concept of risk assessment for fire safety systems relevant to life safety and property protection. The unit helps students develop an understanding of building occupant characteristics and human behaviour during fire emergencies. Parameters, methods and criteria for risk and economic assessments are covered in this unit.

102575.2 Emergency and Disaster Management

Credit Points 10 **Level** 7

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This unit uses comparative analysis of different emergency responses to humanitarian disasters to provide students with the skills and knowledge required to play a role in future emergency and disaster management. Students will gain knowledge of the geo-political forces and key international frameworks and standards that shape humanitarian responses, and of the motivations and approaches of aid donors and humanitarian NGOs when intervening in states. They will also gain foundational knowledge of assessment of NGO capacities and organisational infrastructure for managing emergencies, for example their organisational structures and cultures, donor priorities, support systems and personnel.

200459.4 Emergency Management for Bushfire Prone Areas

Credit Points 10 **Level** 7

Assumed Knowledge

Bushfire behaviour, planning, building and bushfire fighting units

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit describes the organisational and administrative arrangements for the management of emergency events in Australia, including the role of States and local government and the techniques available to develop risk management strategies in order to minimise loss of life and property arising from bushfire emergencies. The unit describes how the three tiers of Government interact during major emergency events, the role of community engagement in emergency management and the process of developing a risk management plan for bushfire emergencies. The unit also discusses the role of post-event survey and emergency and evacuation planning at the property scale.

800186.1 Emerging Technologies for Biological Science

Credit Points 10 **Level** 7

Assumed Knowledge

Students should have an undergraduate degree in Biology, Environmental Science, Medical Science, or Agricultural Science, with a background in biological sciences, including some knowledge of molecular biology, genetics, biochemistry and/or physiology.

Unit Enrolment Restrictions

Students must be enrolled in the Bachelor of Research Studies/ Master of Research.

Special Requirements - Essential Equipment

Outlines of lectures and additional reading will be placed on the vUWS site for the unit. Students will have an approved lab coat, safety glasses and closed footwear for the laboratory practical sessions. Students will have appropriate safety clothes/equipment or they will be excluded from the practical session and will be marked as absent. Students are to follow lecturers' and demonstrators' instructions during practical classes. Students are advised to ensure that they have been immunised against tetanus within the last five years.

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This unit serves to enhance the technological education and training for students undertaking research in biological, agricultural and medical sciences. The unit will teach current and emerging technologies utilised in biological investigations with a focus on model species of animals, plants, insects and microorganisms. The unit is structured around emerging technologies in research fields of: 1) whole organism physiology, 2) cell molecular biology and biochemistry, and 3) genomic and epigenomic processes encoded by the nucleus. Students will be exposed to a systems approach in order to investigate complex interactions with a view towards understanding the impacts of the environment on biological interactions. Teaching will be undertaken by Western Sydney University-HIE staff who are world leaders in their respective research fields.

200850.1 Entrepreneurial Management Capabilities

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or be enrolled in the 3698 Master of Information and Communications Technology (Advanced), 3693 Master of Engineering or 3699 Master of Information and Communications Technology.

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Developing innovation and entrepreneurial capability is essential for small, medium and large businesses. This unit introduces students to practical and applied knowledge supported by theory, concepts, frameworks for understanding and developing innovation and entrepreneurial thought, capability, infrastructure and platforms. Students will be exposed to leadership and approaches to the development of new products, services, processes and business models, with support from Western Sydney University's Launch Pad Technology Business Incubator.

301152.2 Environmental Forensics 1

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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The unit is designed for professionals working in environmental regulatory authorities and laboratories at the federal, state or local level. This includes but is not limited to police jurisdictions, environmental protection agencies (EPAs), coastguards, park rangers, customs and quarantine officials. It is designed to give the environment law enforcement officer a background in the principles of contaminant analysis and transport in the environment with the ultimate aim of determining liability for pollution. The syllabus includes the main modes of contaminant transport in air, water and land, as well as an in-depth look at hydrocarbon fingerprinting. This unit is taught by the University of Canberra as part of a collaborative venture between the University of Canberra and Western Sydney University. Note: Further information on this unit is available from the University of Canberra.

301153.2 Environmental Forensics 2

Credit Points 10 **Level** 7

Prerequisite

301152.1 Environmental Forensics 1

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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The unit is designed for professionals working in environmental regulatory authorities and laboratories at the

federal, state or local level. This includes but is not limited to police jurisdictions, environmental protection agencies (EPAs), coastguards, park rangers, customs and quarantine officials. The unit consists of four case studies drawn from real-world scenarios. The skills and knowledge gained from Environmental Forensics 1 will be used to produce environmental forensic reports related to the case studies. The assessment is problem-based. This unit is taught by the University of Canberra as part of a collaborative venture between the University of Canberra and Western Sydney University. Note: Further information on this unit is available from the University of Canberra.

401174.1 Epidemiology of Non-Communicable Diseases

Credit Points 10 **Level** 7

Corequisite

401076.1 Introduction to Epidemiology OR **401173.1** Introduction to Clinical Epidemiology

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit will document the fundamental concepts in epidemiology and control of non-communicable diseases (NCDs), common research methods used in NCD epidemiology, and unique applications of these methods in key NCD areas, including reproductive epidemiology, behavioural epidemiology, epidemiology of ageing and epidemiology of specific NCDs (including cardiovascular disease, diabetes, cancer, chronic respiratory diseases, musculoskeletal problems and mental health problems). The principal goals of this unit are to provide a broad overview of the field, and to develop the knowledge and skills needed to (i) critically evaluate published research in NCD epidemiology and (ii) design an epidemiological study to address an NCD topic.

400975.1 Ethics in Health Research

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer.

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This unit equips students to explore ethical issues impacting on the conduct of research in the health setting. Students will critically explore ethical issues and their implications in health research, understand the process of gaining Human Research Ethics Approval for research, gain practical experience of developing an ethically sound research plan and application for human ethics approval.

301156.2 Explosives

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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The unit provides information on the range of explosive compounds that may be encountered in incidents involving national security. It also covers improvised explosive devices, security screening applications, bomb scene management, and the forensic recovery and analysis of explosive residues. The unit concludes with case studies designed to illustrate the concepts covered in the preceding modules. This unit is taught by the University of Canberra as part of a collaborative venture between the University of Canberra and Western Sydney University. Note: Further information on this unit is available from the University of Canberra.

301194.2 Financial Management of Projects

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in course 3752 Master of Project Management.

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Projects are always unique and their processes are always subject to elements of uncertainty and change. The skill of project management professionals in securing the best return for their organisation's efforts is thus held in great value. This unit is concerned with financial aspects of project management from both theoretical and practical perspectives. The aim is to explain how financial management tasks are carried out in the context of projects as well as stimulate students' reflection on best practice in project financial management.

200821.3 Financial Reports for Decision Making

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit focuses on developing the ability to use accounting information, as extracted from financial reports, to assist with managerial decision making. Students will gain financial literacy through developing an understanding of the information contained in financial reports and applying this information to practical decisions. This unit emphasises the function of both financial and management accounting in measuring, processing and communicating information useful for decision making.

101315.4 Financing Cities in the Global Economy

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Financing infrastructure to keep cities running and growing at a time when governments face new financial constraints is a key challenge for urban managers. In order to be able to contribute to the debate about financing cities it is

important for future urban managers to develop a basic financial literacy, understand and draw on the options for financing essential urban functions in Australia cities and elsewhere, and assess the tensions involved in public and private financing pathways. This unit addresses these needs through both theoretical and practical approaches to the city as a set of flows within a wider urban network of relations. Students develop their understanding via interactive lectures, case studies, fieldwork exercises and assignments.

301132.2 Fingerprint Detection and Identification

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge of general science as obtained via an undergraduate science degree (with completion of chemistry and biology units highly recommended)

Unit Enrolment Restrictions

Students must be enrolled in the Master of Forensic Science, the Graduate Diploma in Forensic Science, or the Graduate Certificate in Forensic Science

Special Requirements - Essential Equipment

Students will require internet access via a laptop or desktop computer (the unit is delivered via a web browser)

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This unit aims to provide the student with a detailed understanding of the scientific methodologies applied to the detection, enhancement and identification of fingerprint evidence in a forensic context. The detection methods presented cover all of the current optical, physical and chemical techniques, as well as an insight into new approaches that are likely to have an impact over the next decade. The generally-accepted ACE-V methodology for fingerprint identification is discussed, together with the application of Bayesian statistics that has gained momentum as a preferred assessment method for this form of forensic evidence.

300709.4 Fire Engineering 1 (Fire Dynamics)

Credit Points 10 **Level** 7

Assumed Knowledge

Physics, chemistry, engineering mathematics.

Equivalent Units

EN806A - Fire Engineering 1 (Fire Dynamics)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit aims to develop a detailed knowledge of fire behaviour and dynamics in the built environment. Students will be able to understand fuels and combustion processes; the chemistry of combustion; flammability limits; ignition characteristics; and different types of flames and fire plumes. The content also covers the burning of liquids and solids; flammable vapour/air mixtures; extinction and extinguishment; flame spread mechanisms and modeling; flashover; fire resistance and fire severity; projection of flames from burning compartment openings; spread of fire from a compartment; production and measurement of smoke; and smoke movement.

300710.4 Fire Engineering 2 (Fire Models)

Credit Points 10 **Level** 7

Assumed Knowledge

Physics, chemistry, engineering mathematics, building regulations, fire dynamics, building fire services.

Equivalent Units

PH703A - Fire Engineering 2 (Fire Models)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Calculator, PC or laptop.

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This unit aims to develop an understanding of various types of computational tools used in engineering design of fire safety systems. The fundamentals of control volume, applications of conservations laws in modeling and the form of predictive equations are explained. The content includes evaluations of fire severity, fire resistance levels of various types of building structures and elements. Hand calculation equations, zone models and field models are covered. The limitations of the models in representing the real phenomena are also discussed.

300718.4 Fire Engineering Design and Assessment

Credit Points 10 **Level** 7

Assumed Knowledge

Fire safety engineering principles, building regulations, fire dynamics, building fire services, fire modelling and human behaviour in fires.

Equivalent Units

BG811A - Fire Safety Systems (Life Safety)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit helps to develop a high level of knowledge of fire safety systems relevant to life protection and the design and assessment of such systems. The unit covers the process of fire safety engineering design and assessment including the fire engineering brief, conceptual design, regulatory objectives, fire safety engineering subsystems, verification methods, timeline analysis, design fires, evaluation of performance of passive and active fire protection systems, risk analysis and fire engineering project reporting.

301048.2 Fire Engineering Science

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3705 Master of Fire Safety Engineering, 3706 Graduate Diploma in Fire Safety

Engineering or 3707 Graduate Certificate in Fire Safety Engineering.

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This unit aims to enhance students' knowledge of the fundamental principles of physics, including heat and mass transfer, fluid mechanism and thermodynamics, which govern the natural phenomena associated with fires. The unit also covers properties of materials, basic mathematics and numerical methods for students to become familiar with quantitative analysis of fire dynamics and structural response. In addition, students will learn probability and risk concepts in fire safety engineering. This is a bridging unit for students who are admitted to the Graduate Certificate and Graduate Diploma in Fire Safety Engineering without an engineering or physical science background. It lays the foundation for further studies in fire safety engineering courses.

300948.3 Fire Technology and Engineering Principles

Credit Points 10 **Level** 7

Assumed Knowledge

Undergraduate coursework in building surveying, planning or related areas or has gained the equivalent building construction knowledge by working in the construction industry in an appropriate capacity for at least four years.

Incompatible Units

300712 - Fire Technology Principles, 300714 - Fire Engineering Principles

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The unit introduces students to the basic principles of fire behaviour and fire safety design so that they can appreciate fire safety systems and interpret fire safety engineering design concepts. The unit covers the basics of combustion, building fire characteristics, smoke movement, responses of fire safety devices, building fire resistance, response of building occupants, fire safety engineering design and assessment methodology. The unit provides the basis for understanding fire safety engineering and the techniques and tools used in fire safety engineering.

301181.2 Food Evaluation

Credit Points 10 **Level** 7

Assumed Knowledge

Bachelor of Science majoring in science; such as biological sciences, chemistry, microbiology, nutrition, medical, forensic, animal science, zoology or pharmacology sciences.

Special Requirements - Essential Equipment

Laboratory Coat, enclosed shoes, safety goggles

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This unit aims to provide students with the knowledge and skills required to evaluate food quality and safety. Students are introduced to contemporary methods of analysis of foods as used for nutritional, quality and safety assessment. Practical work includes determination of major and minor food components; physical and functionality tests; sensory assessment and microbiological analysis of foods.

301180.2 Food Preservation and Packaging Technologies

Credit Points 10 **Level** 7

Assumed Knowledge

Bachelor of Science majoring in science; such as biological sciences, chemistry, microbiology, nutrition, medical, forensic, animal science, zoology or pharmacology sciences.

Special Requirements - Essential Equipment

Laboratory Coat, enclosed shoes, safety goggles.

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The objective of this unit is to provide students with an understanding of food preservation and food packaging technologies. Contemporary physical and chemical food preservation technologies will be examined, including chilling, freezing, thermal processing, fermentation, dehydration, chemical agents and novel non-thermal techniques. The chemical, physical, functional and nutritional properties of food commodities will also be examined, providing a scientific context for food quality, safety and nutrition. Students will study packaging materials science to be able to select the most appropriate packaging solutions for a range of food applications.

301183.2 Food Product Design

Credit Points 10 **Level** 7

Prerequisite

301180.1 Food Preservation and Packaging Technologies AND **301181.1** Food Evaluation

Corequisite

301182.1 Food Quality Management

Special Requirements - Essential Equipment

Laboratory Coat, enclosed shoes, safety goggles.

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This unit introduces students to theories and practices underpinning new product development, including idea generation, market research and product lifecycles. Students will apply emerging technologies, new ingredients and other innovative concepts relating to food preservation and food evaluation to research and develop new food products. Students will work on formulation design, assessment of ingredient and additive functions, effects of processing, optimization of quality and acceptability of foods. They will assess product packaging and storage stability, along with developing a food safety plan. They will also produce a final product specification and labelling requirements compliant with current food regulations.

301182.2 Food Quality Management

Credit Points 10 **Level** 7

Prerequisite

301180.1 Food Preservation and Packaging Technologies

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This unit introduces students to food quality management principles and their application in ensuring product quality and safety. Students will learn to develop, evaluate and audit food safety programs based on Hazard Analysis and Critical Control Point and total quality management systems. Students will also examine statistical process control, food laws, regulations and codes at the state, national and international levels, as well as the application of scientific risk assessment to the development of food regulations.

301148.2 Forensic Analysis of DNA

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit will introduce students to the identification and evaluation of biological evidence in criminal matters using DNA technologies, including the methods routinely used for the isolation of DNA from cells and techniques applied to DNA quantitation, electrophoretic separation, sequence determination, as well as data interpretation, analysis and reporting. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301147.2 Forensic Anthropology (PG)

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit will provide an introduction to the basic knowledge needed to perform some of the forensic anthropologist's tasks, especially anatomy and human osteology. Due to the impossibility of teaching a laboratory class, we will substitute the hands-on experience by a carefully selected set of pictures and material in order to familiarize you with the practice of the discipline. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301144.2 Forensic Genetics

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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The unit is designed to introduce genetics so that even if you haven't studied it before you will develop an understanding that will inform your practice in work. The context of this unit is forensic science but rather than jump straight into forensic DNA analysis this is a foundation unit, designed to give a framework of human molecular genetics. We will also look at some of the important issues in genetics including genome mapping and the role of gene dysfunction in disease. The first module is an overview and it is very important that you use the assignment time to check out some websites that will be very useful later on. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301146.2 Forensic Immunology

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit will introduce students to the principles of immunology, immunological techniques, and their application to forensic analyses. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301133.2 Forensic Medicine I

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit covers the basic elements of forensic medicine and focuses on the role of the forensic pathologist in the investigation of crime and death. Although much of forensic medicine, based as it is on observations made at a post-mortem examination, relies on the principles of morbid anatomy as discovered in earlier centuries, more recent techniques are also presented. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301134.2 Forensic Medicine II

Credit Points 10 **Level** 7

Prerequisite

301133.1 Forensic Medicine I

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit gives knowledge and understanding of relevant medical concepts, techniques and methods in order that the candidate has sufficient competence to interpret human diseases, conditions and behavior in a forensic setting. An understanding of the organizational structures involved in the practice of forensic medicine both locally and internationally, increase in the candidate's awareness of how forensic medicine relates to the wider context of society and how it contributes towards improving that society. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301129.2 Forensic Research 1

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge of general science as obtained via an undergraduate science degree (with completion of chemistry and biology units highly recommended).

Unit Enrolment Restrictions

Students must be enrolled in the Master of Forensic Science, the Graduate Diploma in Forensic Science, or the Graduate Certificate in Forensic Science.

Special Requirements - Essential Equipment

Students will require internet access via a laptop or desktop computer (the unit is delivered via a web browser).

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This unit provides the basic framework and methodology required for planning and executing forensic research. The unit encompasses the scientific methods, practical tools and organizational skills important for implementing independent and original forensic research at an international level.

301130.2 Forensic Research 2

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge of research methodology as per the learning outcomes of the prerequisite unit

Prerequisite

301129.1 Forensic Research 1

Unit Enrolment Restrictions

Students must be enrolled in the Master of Forensic Science, the Graduate Diploma in Forensic Science, or the Graduate Certificate in Forensic Science

Special Requirements - Essential Equipment

Students will require internet access via a laptop or desktop computer (the unit is delivered via a web browser). Students will also require access to a webcam and Skype for the oral presentation.

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This unit builds on the knowledge gained in the prerequisite unit Forensic Research 1 and further develops skills to enable the independent and confident planning, design and execution of an original forensic research project chosen by the student. The skills and tools acquired in Forensic Research 1 will help facilitate effective communication of research project findings through scientific report writing and presentation in formats appropriate for international journal publication and conferences.

301136.2 Forensic Toxicology I

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This course has been developed to introduce students to the concepts, procedures, processes and terminology routinely encountered in the execution of applied forensic toxicological analyses. Our objective is to educate students in the theoretical aspects of drug and analytical chemistry applied to forensic toxicology. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301137.2 Forensic Toxicology II

Credit Points 10 **Level** 7

Prerequisite

301136.1 Forensic Toxicology I

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit will expand on concepts encountered in Forensic Toxicology I, providing in-depth knowledge of pharmacology and toxicology as it pertains to commonly encountered abused and toxic substances. This unit is unique in offering modules in doping control, expert testimony and human performance and postmortem toxicology. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

102300.1 Foundations of Media Arts Production (PG)

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit explores creative and independent media arts practices across moving image, audio and participatory forms, and introduces students to fundamental principles of long-form sound and screen production. The unit maps theoretical and practical connections between the creation

and study of images and sound across media formats through an integrated theory/practice programme focused on the processes through which long-form media artefacts are created. Students learn how to analyse and critically evaluate screen media and also to plan and make simple short works of their own. It introduces students to relevant media arts histories and contexts (with a focus on cinema) in addition to a range of technologies, media practices and production techniques.

301135.2 General Toxicology

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit, which is primarily book-based, is structured to comprehensively provide the student with the fundamental concepts of toxicology as they relate to specific organ and tissue systems. We aim to supplement this information with online study guides, detailed module objectives and critical thinking exercises. The objective of this unit is to familiarize students with the procedures for using WWW resources for communication and educational purposes and to introduce students to the principles, concepts and terminology utilized in the field of toxicology. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301118.2 Genomic Data Science

Credit Points 10 **Level** 7

Assumed Knowledge

1). Statistics: Basic understanding of core statistical concepts such as what is a variable in statistics, what is and how to make histograms and summaries of data, Gaussian vs Poisson distributions, how to plot using R; 2). Large scale data management: Basic programming skills (what is a variable in programming, “for” and “while” loops). How to view, manipulate and manage data using a Linux command line (e.g. familiarity with basic bash command line). The HIE course ‘Data Analysis And Visualization With R’ (http://www.westernsydney.edu.au/hie/opportunities/training_courses/data_analysis_r) will fulfil these requirements as will the year 1 MSc Data Science units

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a Computer

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Successful data scientists work across multiple business domains, have the ability to rapidly grasp the basics and adapt to achieve the business intelligence outcomes. Further, it is imperative to showcase the thinking of experimental scientists such as forming testable hypotheses and identifying sources of errors. In this unit we delve into the domain of life sciences, learn how to design and conduct biological experiments and use our analytical skills to explore real data from our oral microbiomes.

102412.1 Global Digital Futures

Credit Points 10 **Level** 7

Equivalent Units

102299 - Text, Media and Memory

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate or a research course.

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This unit explores how innovation in the digital era is transforming society on a global scale. Reflecting on examples drawn from around the world, students learn about the latest trends in communication, media, computing and the knowledge economy. Current and future directions are surveyed in the context of contemporary issues such as big data, digital identity and privacy, social media and crowdsourcing, gaming and visualisation, geographical information systems, virtual environments and artificial intelligence.

200848.4 Governance, Ethics and Social Entrepreneurship

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business or Information and Communications Technology course or in course 1870 Master of Chinese Cultural Relations, 1871 Graduate Certificate in Chinese Cultural Relations or 1872 Graduate Diploma in Chinese Cultural Relations.

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There is a growing need for communities and not-for-profit organisations to maintain a degree of organisational and social sustainability, without recourse to philanthropy, government, or other sources of aid. This unit adopts business and entrepreneurial principles to identify and explain the management of a social venture, with a view to ensuring organisational and social sustainability. The unit provides an understanding of governance and ethical practice to support social outcomes.

301359.1 Greenhouse Control Systems

Credit Points 10 **Level** 7

Assumed Knowledge

Students entering this unit should have knowledge of one of the following subject areas: horticultural production systems; environmental sustainability analytics; computing and technological applications; marketing principles and business management.

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This unit develops an understanding of the leading controlling systems for protected cropping in low, medium and high-tech greenhouses. The main topics are: the integration of hardware and software in a range of different protected cropping systems, management of the aerial environment (e.g. manageable parameters and greenhouse climate engineering, radiation management,

energy sources and distribution systems, ventilation, air conditioning and cooling systems, screens, carbon dioxide-sources and distribution), and management of the hydroponic environment (factors, tools, control of water and nutrient balance, water quality, salinity effects). The unit emphasises computing skills, calculation, and analysis that are applicable to a range of different greenhouse control systems.

301360.1 Greenhouse Crop Production

Credit Points 10 **Level** 7

Assumed Knowledge

Students entering this unit should have knowledge of one of the following subject areas: horticultural production systems; environmental sustainability analytics; computing and technological applications; marketing principles and business management.

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This unit focuses on key concepts relating to the functioning of a range of greenhouse horticultural crops in their environment, biological mechanisms, crop growth and development, integrated pest management, crop production, quality and postharvest technology. Students will learn concepts and knowledge relevant to plant physiology, environmental sciences, horticultural production, food technology, and postharvest physiology. Students will be able to measure and interpret plant physiological, biochemical, genetic, and produce quality traits in greenhouse experiments in the context of the functional diversity in crops. The students will also integrate knowledge using plant growth modelling techniques, interpret model output, and address questions on functional diversity in crops by combining model output and experimental data.

400418.5 Health Advancement and Health Promotion

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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By investigating and addressing the multilevel determinants of health outcomes and inequalities, health promotion initiatives aim to improve the health and wellbeing of individuals and societies. In this unit, we will nurture an understanding of concepts and models of health promotion, evaluate the relative successes of recent and classic initiatives within Australia and overseas, and critically engage with debates concerned with the most appropriate strategies for tackling health inequalities in the context of major societal challenges (e.g. population ageing, urbanisation and climate change). Core competencies are nurtured (e.g. Plan and evaluate an intervention) to prepare students for practicing and further study in the field of health promotion.

400837.3 Health and Socio-political Issues in Aged Care

Credit Points 10 **Level** 7

Equivalent Units

400239 - Contemporary Issues in Aged Care

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit examines health and socio political issues in aged care within a social capital framework. Social constructs and contexts of ageing are explored and issues of social and economic disadvantage are examined. Equity and access to health care services and the experiences of older people within these services are also highlighted. The role of health professionals and managers in actively engaging in health and social policy debate for ethically just care and services for older people is addressed.

400967.3 Health Economics and Comparative Health Systems

Credit Points 10 **Level** 7

Equivalent Units

E7232 - Economics and Organisation of Health Services, 400420 - Health Economics and Comparative Health Systems

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The unit explores contemporary examples of the role of economics in the organisation, funding and provision of health services. Case examples include, Australia, America, China, Hong Kong, Scandinavia, United Kingdom and India. Students use the principles of economics to assess funding of health with a focus on the interface between economics, ethics and equity in decision making. They also consider the tendency for health systems to be organised around economic principles in areas such as, contracting out, health insurance and pharmaceuticals. Students are encouraged to reflect on the challenges and future directions of their own health system in the context of the unit components.

400845.3 Health Financial Management

Credit Points 10 **Level** 7

Equivalent Units

400420 - Health Economics and Comparative Health Systems, 400544 - Resources management in Aged Care

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This unit provides health leaders with an introduction to financial management in health and aged care settings as a basis for understanding the impact of leadership decision-making on financial outcomes and how financial decision-making impacts on clinical service delivery. Content includes an overview of health economics and economic evaluation, health care funding models, the principles, practices and tools for financial planning and management,

basic accounting principles and financial terminology and using financial information and reporting for negotiating financial plans, tracking and evaluating financial performance and using financial information in decision-making within the clinical environment.

400844.3 Health Services and Facilities Planning

Credit Points 10 **Level** 7

Equivalent Units

51109 - Strategic Analysis and Decision Making

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Planning occurs at all levels within all health organisations, government, non-government and in the private sector. There is a hierarchy in planning health services with some global overarching policy documents, national agreed priorities which affect corporate and regional plans as well as local services and projects. Planning focuses on future directions for health, is value based and resource allocation driven. The process of health planning will be outlined including how to conduct a needs analysis, develop an evidence based approach, consult with stakeholders including the community, document an implementation plan and evaluate outcomes.

400843.4 Health Workforce Planning

Credit Points 10 **Level** 7

Equivalent Units

46518 - Human Resources Management; 400545 - Workforce Planning and HR Issues in Aged Care, 200718 - Human Resource Management

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This is a flexible learning unit looking at Human Resource Management as a strategic activity of health organisations especially as workforce shortages pose significant challenges to the health, welfare and aged care sectors. The workforce, with appropriate knowledge and expertise, is essential to the efficient and effective delivery of quality health services. Successful organisations shape their workforce to anticipate current and future business directions and goals. Workforce planning is a crucial element of this approach and its success.

102069.2 Heritage and Planning

Credit Points 10 **Level** 7

Equivalent Units

101588 - Introduction to Urban Design

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit explores the values behind, and practicalities regarding, heritage and planning, from federal and state perspectives in Australia. With a specific focus on Sydney, the unit explores how planning applications, within the urban development sphere, impact upon heritage assets, and how these impacts are mitigated through heritage planning legislation. The unit asks students to step into the shoes of heritage planning professionals and to identify and research a heritage asset that is to be impacted by a potential planning proposal and then to design an appropriate mitigation response within the bounds of relevant heritage legislation.

301210.2 Human Physiology and Biomedical Technologies

Credit Points 10 **Level** 7

Assumed Knowledge

Computer skills; basic concepts of electronics i.e. amplifiers and filters; knowledge of signal theory

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit aims to introduce a wide range of biomedical technologies and how they are used in medical practice. Topics will span from data acquisition technologies such as ECG, EEG, body plethysmography, to large imaging diagnostics such as CT scanner, PET scanner and bio-mechanical assisting devices often used for rehabilitation and support. The first part of this unit will include a module on human physiology and bio-mechanics. This module gives a basic understanding of the human body and introduces the scientific and medical terminology used for anatomy, physiology and biochemistry and bio-mechanics.

301047.2 ICT Practicum

Credit Points 0 **Level** 7

Assumed Knowledge

A broad background knowledge in ICT discipline (i.e. equivalent to that obtained after completing two-three years of ICT/Computing)

Prerequisite

301005.1 Professional Practice and Communication

Or 301314 - Artificial Intelligence Ethics and Organisations for students enrolled in 3765 Master of Artificial Intelligence

Unit Enrolment Restrictions

Students must be enrolled in 3698 Master of Information and Communications Technology (Advanced), 3699 Master of Information and Communications Technology or 3765 Master of Artificial Intelligence.

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Students will undertake 120 hours full-time or part-time equivalent industry placements as a Work Integrated Learning (WIL) component required to be completed by students for successful completion of the Master of ICT and Master of ICT (Advanced) courses. Students must seek the approval of the Unit Coordinator for all placements before the commencement of the industry placement. Students will work in an external organisation in Australia or within a department/division within Western Sydney University carrying out tasks related to ICT. This provides students real-world experience in the ICT industry in Australia. Students can nominate an external organisation of their choice however the approval of the Unit Coordinator must

be sought before the placement. Students with substantial post-qualification work experience in Australia maybe eligible for advanced standing for this unit.

301027.2 Industrial Experience (PG)

Credit Points 0 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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Students will undertake 12 weeks full time (37.5 hours per week) employment (or part time equivalent) to obtain relevant workplace experience in Engineering companies under the supervision of professional engineers in one company or more. This will give the student a solid grounding in the Key Program of engineering which they have chosen to pursue.

301361.1 Industry Project

Credit Points 10 **Level** 7

Assumed Knowledge

Students entering this unit should have knowledge of one of the following subject areas: horticultural production systems; environmental sustainability analytics; computing and technological applications; marketing principles and business management.

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In this unit, students will complete an industry based project under the guidance of an industry partner and a member of the University's academic staff. Using a project based methodology, students will be required to solve a real world problem on behalf of a protected cropping industry partner. Students will develop skills in scoping, planning, implementing, reporting on the industry project; reflecting on what has been learned in the context of their personal and professional development and how this can be used in their future career.

301362.1 Industry Project (Extended)

Credit Points 10 **Level** 7

Prerequisite

301361.1 Industry Project

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In this unit, students will undertake a more in depth investigation of the project undertaken in 301361Industry Project. Students will extend their use of project based methodologies to solve the problem identified in the pre-requisite unit 301361 Industry Project for a protected cropping industry partner. Students will extend their skills in planning, implementing, collecting and analysing data, reporting on the industry project and reflecting on what has been learned in the context of their personal and professional development and how this can be used in future career.

200958.3 Information and Data Governance Law and Policy

Credit Points 10 **Level** 7

Prerequisite

Students in course 3748 - Master of Information Governance must have successfully completed unit 200432 - Commercial Law before enrolling in this unit.

Unit Enrolment Restrictions

Students must be enrolled in 2824 Master of Laws, 2810 Master of Laws (International Governance), 2784 Master of Laws (International Governance), 3748 Master of Information Governance, 8083 Bachelor of Research Studies, 8084 Master of Research - HC or 8085 Master of Research - LC.

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This unit focuses on the right to privacy and examines the legal framework for information privacy protection and data governance that are established by both international and domestic law and regulation. This unit introduces students to the theoretical approaches to information privacy and data governance law and policy. In particular, the unit focuses on the European Union Directives and Regulation; the OECD Guidelines for the Protection of Privacy and Trans Border Flows of Personal data and the impact of international laws and regulation on information privacy and data governance regulation and policy in Australia. The unit explores some of the challenges in providing effective information privacy protection and data governance in cyberspace as existing laws adapt to new and advanced information technological developments and their use.

301162.2 Information Security Management

Credit Points 10 **Level** 7

Assumed Knowledge

Basic knowledge of computer system, computer security and basic programming skills.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Cyber Crime costs are increasing at an alarming speed. Security management skills are now essential for IT management. This unit provides the knowledge, skills, techniques and mechanisms on information security management for postgraduate students. It covers topics on management aspects of information security such as business and Cybercrime, security awareness, security risks, security fundamentals, risk assessment and security system design, planning and regulatory issues for information system security.

200851.1 Innovation for New Markets

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or be enrolled in the 3698 Master of Information and Communications Technology (Advanced), 3693 Master of

Engineering, 3749 Master of Information and Communications Technology or 3749 Master of Science.

Special Requirements - Essential Equipment

Prescribed text, stationery, access to computer, Internet and Library.

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Entrepreneurship, innovation and new markets are pertinent activities that have collectively become cornerstones of how firms grow and interact with society. This unit introduces students to issues, principles and frameworks associated with exploring opportunities and challenges that relate to these three activities. Emerging and new markets are examples of markets that represent opportunities and challenges for innovation and entrepreneurial activities. Through selected readings that emphasise key themes and issues, students will be exposed to an understanding of what constitutes entrepreneurship, innovation, new markets and market development, how they are influenced by the ever-changing business environment, an examination of opportunities that emerge as a result of changing technology and consumer expectations taking place in emerging and new markets. Emerging markets have become a key source of innovation in products, services and business processes which calls for an examination as to whether these can be extended to developed markets. The unit provides students with an opportunity for continuous practical experiential learning through collaboration with industry Launch Pad partners.

200845.2 Innovation Through Digital Technology

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or be enrolled in the Master of Information and Communications Technology (Advanced), Master of Information and Communications Technology, Master of Chinese Cultural Relations, Graduate Certificate in Chinese Cultural Relations, Graduate Diploma in Chinese Cultural Relations or Master of Research.

Special Requirements - Essential Equipment

Prescribed text, stationery, access to computer, Internet and Library.

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Business innovation in the Digital Economy recognises that current economic development and leadership is based on digitisation of the global economy. This unit provides a framework for understanding management issues, business development and technology use and change in the areas of innovation and digital business. The unit introduces students to various digital technologies and applications that companies need to address for creating new business opportunities in the fast changing global business environment. Students will develop an appreciation of digital business as a form of organisational innovation and the importance of innovation in the digital economy. Students will learn to formulate a digital business strategy for an organisation and understand various issues involved in digital business innovation. Students will be exposed to the University's business and technology incubator environment.

200792.2 Innovation, Creativity and Entrepreneurship

Credit Points 10 **Level** 7

Equivalent Units

51277 - Innovation and Entrepreneurship

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The aim of this unit is to provide students with the necessary skills to understand, execute and manage entrepreneurial innovation processes in firms/organisations, and be more prepared to succeed within an increasingly complex, global and highly competitive entrepreneurial environment. Firms/organisations of various sizes, including small and medium enterprises (SMEs) that are innovative and entrepreneurial provide vision, nurture creativity and idea management as part of their everyday activities and in seeking long-term sustainability.

200852.3 Innovation, Creativity and Foresight

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or be enrolled in the Master of Information and Communications Technology (Advanced), Master of Information and Communications Technology, Master of Research or or Master of Science – Food Science Specialisation.

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Creativity is a systematic, logical process mixing imaginative and creative thinking. Ideation is a process for forming and relating ideas derived through creativity. Innovation seeks to take ideas through invention and entrepreneurial processes to create new economic and social value. Students will be exposed to a variety of brainstorming, creativity and foresight methods and tools, with emphasis on scenario planning methods. Students will be introduced to workshop development, moderation and management approaches and methods. Selected key themes on economic, social, technological, and sustainable development for Australia over the next 10-30 years will be analysed and developed through a scenario planning workshop process, with outputs mapped to business and social innovation and entrepreneurship thinking, and platforms. Students will also be exposed to creativity and foresight methods used by the Western Sydney University Launch Pad Business Technology Incubator.

300515.5 Instrumentation and Measurement (PG)

Credit Points 10 **Level** 7

Assumed Knowledge

Assumed knowledge for 300515 Instrumentation and Measurement (PG) is: 1) Basic electronics including amplifier, circuit theory and circuit design; 2) A basic understanding of statistics. Computational skills (SPICE) and a basic understanding of circuit simulation are desirable.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit covers topics associated with the measurement and presentation of physical parameters. A wide range of transducers are presented in detail, while instrumentation includes a detailed analysis of a multitude of analogue and digital circuits used to amplify, transmit, and display electrical signals. The application of these modules in modern measurement equipment is presented in details.

301240.1 Integrated Building Technology

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3761 Master of Architecture (Urban Transformation)

Special Requirements - Essential Equipment

Laptop with required software, per course 3761 requirements.

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Integrated Building Technology is a core architecture seminar in the Master of Architecture (Urban Transformation) course that will introduce students to the range of specialist consultants that constitute an overall design team including structural and civil engineering, mechanical, electrical, communications, and transport systems, fire safety and egress, and environmental systems (acoustics, lighting, thermal) that are required to realise medium to large scale projects in practice. The unit will focus upon the principles and concepts of each discipline to provide sufficient depth of knowledge and understanding that the architect can meaningfully engage and collaborate with the allied specialists. Understanding how to communicate and document the integration and coordination of systems in a building will be developed through exposure to case studies, specialist presentations, and field trips. Students will apply concepts introduced in the unit to the design studio project they are concurrently developing in unit 301238 Practice Research Studio 2 and demonstrate their understanding of system integration through graphic representation techniques and a design report.

200963.2 International Space Law - Commercial Aspects

Credit Points 10 **Level** 7

Assumed Knowledge

Completed a law degree (Bachelor of Laws or Juris Doctor) or equivalent in any jurisdiction or have a broad understanding of both Australian and International Law. It is recommended that students without a legal qualification should review supplementary materials provided within the Learning Guide providing a summary of the Australian and International Law frameworks.

Incompatible Units

200652 - Space Law – Commercial Aspects

Unit Enrolment Restrictions

Students must be enrolled in 2824 Master of Laws, 2784 or 2810 Master of Laws (International Governance), 3735 Master of Data Science, 3699 Master of Information and Communications Technology, 3698 Master of Information and Communications Technology (Advanced) or Masters of Research courses 8083, 8084 or 8085.

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This unit examines the underlying legal principles that regulate the use, exploration and exploitation of space, and how International Law can and should be applied to the many different State and private commercial uses of outer space. It examines the existing international legal regime - the five United Nations Space Treaties and key Declarations of Principles related to space activities - as well as a number of domestic regulatory systems, including the Australian legal regime. The unit also concentrates on the (many) uses and proposed uses of space for which the legal framework may not be particularly well suited.

301175.2 Internet of Things

Credit Points 10 **Level** 7

Assumed Knowledge

Students should be familiar with the fundamentals of computer networking. In particular, they should have a good understanding of the TCP/IP protocol suite, and current networking and wireless technologies. Therefore, it is strongly advisable that the students must have either taken an appropriate unit in computer networking (e.g., 300695 Network Technologies), or have equivalent knowledge.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The Internet of Things (IoT) is drastically changing the way organisations operate and how individuals interact with the world. IoT is an infrastructure consisting of fairly constantly communicating objects, or things, that may be smart and process or act on data. The IoT facilitates detailed and meaningful interactions between humans, digital devices, and many other industrial and household equipment, appliances, and things. The IoT is also the enabler of smart environments, including smart homes, buildings, cities, transport, and healthcare, among many others. This unit discusses IoT technologies and applications in detail. It also introduces the students to trends, challenges, and key research topics in relevant areas.

800176.2 Internship and Community Engagement (PG)

Credit Points 10 **Level** 7

Prerequisite

800166.1 Research Design 1: Theories of Enquiry OR **800218.1** Researcher Development 1: Reading ,Writing, and the Business of Research

Unit Enrolment Restrictions

Students must be enrolled in 8083 Bachelor of Research Studies/Master of Research, 8084 Master of Research (High Cost) or 8085 Master of Research (Low Cost).

Students must have organised and confirmed their own internship or work placement before enrolling in the unit.

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The aim of this unit is to provide Master of Research students with an opportunity to develop professional identity through exposure to workplaces, community settings or research processes related to their chosen field of study. Students will need to apply the knowledge and skills that they have developed to this internship or engagement activity. This is a cross-disciplinary unit that will employ experiential learning to achieve the learning outcomes. This placement will be chosen by the student in consultation with staff of Graduate Research School and will be undertaken either as an individual or part of a project team.

301103.2 Interpreting Building Regulations (Residential Buildings)

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in the Master of Building Surveying, Graduate Diploma in Building Surveying, Graduate Certificate in Building Surveying, Master of Bushfire Protection, Graduate Diploma in Bushfire Protection or Graduate Certificate in Bushfire Protection.

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The basis of this unit is to ensure students become accustomed to reading and interpreting laws that specifically relate to building legislation. The unit provides students with an introduction to and sound working knowledge of the prescriptive provisions of the National Construction Code (BCA) Volume 1 & 2, associated Standards, codes and statutory interpretation as it applies to residential buildings. This unit will develop a sound knowledge of the National Construction Code (BCA) – Volume 2 and an introduction to rise in storeys, types of construction and the fire requirement for building elements in the National Construction Code (BCA) Vol. 1, Building Profession Act 2005 and other associated legislation. Residential building work includes work under the Home Building Act 1989, which involves the construction of a dwelling, and alterations or additions to a dwelling. It also will relate to repairing, renovating, decorating or applying protective treatment to a dwelling. The unit applies to residential buildings and associated structures and includes the evaluation and interpretation of performance requirements, classification of buildings according to National Construction Code (BCA) criteria, limitations of the referenced documents (National Construction Code (BCA) – Volume 2) and strategies for compliance. Students will need to relate the objectives of the National Construction Code (BCA) and the purpose of its respective provisions in relation to construction of residential buildings and the evaluation of associated documentation.

401077.2 Introduction to Biostatistics

Credit Points 10 **Level** 7

Assumed Knowledge

High school mathematics (arithmetic, formulas and algebra, reading graphs)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Most professions in the health sciences need to read and interpret statistics relating to individual health status, interpret health risks in communities, and engage in the evaluation of interventions, or impact of health policies or programs. Many public health practitioners are actively involved in surveillance, quantitative research and/or evaluation. This unit provides students with the fundamental skills they need to analyse and interpret results from quantitative data collections. Content includes descriptive statistics, undertaking comparisons between groups, quantifying associations between variables, and statistical power. The unit is highly applied with the main focus being on interpretation and appraisal of statistical results and conducting analyses using statistical software.

401173.1 Introduction to Clinical Epidemiology

Credit Points 10 **Level** 7

Assumed Knowledge

A background in health care is desirable

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit aims to impart the principles of population based (epidemiologic) evidence to the understanding of variations in the outcome of illness and the reasons thereof (Clinical Epidemiology) thereby providing the framework for finding the best answers to "real world" questions about clinical practice and health care. Individuals taking this course (who usually have a health care background) acquire the basic skills required to understand the fundamental questions about the effectiveness of clinical therapies, usefulness of screening and diagnostic tools, prognosis and disease causation and gain the skills required of effective EBM practitioners.

401076.2 Introduction to Epidemiology

Credit Points 10 **Level** 7

Assumed Knowledge

High school mathematics (arithmetic, formulas and algebra, reading graphs)

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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Epidemiology is the study of the distribution and determinants of disease and other health-related conditions in populations, and the application of this study to the control of health problems. Epidemiology encompasses a broad range of activities fundamental to the health sciences. The course is aimed to equip students with the ability to understand and critically appraise evidence from the health sciences used in the formulation of clinical interventions, assessments of population disease burden, and development of health policy. Students will be taught

the fundamental concepts and principles of epidemiology and will be given the opportunities through exercises and tutorials to apply these concepts and principles to case studies from current epidemiological research and practice.

300260.3 IT Project Management

Credit Points 10 **Level** 7

Assumed Knowledge

Understanding of systems analysis and design principles.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit is designed to provide students with an opportunity to learn and apply the knowledge, values and skills of consultancy, project management, and research by undertaking an IT project. The unit covers preparing and presenting project proposals in various ICT areas, project management, time management, communication skills, and the evolving legal, ethical, and social responsibilities of IT professionals. Students will work in teams under the supervision of a staff member, to plan and investigate their project.

301315.1 Knowledge Representation and Reasoning

Credit Points 10 **Level** 7

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Knowledge representation and reasoning is one of the fundamental components of Artificial Intelligence. It studies ways to represent and reason about human knowledge effectively in formal computational models, and eventually to solve complex tasks using computer systems. This unit covers logic foundations of knowledge representation, Answer Set Programming approaches for declarative problem solving, intelligent agent modelling, and theory and practice of knowledge graphs.

800199.1 Knowledge Translation

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a PhD course or course 8111 - Graduate Certificate in Researcher Engagement, Development and Impact

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Knowledge translation looks at how knowledge created through research can be applied in real world contexts. It takes research from the theoretical stage (i.e. “that’s interesting, but so what?”) to the applied stage where it can be used to create real impact. In this unit, we explore the two main processes of knowledge translation – communication and implementation. This is a highly collaborative unit where the interdisciplinary group meets to engage in general theoretical discussion and practice various knowledge translation activities based on our various fields of research.

400235.2 Leadership in Clinical Practice

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to the internet and a computer.

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We are all confronted with the challenge of leadership, regardless of nursing speciality, role or status. Encompassed within leadership is knowledge of self, relevant theories, skills and political awareness which are developed through higher education. By developing leadership skills and knowledge we can influence better outcomes for our patients/clients and create more positive working environments. In the unit, Leadership in Clinical Practice, nursing leadership arising from expert clinical practice is explored as a general notion rather than as one arising from within any particular clinical speciality. Content includes theories, concepts and styles of leadership, the development of leadership potential, motivation, coaching, and mentorship, concepts of power, authority and empowerment and discussion of contemporary leadership issues. Assignments provide students with the opportunity to apply new knowledge about leadership to their practice, whether they be in management, education or clinical roles.

100701.1 Leadership, Mentoring and Professional Growth

Credit Points 10 **Level** 7

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Becoming a professional is a complex and intricate process. Beyond adequate initial training (both theoretical and the implementation of theory into practice) it takes a commitment and undertaking to career-long learning and professional development. Such commitment and undertaking need not be an isolated process. Educational leaders are available to assist in the promotion of professional development. This unit provides leaders with the understandings and strategies for implementing mentoring and professional development programs.

101633.3 Managing Cities: History and Theory

Credit Points 10 **Level** 7

Equivalent Units

101310 - Metropolitan Structures: Cities in Transformation

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit concerns philosophical thought and critical thinking in public planning. It develops an understanding of planning theories and examines past and present trends in this area. It reviews the theoretical frameworks for an insight into planning processes and analyses the economic, spatial and socio-political dimensions of activities involved.

200835.2 Managing in the Global Context

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or in course 3748 Master of Information Governance, 1870 Master of Chinese Cultural Relations.

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Managing in the Global Context provides students with an understanding of the complexities of managing in the changing economic, political, legal, technological and within socio cultural factors that influence global business operations. By addressing areas of understanding the global business environment, managing political risk and government relations, understanding culture, cross cultural communication and negotiation, strategy and structures for global organisations, motivating and leading, business ethics and corporate responsibility and competencies for global managers this Unit provides an organisational behaviour approach to managing in a dynamic global context. Through critical analysis of contemporary media, research and case studies this Unit provides a basis for linking management practice to theoretical knowledge.

301187.3 Managing Project Teams and Stakeholders

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in course 3752 Master of Project Management.

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This unit is designed to provide students with essential behavioural knowledge areas for project management. Since project management occurs in a team setting, project managers need to master team leadership by understanding team dynamics and behaviour in different team settings, which is a main focus area in this unit. Students will also learn effective ways to identify and engage project stakeholders and communication concepts and tools that effectively influence stakeholders.

200737.3 Marketing Systems

Credit Points 10 **Level** 7

Equivalent Units

51002 - Marketing Management

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or one of the following courses - 3689 Master of Information Technology (Advanced), 3699 Master of Informatin Technology, 3749 Master of Science.

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This unit studies the marketing process from a holistic viewpoint, considering the intersection of the economy, the government, and the community. This perspective will help students to analyse and understand the interrelated and interdependent parts that comprise a marketing system. Specifically, this unit examines: consumer behaviour, market regulation, social responsibility and sustainability. Students will learn to consider the marketing process and its consequences at both an aggregate and micro level. This unit exposes students to the systematic and analytical approaches expected from them in postgraduate studies in marketing.

300597.5 Master Project 1

Credit Points 10 **Level** 7

Assumed Knowledge

(1) Knowledge in one of the fields in engineering, construction, information technology, data science or a related discipline; (2) Knowledge in research methodology; and (3) Skills in literature review.

Equivalent Units

300189 - Master of Engineering Specialist Reading, 200327 - Built Environment Project, 200328 - Built Environment Research Project

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course. Please note: Students enrolled in 3693 Master of Engineering must select the campus offering, not the online mode.

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This unit is a problem based project unit. Students are expected to conduct self studies under supervision by academic staff. Students will identify research topics in consultation with supervisors, carry out literature survey in one of the fields of engineering, construction, information technology or data science. Students will be required to define research objectives and scope, establish research methodology and prepare a research plan.

300598.6 Master Project 2

Credit Points 10 **Level** 7

Assumed Knowledge

(1) Knowledge in one of the fields in engineering, construction, information technology, data science or a related discipline; (2) Knowledge in research methodology; and (3) Skills in literature review and oral presentation.

Corequisite

300597.3 Master Project 1

Equivalent Units

300188 - Master of Engineering Project, 200328 - Built environment Research Project

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course. Please note: Students enrolled in 3693 Master of Engineering must select the campus offering, not the online mode.

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This unit is a continuation of unit Master Project 1 and is a problem based project unit. Students are expected to conduct self studies under supervision by academic staff and deliver the final outcomes of the research topics that are proposed in Master Project 1. Students will employ the identified methodologies to carry out the research plans and fulfil the research objectives with the defined scope.

Each individual student is required to produce an oral presentation and a final written report in one of the fields of engineering, construction, information technology or data science. Students will acquire problem solving skills in this unit.

301018.2 Mechanical System Design

Credit Points 10 **Level** 7

Assumed Knowledge

The students are assumed to have a good understanding on basics of mechanical design, fundamentals and advanced topics in mechanics of materials, fundamentals on fluid mechanics and heat transfer and thermal dynamics.

Unit Enrolment Restrictions

Students must be enrolled in the Master of Engineering, Graduate Certificate in Engineering or Bachelor of Research Studies / Master of Research.

Special Requirements - Essential Equipment

Engineering analysis package - SolidWorks available in SCEM Computer Labs

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This unit advances students understanding on product design and development of machine components and assemblies using systems engineering approaches. The unit covers a review on the design of main components of machinery to ensure their functionality, strength and durability, which includes drive components - gears, shafts, belt drives, and bearings, and structural components - welds and treaded fasteners. The machine assembly design is delivered based on systems engineering. Academic skills on research and communication are ensured to be achieved through conducting systems engineering approached-based mechanical system design projects.

300600.4 Mechatronic System Design

Credit Points 10 **Level** 7

Assumed Knowledge

Equivalent Bachelor of Engineering degree.

Incompatible Units

300512 - Servo Systems Design (PG), 300191 - Mechatronic System Design

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

Special Requirements - Essential Equipment

vUWS site SCEM Computer Lab SolidWorks MS Office Suite ANSYS MDSIGN

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This unit will advance the skills of mechanics, mechanical systems and automation in the practice of engineering design as applied to mechatronic devices and systems. The ability to perform detailed design analysis of machine elements as well as control systems as applicable to manufacturing and process machinery is the intended outcome of undertaking this unit and project-based tasks will form part of the learning process and team work experience.

101423.3 Media Project Proposal

Credit Points 20 **Level** 7

Assumed Knowledge

Broad understanding of convergent media forms and processes.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Ideation is at the core of creative industries. This practice-led unit will teach you how to ideate, develop and pitch a major project proposal, which you can then produce in the Production unit. We will show you how to mobilise your own creative interests, how to identify and research a creative or market challenge, and teach you techniques for generating ideas and innovative solutions-based responses. You'll learn systemic methods and tools for creative ideation across multiple platforms and channels, including UX (user experience), UI (user interactivity), design thinking, IA (information architecture) and UCD (user centred design). We'll also teach you how to pitch your project so it captures the imagination and attention of clients and audiences.

301140.2 Medicinal Chemistry of Drugs of Abuse

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit will address the fundamental concepts and principles involved in the examination of biological evidence and the practices of serology as they relate to crime scene and forensic investigation. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301043.3 Mobile Computing

Credit Points 10 **Level** 7

Prerequisite

Students enrolled in 2761 Master of Business Administration, Information and Communication Technology specialisation, must have successfully completed 301038 Programming Proficiency and 300977 Systems Analysis and Database Management Systems. Students enrolled in all other courses must have successfully completed 300693 Web Technologies.

Unit Enrolment Restrictions

Successful completion of 40 credit points.

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This unit teaches technologies and programming languages for developing applications on common mobile platforms, such as Android and iOS. Students will learn skills for developing programs on the above platforms,

along with in-class sample applications that highlight platform - specific implementation details.

101743.2 Mobile Media

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The proliferation of the mobile device and the evolution of mobile networks has profoundly changed the social and interpersonal sphere and the global media landscape. This unit combines both theory and practice to engage with Mobile Communications and Society: the cultural, family and interpersonal consequences of mobile communication and its effect on every day life, social cohesion, political and economic activities, social development and change, and Mobile Media: current media production and distribution platforms, practices and trends. This unit includes the production of content for distribution via mobile devices.

301163.2 Modern Software Architectures

Credit Points 10 **Level** 7

Assumed Knowledge

Student must know how to write Objected-Oriented code.

Equivalent Units

300437 XML and Web Services, 301041 Service Oriented Architecture

Unit Enrolment Restrictions

Students must be enrolled in Postgraduate courses at Western Sydney University.

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Enterprise software architecture comprises a decomposed view of a software system in layers and components that interact and manipulate data to achieve business objectives. Enterprise in this context includes small, medium and large organizations operating in diverse sectors (private, NGO, government). Several architectural patterns have emerged to enable responsive, efficient, secure, and reliable enterprise software. This unit provides a deep understanding of these architectural patterns, examining the motivation, strengths, and limitations of different choices. To demonstrate the broader application of the concepts introduced in the unit, a practical case study is deeply examined.

300256.3 Multimedia Communication Systems

Credit Points 10 **Level** 7

Assumed Knowledge

Basic knowledge in digital compression and coding, digital communication systems and fundamentals of data communication and networking.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit covers advanced concepts and technologies used in emerging multimedia communication systems. Theory, practice and standards for IT professionals endeavouring to build data compression systems for multimedia applications are emphasised.

301313.1 Natural Language Understanding

Credit Points 10 **Level** 7

Assumed Knowledge

There are no assumed knowledge for this unit although an undergraduate degree with some probability and statistics is advantageous.

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Natural Language Understanding involves machine reading comprehension and the technologies using it are becoming increasingly widespread. This unit provides a foundation in using the Natural Language Toolkit, which is a leading platform for building Python programs working with ‘human language’ data, as well as an introduction to Python for Natural Language Processing. Students will use algorithms and explore accessing text corpora and processing raw text; categorising words and classifying text; understanding information from text and analysing sentence structures; and understanding semantic meanings of sentences. Students also gain real-world hands-on experience with Natural Language Understanding through the practical tasks and assignments.

301141.2 Natural Medicinal Products

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit has been developed to introduce students to the procedures and processes associated with the production, isolation, characterization and use of medicinal drugs of plant origin. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

300255.3 Network Management

Credit Points 10 **Level** 7

Assumed Knowledge

Familiar with the fundamentals of computer networking and data communications. In particular, a good understanding of the OSI model, the internet protocol suite and current internet technologies.

Equivalent Units

54947 - Management of Networked Systems

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The performance of any modern organization is heavily dependent on their networked systems and how these systems are managed. The increasing demand for ICT services and the huge growth of the Internet have resulted in large heterogeneous networks. This unit addresses the issues relevant to management of such networks and the services that run on them. It covers the principles and current practices pertinent to integrated management of networks, systems, and services. The unit helps the students to understand relevant protocols, standards, and standards organizations. It also introduces them to trends and key research areas in management of networked systems.

300695.3 Network Technologies

Credit Points 10 **Level** 7

Assumed Knowledge

The students should be familiar with the fundamentals of computer architecture and programming principles. They should also have a working knowledge of the World Wide Web.

Equivalent Units

300254 - Network Technology and Data Communications

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Computer networking is one of the fastest growing technologies of our time. The Internet interconnects billions of computers providing many new exciting opportunities and challenges. The Internet and the World Wide Web have provided the communication and infrastructure needed for global collaboration and information exchange. As a result of the rapid growth of networked systems and the diverse applications that run on them, success in many professions depends on a sound understanding of the technologies underlying these systems and applications. This unit explores these issues and provides the students with such an understanding. It covers the principles and current practices pertinent to computer networking and communications. It describes some of the important technologies and devices used in modern networks for information distribution and data sharing. The unit helps the students to understand important models, protocols and standards in networking and internetworking.

200849.2 New Venture Finance

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course or be enrolled in the Master of Information and Communications Technology (Advanced), Master of Information and Communications Technology or Master of Research.

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New Venture Finance introduces students to essential theories, frameworks, principles and requirements for understanding and seeking funding for new ventures, with a focus on investor philosophy. A dynamic approach to seeking initial and subsequent funding for developing innovations and entrepreneurship is emphasised in this unit, recognizing that most new ventures are not fully funded as they launch. The unit also explores approaches related to new ventures at the stage at which they are maturing into defined businesses. Students will be introduced to commercialisation and strategies for the development of business plans designed to seek funding and support.

301227.1 Non-Residential Building

Credit Points 10 **Level** 1

Equivalent Units

BG103A Building 2 700071 Building 2 (WSTC) 300707 Building 2

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The aim of this unit is to provide students with an introduction to the design, classification, applicable Australian Standards, structural systems, construction techniques, materials handling systems, building services, fit-out and finishes for larger scale buildings. The unit focusses on non-residential building projects such as shopping centres, factories, warehouses, office buildings and associated facilities.

301185.2 Nutrition Promotion

Credit Points 10 **Level** 7

Assumed Knowledge

Undergraduate knowledge of human nutrition, including nutrition science, life cycle nutrition, and the relationship between diet and disease.

Unit Enrolment Restrictions

Unit coordinator permission is required, to ensure that prospective students have completed sufficient undergraduate study (the equivalent of 30 credit points of undergraduate study at Western) that focus on nutrition science, life cycle nutrition, and the relationship between diet and disease. This is essential, assumed knowledge for this unit, as the unit does not teach these topics.

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This unit aims to introduce students to the principles and practices of nutrition and health promotion, for use in primary and secondary prevention. Students will learn and critically appraise all aspects of the program planning cycle, from needs assessment to evaluation. Students will develop their capabilities to design initiatives that are responsive to, and contribute to, the community and public health nutrition evidence base. Students will acquire knowledge related to communication, food and social marketing, nutrition education, and nutrition and behaviour change theories; and learn how to translate this into effective nutrition promotion initiatives that aim to influence food choice, intake, supply and/or access. Lastly, students will learn to work in, and/or manage, multi-disciplinary teams and work with key stakeholders. Negotiation and influencing skills, together with capacity building skills, to guide and upskill individuals and groups, will be developed for the purpose of improving the nutritional status of groups.

301184.2 Nutritional Assessment Methods

Credit Points 10 **Level** 7

Assumed Knowledge

Undergraduate knowledge of human nutrition, including nutrition science, life cycle nutrition, and the relationship between diet and disease.

Unit Enrolment Restrictions

Unit coordinator permission is required, to ensure that prospective students have completed sufficient undergraduate study (the equivalent of 30 credit points of undergraduate study at Western) that focus on nutrition science, life cycle nutrition, and the relationship between diet and disease. This is essential, assumed knowledge for this unit, as the unit does not teach these topics.

Special Requirements - Essential Equipment

Laboratory Coat, enclosed shoes, safety goggles.

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This unit aims to introduce students to methodologies that incorporate anthropometric, biochemical, clinical, dietary and physical activity assessment to assess the nutritional status of individuals and groups. Students will critically explore the strengths and limitations of various methods. Students will also learn to make professional judgement regarding when and how to use methods, including validating nutritional status assessment methods to achieve valid and reliable nutritional assessment outcomes.

300391.3 Occupational Health Management

Credit Points 10 **Level** 7

Assumed Knowledge

Recognition that WH&S procedures are legislatively required in the workplace and the ability to recognise the need to protect workers from harm in the workplace. Knowledge of the basics of WH&S Legislation as it applies in their country of origin.

Equivalent Units

EH831A - Occupational Health Management

Unit Enrolment Restrictions

Students must be enrolled in 3602 Master of Environmental Management, 3605 Master of Occupational Safety, Health and Environmental Management, 3606 Graduate Diploma in Occupational Safety, Health and Environmental Management, 3607 Graduate Certificate in Occupational Safety, Health and Environmental Management, 3647 Master of Science, 3648 Graduate Diploma in Science (exit only), 3649 Graduate Certificate in Science, 4651 Master of Health Science, 4652 Graduate Diploma in Health Science or 4653 Graduate Certificate in Health Science, 4681 Master of Health (Research Studies)/PhD, 4698 Master of Health Science, 4700 Graduate Diploma in Health Science, 4701 Graduate Certificate in Health Science, 4702 Master of Public Health, 4704 Graduate Diploma in Public Health

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This unit focuses on the practice of occupational health within national and international frameworks. It explores issues such as the physical, social and mental impact of the occupational environment on health and includes the human body's response to occupational health hazard exposure through toxicological and epidemiological principles. Strategies for the management of occupational health are examined, together with methods of monitoring and evaluating occupational health programs.

401081.3 Organisational Governance and Performance Management

Credit Points 10 **Level** 7

Assumed Knowledge

General Knowledge of Australian Healthcare System

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit will provide an understanding of the key elements of the National Health Reform in Australia. There will be a strong focus on the management of delivering public hospital services under the evolving reform. The unit will cover the establishment of service level agreements, outlining the purchaser – provider model and exploring its impacts and deliverables. The unit will also explore how performance should be monitored and reported. Finally, it will examine the clinical and business governance models that facilitate implementation of such major reforms. Links between quality and performance will also be explored.

301265.1 Performance Solutions for Bushfire Protection

Credit Points 10 **Level** 7

Assumed Knowledge

Students must have prior knowledge of Bushfire behaviour, planning, building, bushfire fighting and emergency management.

Prerequisite

300948.2 Fire Technology and Engineering Principles

Corequisite

200459.3 Emergency Management for Bushfire Prone Areas

Equivalent Units

200499 Alternate Solutions for Bushfire Prone Areas

Unit Enrolment Restrictions

Students must be enrolled in 3709 Graduate Diploma in Bushfire Protection or 3708 Masters in Bushfire Protection and have completed 70 credit points of study.

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This unit describes the processes and techniques available to develop performance outcomes to the planning and building of structures required for bushfire protection in Australia. This unit provides advanced methods to address performance when considering bushfire protection measures. It also introduces the 'bushfire protection guidelines' and processes similar to that used in developing performance solutions under the National Construction Code. These include the use of event tree analysis, verification methods, consideration of climate change and the use of annual exceedance probabilities when developing performance solutions. Students are required to

develop suitable measures through a performance solution for bushfire protection of a building.

300196.4 Personal Communication Systems

Credit Points 10 **Level** 7

Assumed Knowledge

Communications Systems. Digital Communications.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit covers the design fundamentals of cellular systems, including frequency reuse, channel assignments, radio wave propagation in mobile environments, modulation techniques, coding techniques, spread spectrum and multiple access. It includes topics from emerging wireless technologies, and third-generation mobile communication systems and standards.

301143.2 Pharmaceutical Analysis

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit focuses on the characterisation and the structural proof of drug compounds routinely encountered in Forensic and Pharmaceutical laboratories. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

300708.5 Planning and Development Control

Credit Points 10 **Level** 7

Equivalent Units

101634 - Planning and Environmental Regulation

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit describes the general planning issues relevant to developments in rural and urban areas. The content covers the factors important in determining the allocation and use of land and resources together with the contributions of development to the built and natural environment. Topics include: urban and rural design issues; the impact of the 3 tiers of Government process on development control, and the legal, political and technical issues relevant to impact assessments. Particular attention will be paid to the role of the private sector in developing controls, self-regulation and appeal processes. Planning in both the micro and macro environments is examined in the context of sustainability, indigenous culture and heritage, private land conservation, community resources and its strategic effects on the recycling of existing land and non-renewable natural resources.

101634.3 Planning and Environmental Regulation

Credit Points 10 **Level** 7

Equivalent Units

300708 - Planning and Development Control

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This unit provides students with an understanding of the planning process from both a State government and Local Government perspective. The unit will cover concepts related to the planning process, focusing on development control and regulation issues, planning instruments and development applications. It will also address the areas of planning and environment law, with specific reference to the legal from work that regulates planning and development in NSW.

301049.2 Planning for Bushfire Prone Areas

Credit Points 10 **Level** 7

Prerequisite

300708.3 Planning and Development Control

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit describes the relevant planning issues for bushfire prone areas and the measures that can be implemented to ensure appropriate development in these areas. A knowledge and understanding of the planning, design and construction of the urban form is important if we are to manage the risk of bushfire on the community. It is also fundamental in our understanding of the management of development for bushfires and the necessary infrastructure for bushfire suppression and property protection in bushfire prone areas. Topics include conceptual planning issues, determining bushfire prone areas, bushfire and planning legislation, strategic and regional planning for bushfire, subdivision, defendable space and construction, design, staging and siting, vulnerable developments, industry and other forms of commercial use, landscaping and maintenance, and water and access.

301357.1 Plant-Climate Interactions in Controlled Environments

Credit Points 10 **Level** 7

Assumed Knowledge

Students entering this unit should have knowledge of one of the following subject areas: horticultural production systems; environmental sustainability analytics; computing and technological applications; marketing principles and business management.

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This unit aims to provide knowledge of relationships between plant growth, controlled environment and crop physiological aspects relevant to protected crop production. The unit will provide students with relevant knowledge to explain and develop concepts that are key to understanding various areas of environmental plant physiology. The unit

will also stimulate students to conceptualise interactions between the physical environment and plant functioning. The unit will compare the important parameters and concepts (e.g. plant growth, plant and fruit development, light interception, light use efficiency, biomass partitioning, and water use efficiency) in horticultural crop growth in the controlled systems.

400238.3 Policy, Power and Politics in Health Care Provision

Credit Points 10 **Level** 7

Prerequisite

Students enrolled in course 4673 must have passed the following three units before they can enrol in this unit - 400220 Contemporary Professional Practice in Mental Health Nursing and 400206 Evidence-based Nursing and 400235 Leadership in Clinical Practice.

Equivalent Units

HC815A - Policy, Power and Politics in Health Care Provision

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Computer and internet access

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This unit enables students to gain an understanding of the political and social constructions that underpin health care services such as social determinants of health. It also provides students with the opportunity to explore and critically analyse issues related to the development, implementation and outcomes of health and aged care policies.

101895.2 Political Economy of Development

Credit Points 10 **Level** 7

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The unit introduces students to the main theories and the diverse political economy dimensions of development. It consists of three modules. The first deals with key concepts that interrogate the meaning of development, origins of prosperity and the concepts of poverty, inequality and redistribution, which are contentious in their applications to various groups. The second module examines core issues in the political economy of development, which include globalisation, foreign aid, democracy, conflict and the role of the state. The last module engages with pertinent case studies focusing on Asia, the Pacific as well as problems with development in the Western world.

300197.4 Power System Planning and Economics

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit covers planning techniques for energy and electrical power systems. It also covers the economics of various options and reliability of electrical power systems.

301237.2 Practice Research Studio 1

Credit Points 20 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3761 Master of Architecture (Urban Transformation)

Special Requirements - Essential Equipment

Laptop with required software, per course 3761 requirements. Students are required to purchase consumables such as paper, card, plastic, plywood, adhesives, blades, and other essential materials for assessment tasks. Students will also need to pay for their own plotting and printing costs.

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Practice Research Studio 1 (PRS1) is the first in the sequence of postgraduate architecture and urban transformations studios. PRS1 shall focus upon the research and design of a single, comprehensive architectural project over the duration of the semester through either a civic, residential, or hybrid project type. Students will explore topics related to the broad umbrella of urban transformation and to contemporary architectural practices through the studio work, and will engage with a broad community of professionals, stakeholders, and programmatic conditions. Projects shall be representative of the often-contested intersection of competing interests of the urban environment, where the designer must conduct rigorous analysis and research to inform high-quality design outcomes that are attendant to social, ethical, regulatory, technical, procurement, and environmental issues. Students are expected to develop projects to a high degree of resolution in terms of spatial and experiential quality, technical proficiency, and conceptual rigour, underpinned by theoretical and historical knowledge, and communicated clearly. Projects in the studio will vary in scale, setting, building type, and complexity from year to year, with a thematic emphasis that contributes to the overall research direction of the architecture program at WSU. Students will be expected to engage in the studio with a high degree of individual motivation, resourcefulness, and inquisitiveness as would be expected of professional level studies.

301238.2 Practice Research Studio 2

Credit Points 20 **Level** 7

Corequisite

301240.1 Integrated Building Technology

Unit Enrolment Restrictions

Students must be enrolled in 3761 Master of Architecture (Urban Transformation)

Special Requirements - Essential Equipment

Laptop with required software, per course 3761 requirements. Students are required to purchase consumables such as paper, card, plastic, plywood, adhesives, blades, and other essential materials for assessment tasks. Students will also need to pay for their own plotting and printing costs.

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Practice Research Studio 2 (PRS2) is the second in the sequence of postgraduate architecture and urban transformations design studios. PRS2 shall focus upon the research and design of a comprehensive architectural project over the duration of the semester through either a civic, residential, or hybrid project type (as distinct from PRS1 in the preceding semester). Students will explore topics related to the umbrella of urban transformation and to contemporary architectural practices through the studio work, and will engage with a broad community of professionals, stakeholders, and programmatic situations. Projects shall be representative of the often-contested intersection of competing interests of the urban environment, where the designer must conduct rigorous analysis and research to inform high-quality design outcomes that are attendant to social, ethical, regulatory, technical, procurement, and environmental issues. PRS2 will undertake projects that involve international sites, project contexts, programs, or collaborations. Students are expected to develop project work to a high degree of resolution in terms of spatial and experiential quality, demonstrating through clear communication and representation techniques the technical proficiency, conceptual rigour, and theoretical and historical knowledge that support the project outcomes. Projects in the studio will vary in scale, setting, building type, and complexity from year to year, with a thematic emphasis that contributes to the overall research direction of the architecture program at WSU. Students will be expected to engage in the studio with a high degree of individual motivation, resourcefulness, and inquisitiveness as would be expected of professional level studies.

301117.2 Predictive Analytics

Credit Points 10 **Level** 7

Prerequisite

301114.1 The Nature of Data

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer is required.

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Predictive analytics is the use of data, statistical algorithms and machine-learning techniques to model outcomes based on past data. Industry can use predictive analytics to help optimize their operations and performance. This unit introduces statistical ideas and machine learning techniques covering the predictive analytics process. Some example problems that will be discussed include identifying trends, understanding customers and predicting behaviour, fraud detection, and identifying credit risk.

301104.3 Professional Practice and Building Law

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in the Master and Grad Dip Building Surveying; Master and Grad Dip Bushfire Protection; Master and Grad Dip Fire Safety Engineering or Master of Architecture (Urban Transformation). Students enrolled in the Master or Graduate Diploma in Building Surveying must have successfully completed 40 credit points prior to enrolling in this unit

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The basis of this unit is to ensure students become accustomed to reading and interpreting building and related laws. The unit provides students with background knowledge of the negligence, administrative law, life safety, proportional liability, contracts and statutory interpretation as it applies to building surveying, fire engineering and bushfire protection. The unit studies the codes of professional conduct, ethic, conflict of interest and the rules of evidence within the legal constraints when acting as certifiers and or experts. These professions can act as expert witnesses and consequently need to understand codes of professional conduct, ethic, conflict of interest and the rules of evidence. Additionally they are potentially required to brief solicitors or other legal professionals and will ultimately have a duty to the court or tribunal. The unit requires students to, locate, read and interpret legislative provisions, tribunal and court precedent decisions and case studies associated with these professions. Moreover, this unit studies the functions that are governed by Administrative law, their actions and decisions of government decision makers, which gives rise to administrative review and duty of care.

301005.3 Professional Practice and Communication

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit introduces some of the concepts, standards and techniques associated with the current professional practice for engineering and information technology students. These include the various elements of engineering and IT practice, basic knowledge of contract laws and legal responsibility, competence in verbal and written communication, and an understanding of ethical considerations.

400850.4 Professional Topic

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must have permission from Unit Coordinator to enrol in this unit. Students must have GPA of 5.0 or above. Students must be enrolled in a postgraduate course.

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This unit is designed to allow high achieving students to comprehensively explore a relevant topic of interest to them, either through a minor supervised research project or industry-based project. This unit's flexible delivery offers a unique experience specific to each project and student. Students in this unit will develop extensive skills through project-based learning essential for employment and/or higher degree studies.

301113.2 Programming for Data Science

Credit Points 10 **Level** 7

Assumed Knowledge

Familiarity with computer software programs such as Excel.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer is required.

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The use of computers and computer programming for Data Science is fundamental to the discipline. This introductory unit will briefly cover the use of spreadsheet systems and then will consider programming in the statistical system “R” in detail. Other special purpose languages will also be touched on briefly including SQL (Structured Query Language).

301038.3 Programming Proficiency

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer and Internet at home

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This unit is aimed at the students whose undergraduate study is in a discipline other than computing or information technology. This unit first covers the programming fundamentals on data types, conditional selections and loop structures, and then further develops the problem solving skills through the use of user-defined functions, records, files, as well as the basic concept and techniques of object-oriented programming. A high level programming language is employed to implement all the problem solutions.

51240.5 Project Management

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course, 3752 Master of Project Management or 3749 Master of Science. Students enrolled in other courses require approval from the Director of Academic Program for their course to enrol in this unit.

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This unit introduces students to the philosophy, tools and techniques for effectively managing projects in an organisation. Participants will be required to apply lessons learned to real-world situations and cases, developing their professional expertise in project management in ways that are relevant to their careers. Topics include organisational strategy and project selection; project definition and criteria of merit; tools and techniques; team leadership and management; development of project plans; estimation of time and resources; risk analysis and management; scheduling and control; resource allocation; project tracking; project closure and review. Participants will be expected to use MS Project as a project management tool.

301191.3 Project Procurement Systems

Credit Points 10 **Level** 7

Assumed Knowledge

Basic knowledge of the industry practice in general

Unit Enrolment Restrictions

Students must be enrolled in the postgraduate course of Master of Project Management, Graduate Diploma of Project Management, Graduate Certificate of Project Management, or the Master of Architecture (Urban Transformation)

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This unit examines contemporary practice in relation to procurement strategies such as traditional procurement, relational contracting, strategic project alliancing, and public-private partnerships / private finance initiatives within project environments. The unit will challenge students to examine built environment business ecologies which underpin strategic procurement decision making. Unique procurement environments will be explored, allowing the students to examine key themes of procurement management.

102574.2 Public Health in Complex Emergencies (Advanced)

Credit Points 10 **Level** 7

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The health, socio-economic, and political aspects of conflicts and disasters are complex and multidimensional, requiring political commitment and coordinated and effective prevention. This unit uses critical analyses to provide students with the skills and knowledge required to understand the politics of public health response in emergency situations. Students will be introduced to rapid health assessment protocols in, and health priorities and the prevention of public health effects of, complex emergencies. They will gain practical skills to evaluate and critically appraise the evidence used to inform public health policy and the effectiveness of different decision-making practices in emergency situations.

400416.3 Public Health, Policy and Society

Credit Points 10 **Level** 7

Equivalent Units

E7229 - Health Management: Policy and Society, E7305 - Health Management Policy and Society

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit examines the nature of public health and develops a systemic understanding of various public health policy frameworks and issues. The unit provides the context and history for understanding public health approaches, explores the cultural and social dimensions of health and illness and the economic and political environment in which health policies and strategies are developed and

implemented. The unit advocates a view of health that includes an implicit recognition of the physical, social and economic environment, affirms the importance of social justice and equity in health care, and emphasises the importance of inter-sectoral collaboration.

401238.2 Qualitative Research Methodology in Health

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Computer access

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This unit prepares students to conduct qualitative research. The unit covers ontologies, epistemologies, methodologies, and research methods, particularly those that involve the collection, management and analysis of qualitative data, and how findings are communicated. It also addresses the ethics of research.

800212.1 Research and Public Policy

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a PhD course or course 8111 - Graduate Certificate in Researcher Engagement, Development and Impact.

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This unit examines the link between research and public policy in order to effect change in society. This unit is focussed on an internship with the Whitlam Institute or other public policy think tank and will include guest lectures from experts in public policy development. Upon completion of this unit, students will demonstrate their learning by completing a peer-reviewed public policy paper.

301004.2 Research Preparation in Post Graduate Studies

Credit Points 10 **Level** 7

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Life is research! This unit introduces students to the nature of research and why it is essential to today's way of living. What are the current and big questions in research? How to prepare for conducting a research in various areas? What are the differences between study, investigation and research? In this unit, the main emphasis will be on different types of modern research and their methods/ methodologies with special emphasis on Science, Technology, Engineering & Mathematics (STEM). This unit will also encompass various advanced tools that support research, its writing styles, publication channels and research ethics. Key elements of good research design are also introduced as well as the concepts of intellectual property and commercialisation.

401078.3 Research Project

Credit Points 20 **Level** 7

Assumed Knowledge

A good understanding of research design and practice, including the development of research objectives, selection of an appropriate study design, data source or data collection plan, sample, analytic strategy. Introductory epidemiological and biostatistics knowledge is also expected.

Unit Enrolment Restrictions

Students must be enrolled in a post graduate course and have a GPA of 5.5 or greater. If students are enrolled in the Master of Epidemiology, Master of Public Health or Master of Health Science, students must have enrolled in, or completed 401076 'Introduction to Epidemiology' and 401077 'Introduction to Biostatistics'. For students enrolled in the Master of Public Health or Master of Health Science they are also required to be enrolled in, or have completed 401080 Research Protocol Design and Practice. Students must submit a proposal no longer than three pages comprising the following: 1. Proposed title 2. Background and rationale 3. Research objectives 4. Research plan (including study design, data sources, and analytic strategy) 5. Expected outcomes and benefits 6. Ethical implications 7. Budget and how research costs are to be met (if required) 8. Timeline 9. Supervisor endorsement. Approval of the Research Project Proposal must be provided by the Unit Coordinator to ensure the project meets the expected scale and scope of a 20 credit point Research Project.

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This unit requires students to complete a substantial piece of independent research, including research planning, study design, data collection and analysis, and interpretation. Research projects are developed in consultation with staff who possess similar research interests and relevant research experience. Results and conclusions are expected to be of a publishable standard, and students may wish to submit their work for examination in a form suitable for publication in the peer-reviewed literature (with supplementary material as appropriate). Students will have the opportunity to participate in workshops where they will practice defining a clear research question, preparing a formal research proposal, conducting a review of a body of scientific literature and formal writing at a professional standard. Students will also learn about ethical standards when conducting research.

301055.4 Research Project A

Credit Points 20 **Level** 7

Assumed Knowledge

Knowledge in one of the following fields: • Building surveying • Bushfire protection • Computing, ICT, Networking • Construction • Engineering • Fire safety engineering • Mathematics • Project management.

Prerequisite

Students enrolled in 3716 Master of Mathematics student must have successfully completed 301057 Calculus of Variations and Advanced Calculus, 301058 Non-linear Ordinary Differential Equations, 301059 Applied Complex Variables and 301060 Approximation Theory. Students

enrolled in 3752 Master of Project Management must have successfully completed 301187 Managing Project Teams and Stakeholders, 301194 Financial Management of Projects, 301195 Time and Quality Management, 51240 Project Management AND 301192 Risk Management and Decision Making, and 301193 Strategic Project Management.

Incompatible Units

300597 Master Project 1, 300598 Master Project 2

Unit Enrolment Restrictions

Students must be enrolled in 3703 Master of Building Surveying, 3705 Master of Fire Safety Engineering, 3708 Master of Bushfire Protection, 3716 Master of Mathematics, 3722 Master of Advanced Networking or 3752 of Project Management. For all above listed courses students are required to complete 80 credit points before enrolling into this unit.

Special Requirements - Essential Equipment

Access to the internet and appropriate hardware and software for online study.

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This unit is a problem based research unit. Students are expected to conduct individual studies under supervision by academic staff. Students will acquire the basic skills that are essential for completing a research project. They will learn how to identify research topics in the fields relevant to their courses. They will be required to define research objectives and scope, conduct literature survey, establish research methodology, prepare a research plan and present these contents in a final report and through an oral presentation. This unit is a pre-requisite of unit 301056 Research Project B in which the research plan will be carried out.

301056.3 Research Project B

Credit Points 20 **Level** 7

Assumed Knowledge

Knowledge in one of the following fields relevant to • Building surveying • Bushfire protection • Computing, ICT, Networking • Construction • Engineering • Fire safety engineering • Mathematics • Project management.

Prerequisite

301055.2 Research Project A

Incompatible Units

300597 Master Project 1, 300598 Master Project 2

Unit Enrolment Restrictions

Successful completion of 80 credit points of study in currently enrolled course. Students must be enrolled in the following post graduate courses: 3703 Master of Building Surveying, 3705 Master of Fire Safety Engineering, 3708 Master of Bushfire Protection, 3716 Master of Mathematics, 3722 Master of Advanced Networking or 3752 Master of Project Management.

Special Requirements - Essential Equipment

Access to the internet and appropriate hardware and software for online study.

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This unit is a continuation of the unit 301055 Research Project A and is a problem based project unit. Students are expected to conduct individual studies under supervision by academic staff and deliver the final outcomes/findings on the research topics that are proposed in 301055 Research Project A. Students will employ the identified methodologies to carry out the research plans and fulfil the research objectives with the scope defined in the 301055 Research Project A. Each individual student is required to produce an oral presentation and a final written report. In this unit, students will acquire research related problem solving skills.

401080.3 Research Protocol Design and Practice

Credit Points 10 **Level** 7

Corequisite

401076.1 Introduction to Epidemiology AND **401077.1** Introduction to Biostatistics

For students enrolled in 4702 MPH only: 401077 Introduction to Biostatistics. For students enrolled in 4698 MHSc only:401365 Healthcare Data for Decision-Making. For students enrolled in 4716 MTCM only: 401129 Evidence Based Practice in Chinese Medicine, and either 401076 Introduction to Epidemiology or 401077 Introduction to Biostatistics. For ALL students 401076 Introduction to Epidemiology

Equivalent Units

300398 - Methods of Researching

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Students must have use of a personal computer for access to web-based resources and for preparing assignments.

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In this unit postgraduate students develop a proposal for a research study in an area of interest, drawing upon their knowledge and experiences from other units in their program of study. Students learn how to apply research methods to a variety of research situations and questions; to understand how research questions are developed and answered empirically through suitable choice of research methodology, design and method; and how research findings are validated and communicated.

800220.1 Researcher Development 2: Proposing and Justifying Research

Credit Points 10 **Level** 5

Equivalent Units

800169 - Research Design 2: Practices of Research

Unit Enrolment Restrictions

Students must be enrolled in 8083 Bachelor of Research Studies/Master of Research, 8084 Master of Research (High Cost) or 8085 Master of Research (Low Cost), 8119 Bachelor of Research Studies (Planning), 1712 Master of Planning, 3702 (8112) Master of Information and Communications Technology (Research), 1870 Master of Chinese Cultural Relations, 1883 Master of Cross-cultural

Relations or 3761 Master of Architecture (Urban Transformation)

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An essential skill required by researchers is the ability to propose research and justify it in a compelling manner. Towards this end, Researcher Development 2 uses interactive workshops to help students develop and refine their MRes thesis proposal. The unit includes workshops on research ethics that will help students articulate the significance and relevance of their work, and will assist those whose projects require formal ethics clearance. Students will submit a final written proposal and deliver an oral Presentation of Proposal (POP). After successful completion of this unit, students will have demonstrated an ability to design and justify a research project.

800209.1 Researcher Engagement and Impact

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a PhD course or course 8111 - Graduate Certificate in Researcher Engagement, Development and Impact.

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Maximising impact requires strategy. In addition to an extensive relationship-building with external parties as well as a general commitment to knowledge translation, achieving impact also means being strategic with research design from the earliest stages of project planning. Who is your research targeted to? What are the broader social aims of your research? Which individuals and organisations might have a stake in the outcomes of your research? What are the relevant disciplinary, policy, economic, industry, and social contexts for your research? What barriers or opportunities exist within these contexts? What social media and other communication platforms are available for you to transfer knowledge? What types of public communication should you engage in, and at what stages of your research? This unit will explore how to design research projects with such questions in mind, by combining collaborative workshops with assessments tailored specifically to your own circumstances. Whatever stage your research is at, you will have the opportunity to produce output that will feed into your broader impact or engagement objectives.

800197.1 Researcher Knowledge and Development

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a PhD course or course 8111 - Graduate Certificate in Researcher Engagement, Development and Impact.

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Researchers must have an in-depth knowledge of their research area and the appropriate methods used, as well as the ability to access and manage large amounts of information. This unit will provide students with the opportunity develop a range of literacies and cognitive abilities, culminating in the presentation of the student's Early Candidature Plan.

101962.1 Researching Convergent Media

Credit Points 10 **Level** 7

Equivalent Units

101793 - Methods and Case Studies in Convergent Media

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Standard vUWS site

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The contemporary creative industries landscape is characterised by the breakdown of traditional media silos and the transformation of media production and consumption practices. Media, marketing and creative professionals are now required to understand and connect with their audiences across multiple media platforms and to undertake diverse research deploying many new methodologies. The aim of this unit is to provide students with an historical, geopolitical and theoretical introduction to research in the creative industries. The case studies and topics covered vary from semester to semester and can include data visualisation, digital ethnography, digital games, community media, digital arts, activist networks, social media and cross platform projects. Using current media theory, design theories, and research methodologies, students will select, analyse and contextualise case studies.

301226.1 Residential Building

Credit Points 10 **Level** 1

Equivalent Units

BG101A Building 1 700070 Building 1 (WSTC) 300706 Building 1

Unit Enrolment Restrictions

Students in the following courses cannot enrol in this unit: 2786 Bachelor of Business (current course) 2788 Bachelor of Business/Bachelor of Laws (current course) 2739 Bachelor of Business and Commerce (continuing course) 2740 Bachelor of Business and Commerce/Bachelor of Laws (continuing course) 2753 Bachelor of Business and Commerce (continuing course) 2754 Bachelor of Business and Commerce (Advanced Business Leadership) (continuing course) 2787 Bachelor of Business (Advanced Business Leadership) (current course)

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This unit provides students with an overview of regulations and construction techniques with an emphasis on low-rise residential buildings in the Australian context. It covers general process, building regulations, environmental issues, surveying techniques, structural elements (footings, framing and bracing), envelope, services, fit-out and finishes.

301192.2 Risk Management and Decision Making

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in course 3752 Master of Project Management.

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This unit introduces decision theory, concepts and techniques applicable in managing projects. These techniques provide the basis for understanding project risks. The risk management process is reviewed in detail and dynamics of applying it in specialisation domains is discussed. The unit also analyses the concept of value and how value management is applied in managing projects. The different approaches of applying value management in different specialisations are discussed.

301190.2 Safe and Sustainable Construction

Credit Points 10 **Level** 7

Assumed Knowledge

Students are expected to have basic knowledge in building and construction.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit introduces two important aspects of construction projects: workplace safety and sustainability. Safety and sustainability are crucial issues in the upper echelons of the construction industry. This unit is intended to explore the theoretical frameworks and best practices to support health and safety in construction projects. It introduces various assessment tools and techniques that can be used to measure and improve sustainability in construction projects.

300677.4 Safety and Risk Management

Credit Points 10 **Level** 7

Assumed Knowledge

Recognition that Occupational Health and Safety procedures are legislatively required at the workplace and the ability to recognise the need to protect workers from harm at the workplace.

Equivalent Units

300390 - Safety Management. 300395 - Risk Assessment

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit provides a critical insight into the theory and practice of managing safety and health at the workplace with a dual focus on risk management and safety management. Students have the opportunity to develop a safety systems approach concentrating on hazard identification, risk assessment and devising control measures incorporating safety management principles. Safety culture and its influence on Occupational Health and Safety (OHS) practice is also detailed. In addition, the unit addresses the legal underpinning of OHS requirements at the workplace. Labour market change and the role of government, unions and employer organisations are also examined. Global perspectives on OHS from various jurisdictions ranging from the USA, Hong Kong and China are also scrutinised.

200980.1 Security of Ideas

Credit Points 10 **Level** 7

Prerequisite

Students enrolled in 2784/2810 Master of Laws (International Governance) must have successfully completed the prerequisite unit 200901 Legal Philosophy and Methodology.

Corequisite

Students enrolled in 3748 Master of Information Governance must be enrolled in or have successfully completed the corerequisite unit 200432 Commercial Law.

Unit Enrolment Restrictions

Students must be enrolled in 2824 Master of Laws, 2784 or 2810 Master of Laws (International Governance), 3748 Master of Information Governance, Bachelor of Research Studies or Master of Research.

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This unit provides an introduction and overview of the legal principles of intellectual property law, and traces the development of this law in Australia. The modules consider the different forms of intellectual property including copyright (including moral rights and performers protection), designs, patents, plant breeders rights, trade mark law, passing-off and related actions, domain name law, confidentiality, circuit layouts, the historical development of intellectual property, and the international intellectual property framework (including World Intellectual Property Organization (WIPO) and World Trade Organization (WTO)).

301189.2 Smart Construction

Credit Points 10 **Level** 7

Assumed Knowledge

It is expected that students will have a basic understanding of construction procurement processes at undergraduate level.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit introduces the evolving smart technologies applicable to construction and facilitates critical thinking in how these technologies can be gainfully applied in the construction industry. It builds up understanding of the subject content from baseline principles of management information systems moving towards evolving new technologies such as digital engineering, Building Information Modelling, Blockchain, Artificial Intelligence among others. The modern construction enterprises are critically analysed to determine the application of suitable technologies for their advancement.

301116.2 Social Media Intelligence

Credit Points 10 **Level** 7

Assumed Knowledge

Basic algebra and computing skills.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer is required.

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Social Media Intelligence presents the theory and practice of extracting and analysing information from social media networks. The aims are to identify properties of social networks, and to make predictions about future events. Topics included will cover areas such as Graph theory, Game theory and Network dynamics and we will identify how these can be used to model and extract information from Facebook and Twitter.

300770.4 Software Testing and Automation

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge about: Software Development Life Cycle; Programming knowledge in one of the Object Oriented programming language for e.g. Java, C++; Scripting Language such as Java Script

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Software Testing and Automation will cover topics in two sections - Fundamentals of Software Testing and Test Automation. Section 1 will enable students to get a good understanding of different types of testing, the entire life cycle of Testing; how to design and prepare Test Cases, Test Data, execute these Test Cases and manage the defects. Students will also learn the importance of exclusive Test Environment for Testing and how to create a Traceability Matrix relating Requirements to Test Cases. Since approaches to testing software have also evolved with rigorous systematic approaches and advanced tools to automate some of the testing tasks. Section 2 will expose students to Test Automation using an automation tool, Object mapping and repository creation, Exception handling, logging and reporting, and Creation and Execution of Automation scripts.

301248.1 Space Instrumentation, Technology and Communication

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge of Mathematics equivalent to 2-unit HSC, and experience with the use of computer software such as Excel or Word would be beneficial. Previous experience of statistics or computer programming will be an advantage but is not essential.

Unit Enrolment Restrictions

Student must be enrolled in a postgraduate course.

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The Space Instrumentation, Technology and Communication unit is focussed on the application of space technology in industrial settings. Its main objective is to provide a sound knowledge of the underlying principles which form a thorough basis for careers in space technology, satellite communications and related fields. This unit gives the student grounding in the technologies used in space science. By considering the underlying scientific principles and case studies of the instrumentation used in space, students will not only understand the current state of the art in space science, but also the foundations of the field in order to be able to stay current in this fast-moving field. Content includes but is not limited to: Imaging, Detectors, Principles of Communication, and Principles of Space Technology.

301249.1 Space Science, Planetary Science and Meteorology

Credit Points 10 **Level** 7

Assumed Knowledge

Knowledge of Mathematics equivalent to 2-unit HSC, and experience with the use of computer software such as Excel or Word would be beneficial. Previous experience of statistics or computer programming will be an advantage but is not essential.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit examines the six key priorities of the Australian Space Agency: communication, space debris monitoring, navigation and positioning, Earth observation, space technology research and development, and remote asset management. Students will examine the Sun and Solar System, planetary science, meteorology, and the physics of rockets and satellites. Students will explore the interconnections between the Earth land, ocean, atmosphere, and life of our planet in the era of modern satellite technologies. These include the critical review of our understanding about the cycles of water, carbon, rock, and other materials that continuously shape, influence, and sustain Earth and its inhabitants. Students will also be able to design new models of the cyclical interactions between the Earth system and the Sun, Moon and will discover the fundamental processes which define our Universe and our planet.

301264.1 Spatial Tools and Mapping

Credit Points 10 **Level** 7

Equivalent Units

301002 Specialised Software Applications

Unit Enrolment Restrictions

students must be enrolled in a postgraduate course

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This unit offers practical applications in spatial information software. Students will be taught using Geographical Information Systems (GIS) software to prepare maps (such as bushfire prone land) as well as management plans required of planning and design practitioners. Workshops are provided to assist students in the practical use of the GIS system. Students are provided with online module notes and readings as well as assignments being submitted online. Emphasis is placed on teaching students practical software applications skills relevant to industry needs.

301002.2 Specialised Software Applications

Credit Points 10 **Level** 7

Equivalent Units

300513 - Engineering Software Applications

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course. Please note: Students enrolled in 3693 Master of Engineering must select the campus offering, not the online mode.

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This unit offers several streams of practical applications in engineering and industrial design software. Students get to choose a software application stream depending on their key program. Lectures and assignments are delivered online and are enhanced by face to face contact with stream coordinators. Emphasis is placed on teaching students practical software applications skills relevant to industry needs.

200971.1 Start-up

Credit Points 20 **Level** 7

Assumed Knowledge

Understanding of the business environment and organisational structures, business communications skills, business strategy, as well as substantial knowledge in the discipline.

Unit Enrolment Restrictions

Students must be enrolled in course 2761 Master of Business Administration, 3698 Master of Information and Communications Technology (Advanced) or 3699 Master of Information and Communications Technology and must obtain permission to enrol in this unit. Students must have successfully completed all core units plus 40 credit points of specialisation units (i.e. a total of 80 credit points).

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Developing start-ups and rejuvenating existing businesses are essential for industry and regional development and regeneration. This unit integrates knowledge from the Master of Business Administration (MBA) Program into frameworks for students to experience developing an idea into prototype products and services and start-up businesses.

401176.1 Statistical Methods in Epidemiology

Credit Points 10 **Level** 7

Assumed Knowledge

High school mathematics (arithmetic, formulas and algebra, reading graphs)

Prerequisite

401077.1 Introduction to Biostatistics

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Statistical ideas are integral to the conceptual basis of epidemiology and provide the tools needed to interpret epidemiological information and conduct epidemiological studies. Most professions in the health sciences need to be able to read and interpret statistics relating to individual and population health status and health risks, and to identify appropriate statistical methods to evaluate interventions, health policies and programs. Many public health practitioners are actively involved in surveillance, quantitative research and/or evaluation. This unit aims to support students to reach a level of proficiency in the selection of appropriate statistical methods to address specific research questions with a given dataset, conduct the selected analysis, interpret the results appropriately and draw valid and insightful conclusions about the research question.

200841.2 Strategic Business Management

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business or Information and Communications Technology course or be enrolled in course 3748 Master of Information Governance, 3772 Graduate Diploma in Protected Cropping or 3773 Graduate Certificate in Protected Cropping

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This unit critically examines strategic management processes in various business, industry and economic contexts. Students actively participate in experiential learning focussing on strategic leadership, visioning, situation analysis, objective setting and evaluation. Students apply current strategy models and theories to solving industry-specific problems and scenarios. The teaching methods are application-oriented using a variety of engaging technologies and media which simulate real-world strategic problem-solving.

301193.2 Strategic Project Management

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in course 3752 Master of Project Management.

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This unit teaches students the importance of aligning projects with the business strategy. Strategic alignment is a

two-way process. Overall business strategy guides project planning, and, in turn, project success drives enterprise strategy. Students understand the bigger-picture goals, how to identify what is being accomplished and why, and how to achieve goals. Other topics include measuring project success and portfolio and program management.

200329.5 Supply Chain Management

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Business course, the Master of Research, 3752 Master of Project Management, 3693 Master of Engineering or 3749 Master of Science.

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With a rapid increase in global trade and increasing customer expectations, firms are under considerable competitive pressure to find cost-effective and creative ways of delivering value to customers. Since the creation of customer value needs to be viewed holistically – from raw material movement from suppliers through to transformation in the factory and then on to distributors and customers – the effective management of the supply chain and related business networks is critical to achieving competitive advantage. Through formal lectures, case study discussions, and assignments, this unit provides the foundational knowledge, tools, and techniques needed to participate in the design, implementation, and management of an effective supply chain.

400838.2 Supporting Individuals and Communities in Crisis

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The planning, development and implementation of primary health care initiatives rest largely on the capacity of health care workers to develop and engage in partnerships with a diverse range of consumers, health care workers and organisations. In this unit students will critically examine the complexities inherent in developing and sustaining effective and active partnerships with individuals and groups in primary health care contexts. The interpersonal, cultural and socio-political issues that shape communication and the development of partnerships will be examined. Current approaches used to plan for and respond to crises, emergencies and disasters at an individual, organisational and community level will also be explored.

400847.4 Surveillance and Disaster Planning

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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As the world responds to climate change and increased globalisation, the human population is becoming increasingly vulnerable to natural and human disasters. This unit equips students with skills in disaster preparedness and public health surveillance. It addresses the psychosocial and mental health aspects of disaster management, the systems of disaster response and how these aspects are relevant across the all-hazard approach to Prevention, Preparation, Response and Recovery (PPRR). Using current evidence and understanding of this field, students will gain knowledge, skills and experience in leadership and management across the PPRR spectrum and the public health, clinical and other coordination in terms of impact and outcome. Australian requirements and systems in relation to surveillance and disaster planning will be analysed as will international and Australian roles in the region.

300939.3 Sustainability and Risk Engineering (PG)

Credit Points 10 **Level** 7

Assumed Knowledge

Engineering problem solving skills.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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Analysis of sustainability with engineering perspective is increasingly becoming important in the modern world. Also, in the future sustainability will include risk engineering. Hence, engineers with in-depth understanding of different tools that can be used for both sustainability and risk analysis will have significant competitive edge in their future career. The main objective of this unit is to introduce different tools available for sustainability and risk analysis in various engineering applications. The content includes renewable/alternative energy systems, energy/resource efficiency, sustainable/green buildings, sustainable transport and infrastructure, sustainable water management, environmental management systems, sustainability reporting, life cycle analysis, probability/ reliability theory, risk assessment models, overall system analysis.

301003.2 Sustainable Systems

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit teaches students the essential tools available to achieve environmental sustainability in various engineering/ construction/industrial design professional settings. The focus of the unit is on the application of the tools and exploration of Australian regulatory and sustainable development practices.

301142.2 Synthetic Medicinal Chemistry

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit has been developed to introduce students to the chemical principles and procedures surrounding the synthesis of commonly encountered licit and illicit chemical substances, and to introduce you to the processes involved in the forensic analysis of clandestine drug laboratories. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

300977.3 Systems Analysis and Database Management Systems

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The main purpose of this unit is to provide students with an opportunity to gain knowledge and experience of developing a business information system in a systematic way. This unit examines the general methodology of systems development life cycle, including different phases and various modeling techniques. The unit specialises in the development of a full systems analysis and design documentation by using system development methodologies, including data analysis and modeling methods. It extensively covers database design techniques where students will use a set of business rules obtained from requirements and use case analysis, and database implementation using a commercial database management system. At the same time, student learning, intercommunication and collaborative working skills are enhanced by student participation in tutorial presentations and group assignments.

300696.3 Systems and Network Security

Credit Points 10 **Level** 7

Assumed Knowledge

Basic knowledge of networked and computer systems. Basic understanding of cryptography.

Equivalent Units

300253 - Distributed Systems and Network Security

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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This unit is concerned with the protection of information in computing systems and when transferred over networks. It addresses techniques for securing networking applications and their security arrangements. Students gain an understanding of the fundamentals of the provision of security in networks and systems, as well as an appreciation of some of the problems that arise in devising practical security solutions.

301114.2 The Nature of Data

Credit Points 10 **Level** 7

Assumed Knowledge

Undergraduate degree with some statistical content (1 unit) is useful.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer is required.

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This Unit covers concepts of data centric thinking. The main areas discussed are; Populations and Samples; Sampling concepts; Types of Data; Descriptive Methods; Estimation and Inference; and Modelling. The Unit takes a computational and nonparametric approach, before discussing theoretical concepts and Normal distribution theory as large sample approximations.

301195.2 Time and Quality Management

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in course 3752 Master of Project Management.

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This unit introduces time and quality management using basic planning and quality concepts. The unit will cover concept of planning and critical path methods including Project Evaluation and Review Technique (PERT), Line of Balance (LoB), Resource Management and Network. Relevant time management software is to be introduced in this unit to plan and manage project activities. The unit will also help students to understand and analyse quality system accreditation process and manage scope and changes in a project.

301138.2 Toxic Substances

Credit Points 10 **Level** 7

Prerequisite

301135.1 General Toxicology

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit, which is primarily book-based, will comprehensively provide the student with the fundamental concepts of toxicology as they relate to specific organ and tissue systems. We aim to supplement this information with online study guides, detailed module objectives and critical thinking exercises using online journal articles. The objective of this unit is to familiarize students with many of the most important toxic substances, their toxic effects, and ways to treat poisoned patients. Several example toxicants are presented and discussed in detail.. There are literally tens of thousands of chemicals in commerce, and nature

offers even greater numbers of chemicals to which individuals are exposed. According to the basic tenets of toxicology, any of these substances in sufficient doses is toxic, although some clearly are of greater health concern than others. The objective of this unit is to provide the student with information on the toxic properties of selected chemicals to illustrate principles regarding mechanisms of toxicity, the array of signs and symptoms associated with intoxication, approaches to clinical assessment of poisoning, and methods of treatment. Examples have been selected from several chemical classes and include agents that may be encountered occupationally, environmentally, in medicine, or in the context of substance abuse. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

301150.2 Toxicology of Chemical Weapons

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 3741 Master of Forensic Science, 3742 Graduate Diploma in Forensic Science or 3743 Graduate Certificate in Forensic Science.

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This unit is structured to comprehensively provide the student with the fundamental toxicologically relevant concepts of weapons that can be used to create mass casualties. These weapons are often called weapons of mass destruction, a term that is closely related to but not synonymous with mass-casualty weapons (a technically more appropriate term). This unit will focus on chemical agents and toxins as the toxicologically relevant mass-casualty weapons. Each of the eight modules in the unit will consist of specific objectives, one or more illustrative cases, a list of the primary references that the student will be expected to acquaint himself or herself with, a brief introduction, a section of teaching material and study tips, and assignments designed to stimulate critical thinking. The general objectives of this unit are to familiarize the student with the toxicological concepts applicable to chemical and toxin weapons of mass destruction; to provide useful references for study, discussion, and reference; and to provide experience in critical thinking about the clinical toxicology of these agents. This unit is taught by the University of Florida as part of a collaborative venture between the University of Florida and Western Sydney University. Note: Further information on this unit is available from the University of Florida.

102180.3 Translation from Theory and Research to Policy

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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The focus of study in this unit is on policy-making and implementation and the place of theory and research in policy formation. In the first part of the unit students explore the nature of public policy – addressing constructs of policy and policy-making and approaches to analysing public policy. The political and social practices of policy-making and implementation in Australia are contextualised and examined at the local, national and global levels. The second part of the unit takes examples of policy-making in the field of social sciences and examines the role of theory and research in the problematisation of issues and identification of solutions. The identification of competing interests, relations of power and key players in understanding, analysing and responding to policy and its outcomes will be undertaken.

200825.3 Understanding Contemporary Organisations

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in 2761 Master of Business Administration 2765 Graduate Certificate in Business 2782 Master of Business Administration/Master of Applied Finance 2806 Master of Marketing 3698 Master of Information and Communications Technology (Advanced) 3699 Master of Information and Communications Technology 3702 Master of Information and Communications Technology (Research) or 3748 Master of Information Governance

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Understanding Contemporary Organisations introduces the theoretical perspectives offered by the disciplines of business and organisation studies to students who have not previously undertaken a business study program. Students will develop their understanding of organisational structure and design and then examine the processes and practices that flow from structure and design. Through this unit, students build an integrated understanding of marketing, finances and people management practices in contemporary organisational settings.

101314.4 Urban Management Practice: Governance and Power in the City

Credit Points 10 **Level** 7

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

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Governance is a central but often overlooked issue in Urban Management. What is governance? What are the principles of good governance? What are some of the governance challenges in major metropolitan cities that cover multiple jurisdictions? How do statutory local governments engage with specialist state agencies in fields such as economic development, environmental planning, and infrastructure planning? This unit answers these questions, reviews governance practices in major cities across the world and provides students with knowledge of key governance tools. Students will prepare a research report dealing with a significant urban governance challenge, and provide recommendations about how to implement solutions to that challenge. The central objective of the course is to provide students with a sound framework and set of tools with which to address governance issues.

301241.1 Urban Transformation Thesis Studio 1

Credit Points 20 **Level** 7

Prerequisite

301237.1 Practice Research Studio 1 AND **301238.1** Practice Research Studio 2 AND **800166.1** Research Design 1: Theories of Enquiry AND **800169.1** Research Design 2: Practices of Research

Unit Enrolment Restrictions

Students must be enrolled in 3761 Master of Architecture (Urban Transformation)

Special Requirements - Essential Equipment

Laptop with required software, per course 3761 requirements. Students are required to purchase consumables such as paper, card, plastic, plywood, adhesives, blades, and other essential materials for assessment tasks. Students will also need to pay for their own plotting and printing costs.

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Urban Transformation Thesis Studio 1 (UTTS1) is the third in the sequence of postgraduate architecture and urban transformations design studios. UTTS1 is the first stage of the 2-semester thesis investigation that is required of all Master of Architecture (Urban Transformation) students. The thesis consists of a comprehensive design project which will represent the synthesis and mastery of professional competencies, disciplinary knowledge, independent thinking, and critical reasoning skills through the development of an architectural proposition. Additionally, students will write an approximate 12500 word reflective exegesis. During UTTS1, students will work closely with academic staff and a professional/industry mentor to refine their thesis topic, develop a comprehensive literature review, identify precedents and communities of practice, create a project brief, conduct site analysis and pre-design evaluation through written and graphic representation. Students will spend an intensive block of time placed in a professional office setting as they develop their preliminary research. The work of UTTS1 will support completion of the thesis in their final semester of study, which shall culminate in an urban building proposal, or relevant research enquiry of demonstrated equivalence, that is developed to a significant degree of resolution in terms of spatial and experiential quality, contextual, cultural, social and environmental considerations, technical proficiency, and conceptual rigour.

301242.1 Urban Transformation Thesis Studio 2

Credit Points 20 **Level** 7

Prerequisite

301241.1 Urban Transformation Thesis Studio 1

Unit Enrolment Restrictions

Students must be enrolled in 3761 Master of Architecture (Urban Transformation)

Special Requirements - Essential Equipment

Laptop with required software, per course 3761 requirements. Students are required to purchase consumables such as paper, card, plastic, plywood, adhesives, blades, and other essential materials for assessment tasks. Students will also need to pay for their own plotting and printing costs.

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Urban Transformation Thesis Studio 2 (UTTS2) is the final postgraduate architecture and urban transformation design studio in the Masters sequence. UTTS2 is the culmination of the 2-semester thesis investigation that is required of all Master of Architecture (Urban Transformation) students. The thesis consists of a comprehensive design project which will represent the synthesis and mastery of professional competencies, disciplinary knowledge, independent thinking, and critical reasoning skills through the development of an architectural proposition. Additionally, students will write an approximate 12500 word reflective exegesis. During UTTS2, students will work closely with academic staff and a professional/industry mentor to independently resolve their design thesis topic as an architectural proposition that is attendant to professional, social, and environmental concerns, and through the written research document. Students will spend an intensive block of time placed in a professional office setting as they develop their design research proposition and/or writing. The work of UTTS2 shall culminate in an urban building proposal, or relevant research enquiry of demonstrated equivalence, that is developed to a significant degree of resolution in terms of spatial and experiential quality, contextual, cultural, social and environmental considerations, technical proficiency, and conceptual rigour.

301112.2 Visualisation

Credit Points 10 **Level** 7

Assumed Knowledge

Familiarity with computer software programs, such as Microsoft Office.

Incompatible Units

301109 Visual Analytics

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course.

Special Requirements - Essential Equipment

Access to a computer

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This unit introduces the fundamentals and technologies of information visualisation. It covers the major concepts of information visualisation, human-computer perception and methods for visual data analysis. Students will learn the knowledge and skills required for identifying suitable visualisation techniques and tools appropriate for various data types and applications. The unit provides students with opportunities to explore recent research in the visualisation field.

301278.1 Wastewater Treatment and Recycling

Credit Points 10 **Level** 7

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301012.2 Water Resources Systems Analysis

Credit Points 10 **Level** 7

Assumed Knowledge

Discounting techniques, time value of money, equivalence analysis, present worth analysis, annual worth analysis, benefit-cost analysis, net benefit analysis, rate of return. Fluid properties, hydrostatics, open channel flow analysis, pipe network analysis, analysis and design of hydraulic structures, exposure to surface water hydrology and its components, water quality analysis.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate Engineering program undertaking a Civil Engineering specialisation.

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Water resources projects are large infrastructure projects requiring huge capital expenditure. In addition, multiple options are usually available to meet the project goals but at different costs and under varying constraints. This unit presents the application of optimisation techniques to select the best project from a list of competing projects. Applications of these techniques to optimally allocate available water resources are discussed. These are presented within the context of maximising the return of investment.

301279.1 Water Treatment and Distribution

Credit Points 10 **Level** 7

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300443.3 Web Engineering

Credit Points 10 **Level** 7

Assumed Knowledge

Ability to develop simple static web sites. Knowledge about server-side and browser-side scripting.

Equivalent Units

300251 - Web Application Development

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course offered by the School of Computer, Data and mathematical Sciences.

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Today organizations extensively rely on web based information systems to market, sell, manage customer relations, and for most of the internal operations. Users are increasingly using mobile devices to interact with this information. Due to rapidly changing business environment these systems need to be designed in away to accommodate the frequent changes. New technologies and frameworks have been developed to support development of large, complex, mobile based, maintainable and evolutionary web systems. In this unit students will study some of these technologies, design methods and frameworks that can be successfully used to engineer such web systems. They will get hands on experience by developing such a system.

300693.4 Web Technologies

Credit Points 10 **Level** 7

Special Requirements - Essential Equipment

Access to a computer and Internet at home

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This unit covers the technologies required for the construction and maintenance of web pages and web sites. It focuses on the web page and site design, markup languages, client-side technologies such as Cascading Style Sheets and Javascript, as well as server-side technologies such as web servers, database connectivity, and server side scripting. It also includes the use of multi-media, security, access rights, and the exploration of some of the latest technological wonders populated on the Internet. This unit is heavily orientated towards practical experience based on amplifying the theoretical concepts.

300389.3 Wireless Networking

Credit Points 10 **Level** 7

Assumed Knowledge

Students should be familiar with the fundamentals of computer networking and data communications. In particular, they should have a good understanding of the OSI model, the Internet protocol suite and current internet and networking technologies equivalent to satisfactory completion of an introductory networking unit at the undergraduate level such as 300086 offered at Western Sydney University or one year professional experience in networking. The unit is at an advanced level and students would not be able to complete the unit successfully unless they have a good understanding of fundamental issues in computer networking, Internet protocol suite and Internet technologies.

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course offered by the School of Computer, Data and mathematical Sciences.

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Wireless technologies are amongst the most exciting and rapidly growing areas in computing and information technology. They implement applications that profoundly impact our personal way of communication, as well as how business in a variety of industries and organisations are conducted. This unit goes into details of such issues. It discusses wireless networking technologies and their related applications. The main features of wireless and mobile communication systems and the networked services that are based on these systems are also presented. The unit provides students with an in-depth understanding of relevant protocols, the emerging standards and standard organisations. The students are also introduced to some of the relevant current key research issues of the field.

401373.1 Workplace Safety and Risk Management

Credit Points 10 **Level** 7

Corequisite

401363.1 Health Systems and Policy

For students enrolled in 4779 Graduate Diploma in Occupational Health and Safety, and in 4698 Master of Health Science 2-year and 1.5-year pathways Note for Handbook: Students in the 1 year pathway will need to complete a rule waiver form to enrol in this unit.

Equivalent Units

300677 Safety and Risk Management

Unit Enrolment Restrictions

Students must be enrolled in a postgraduate course

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This unit provides a critical insight into the theory and practice of managing health and safety in the workplace. Students have the opportunity to develop a safety systems approach, concentrating on hazard identification, risk assessment and devising control measures incorporating safety management principles to address current and emerging workplace health and safety issues. Students will learn the importance of developing a safety culture in the workplace as a core principle of safe work system management. In addition, the unit addresses the legal underpinning of health and safety requirements at the workplace. Labour market change and the role of government, unions and employer organisations are also examined. Global perspectives on workplace health and safety from various jurisdictions are also scrutinised.

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