

2021 ENGINEERING, CONSTRUCTION AND PROJECT MANAGEMENT

Civil / Structural / Electrical / Electronic / Mechanical / Mechatronic / Advanced Manufacturing / Surveying / Construction Management / Project Management

construction manager

structural engineer

civil engineer

mechanical engineer

Solve ić, buid id.

Your unstoppable career starts here.

quantity surveyor

> automation engineer

electronics engineer



A global leader in renewable technology, South Australia's large-scale renewable energy projects have attracted an investment of \$24.5 billion in one year alone.

Clean Energy Council, Clean Energy Australia report 2019 (2018 period).

project manager

SA's #1 UNIVERSITY FOR GRADUATE CAREERS

2019 ComparED (QILT) Graduate Outcomes Survey – Full-time Employment Indicator (Undergraduate). Public SA-founded universities only.

environmental engineer

NO.1 IN SA FOR STUDENT SATISFACTION

ComparED (QILT) Course Experience Questionnaire 2018-19 – Overall Satisfaction Indicator (Undergraduate), Public SA-founded universities only.

building surveyor



The Australian Government has invested \$200 billion to modernise the nation's defence capability and workforce, in both traditional and multi-disciplinary roles.

> Australian Government Department of Defence, Defence Industrial Capability Plan 2018.



Employment in the construction industry is predicted to grow by 10%, reflecting solid infrastructure investment.

Australian Government Department of Employment, Skills, Small and Family Business, Projections to 2023. Turn ideas into action. Inspire the next wave of engineering innovation and help shape our built environment. Learn to create smarter solutions by exploring diverse areas of engineering such as robotics, contemporary manufacturing systems, renewable energy sources, infrastructure, automation, electronics, surveying and more. You can also build strong foundations by studying construction management, delivering projects that transform cities and landscapes.

unisa.edu.au/study

No.1 IN SA FOR OVERALL EXPERIENCE, STUDENT SKILLS AND TEACHING QUALITY IN ENGINEERING

2020 Good Universities Guide

WELL ABOVE WORLD-CLASS

RESEARCH IN ENGINEERING

2018 Excellence in Research for Australia (ERA)

ONLY UNIVERSITY IN SA

TO OFFER BACHELOR DEGREES IN CONSTRUCTION MANAGEMENT

ENGINEERING, CONSTRUCTION AND PROJECT MANAGEMENT

PROFESSIONAL PRACTICE PROGRAM

Graduate career-ready by completing the Professional Practice Program as part of your engineering or construction management degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking opportunities and events.



The best defence

The defence industry in Australia is big business, with the Federal Government committing over \$200 billion to modernise the nation's defence capability. Investing in a growing workforce is also a key focus, with Australian workers needed in traditional roles along with intelligence, surveillance, cybersecurity and electronic warfare, project management and more.

South Australia's defence footprint will also receive a boost, with a partnership between UniSA and Saab Australia set to deliver job-ready graduates for future defence projects.

The Saab Australia – UniSA Defence Technologies Institute, co-located at Saab's headquarters in Mawson Lakes, will train students in the latest technological advancements to help deliver smart solutions.

UniSA and Saab will co-create teaching materials, covering in-demand areas such as augmented reality, autonomous systems, cybersecurity and complex systems engineering. Students will have the opportunity to work on real projects and complete fully-immersed internships, gaining the experience needed for major projects such as the Future Submarines and Future Frigates programs.

Study project management

Graduate with the skills needed to manage multi-faceted projects across a wide range of industries through a fast-tracked postgraduate qualification in



posigraduate qualification in project management. Study core courses in risk management, leadership, strategy and international best practice. You can also specialise in Contract Management – the only offering of its kind in Australia. Enjoy the flexibility of online study through Open Universities Australia (OUA) and have the option of choosing the Defence Industries specialisation (only offered online).

See page 32 for more information.

THE NEW INDUSTRIAL REVOLUTION

The rise of automation, data analytics, machine learning and artificial intelligence has been dubbed 'Industry 4.0'. Thanks to a \$450 million grant from technology giant Siemens, this new industrial revolution has arrived at UniSA. Engineering students can access advanced software that allows you to track the entire lifecycle of a product from design to disposal. The same software is being used around the globe to develop sophisticated products and systems across industries, from shipbuilding to space, by world-leading companies such as SpaceX and Maserati, and for major projects like the Mars Rover.

SIEMENS

CONSTRUCTING THE FUTURE

Did you know that timber products lock carbon away from the atmosphere and contributes in a positive way to reducing Australia's Green House Gas emissions? UniSA has partnered with industry to conduct timber product testing at its Materials Testing Laboratory at Mawson Lakes Campus. The \$2.2 million-dollar project will be dedicated to better understanding the characteristics of structural softwood grades to ensure that future timber products supplied to the market, for things like major construction projects, are fit for purpose, comply with national standards and regulations and are more environmentally friendly.

BUILDING YOUR CAREER

UniSA offers South Australia's only undergraduate degrees in construction management, which are also accredited by the Australian Institute of Building. Graduate with the skills to work across large infrastructure projects, redevelopments and commercial builds. Study core construction courses covering technical and non-technical topics, along with courses in both quantity and building surveying. You can also study construction management through UniSA Online.

A SPACE ODYSSEY

With the new Australian Space Agency making its home in Adelaide, interest in space data and technologies has skyrocketed – and UniSA is at the forefront of the next space odyssey. Each year, we play host to the annual Southern Hemisphere Space Studies Program, in partnership with the International Space University. The program brings together participants from around the world to Mawson Lakes Campus for inspiring workshops with industry experts, scientists and cutting-edge researchers. This unique learning program is open to students who share a curiosity for space, and explores key areas of space-related knowledge including exploration, spaceflight, systems engineering, policy and law.

A SUCCESSFUL START

Accelerate your ideas and launch a startup business with in-house support from UniSA's global experts. Venture Catalyst is an incubator program led by UniSA's Innovation & Collaboration Centre (ICC), providing support to entrepreneurs to develop their business ideas from concept to reality. The program offers workshops, one-on-one mentoring, office space in the co-working environment at ICC, and opportunities to travel overseas. You'll be assisted by industry experts as you take your idea from generation through to growth and expansion.

unisa.edu.au/icc









MECHATRONICS LAB / A place where engineering students and technology come together to experiment with robots and mechanised power.

GEOTECHNICAL LAB / A custom-built learning space for STEM students to explore various physical properties of soil for construction projects, including composition, strength, stability and water infiltration.



Learn a language

Develop the skills you need to work internationally and increase your career opportunities by studying a second language. Learn French, Italian, Japanese or English (for speakers of English as a second language) through a Diploma in Languages. Access the Multimedia Languages Lab at Magill Campus and connect with native speakers from around the world in real-time. Graduate with an additional qualification by studying the diploma alongside your undergraduate degree.

unisa.edu.au/languages

Experience student life

Enjoy life beyond the classroom by getting involved in campus culture. Connect with new people at Orientation, keep active with UniSA Sport and on-campus fitness centres, or find your tribe with more than 100 student clubs to choose from. Discover our wide range of events throughout the year and connect with our student association, USASA.

unisa.edu.au/studentexperience

Get career ready

Prepare for your future career from first year with support from our Career Services team. Access our online Career Hub for self-help resources, including tips on resume writing and an interview simulator. There are also professional and exclusive job listings. Connect with a career adviser for help with career mapping, attend industry events to build your professional networks, and walk into one of our drop-in centres on campus for general careers advice.

unisa.edu.au/careers



"So many of the innovations we encounter in everyday life come about through engineering. Our degrees give students opportunities

to collaborate and learn by doing. By using their knowledge in a real-life context, they end up with the practical skills required to launch their career."

Liz Smith | Senior Lecturer and Program Director in Civil Engineering

ONE OF THE BEST YOUNG UNIVERSITIES IN AUSTRALIA FOR TEACHING OUALITY

Ranked #2, 2019 THE Young University Rankings.

GET CONNECTED

with Australia's University of Enterprise

PRACTICAL LEARNING

UniSA offers more than 200 world-class degrees across a wide range of discipline areas. You will learn in a highly practical environment. Take the opportunity to complete an internship or placement during your studies, learning from experts in a real-world setting. Build your networks and graduate career-ready with the skills required of tomorrow's professionals.

TOP RANKING TEACHERS

Make your study experience relevant, and learn from highly qualified academics and industry professionals. In fact, UniSA is one of Australia's best young universities for teaching quality (Ranked #2, 2019 THE Young University Rankings).

WORLD-CLASS FACILITIES

Study in modern, purpose-built facilities across all six UniSA campuses. Learn with the latest industry-standard tools and technologies that will take you from the classroom into the workplace. This includes state-of-the-art laboratories, collaborative learning areas, creative studios, workshops and simulation spaces.

POWERFUL PARTNERSHIPS

We collaborate with more than 2,500 companies worldwide to bring our students placement, project, research and work opportunities. Connect with industry professionals during your studies and benefit from curriculum informed by the latest industry practices.

REAL RESEARCH

Our research is innovative and inspired by challenges. We produce new knowledge that provides solutions to industry, businesses and the wider community. Explore cutting-edge insights in your chosen degree, influenced by our world-class research outcomes.

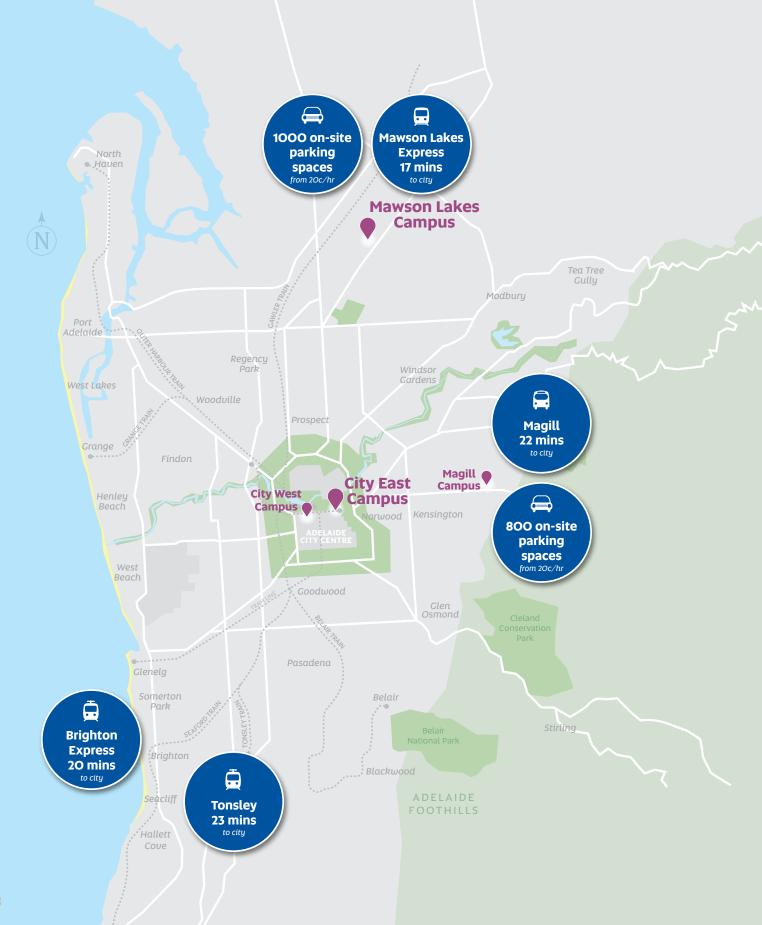


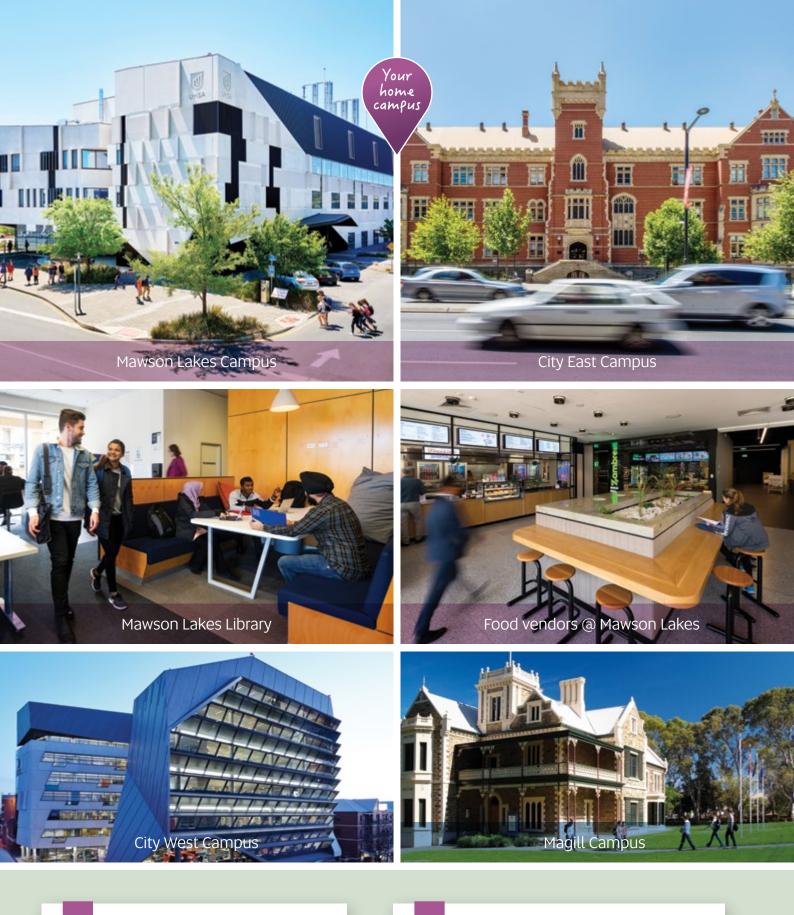
"A strong degree foundation is important regardless of your field, but it's only the beginning of a lifelong learning process and the start of a rewarding and exciting career. Seeing how knowledge is used in the real world allows you to gain that perspective, as well as discover different directions about where your degree can take you."

Brad Yelland | Chief Technology Officer | BAE Systems Australia



GETTING TO CAMPUS





Jump on the tram

Take advantage of the new city tram service operating along North Terrace for a convenient ride between City East and City West campuses or stop at other destinations along the way. Visit the Adelaide Metro website for more information.

Find out more at adelaidemetro.com.au

Public transport

You will find bus stops near each campus and train stations close to the city and Mawson Lakes campuses.

Check your bus, train or tram options on the Adelaide Metro website. You can also get student discounts on tickets once you have enrolled.

Find out more at adelaidemetro.com.au

MAP YOUR STUDY JOURNEY

CIVIL **FLEXIBLE ENTRY ENGINEERING** Want to study engineering but not sure what specialisation to choose? **STUDY** Study our one-year Bachelor of Engineering (Honours) (Flexible Entry) and keep your options **Bachelor of Engineering** open. You will receive full credit for successfully (Honours) (Civil) completed courses before transferring into your chosen specialisation in second year. **CHOOSE FIRST YEAR** Study common engineering courses A major Study core courses and choose one of the following majors: **Business Innovation Construction Management** TRANSFER Structural Engineering Transfer into your chosen specialisation in areas such as civil, surveying, electrical or Surveying mechanical engineering, and graduate with a Bachelor of Engineering (Honours) degree after an additional three years of study. A flexible study plan Study core courses + eight electives in areas that interest you most We also offer a Bachelor of Engineering (Honours) (Civil and Structural) and Bachelor of Engineering (Honours) (Civil and Construction

UniSA MATHS SHORT COURSE

Want to study an engineering degree but didn't complete the SACE Stage 2 Mathematical Methods prerequisite? If you have completed 20 credits of SACE Stage 1 Mathematics, we offer a unique short course for you to complete the required prerequisite before starting your degree. You will learn alongside highly qualified tutors in small groups over the summer period before Semester 1 kicks off.

For more information, visit

unisa.edu.au/maths-short-course

ASSOCIATE DEGREE IN ENGINEERING

Didn't get the score you need to study engineering or complete the SACE Stage 2 Mathematical Methods prerequisite, but completed 20 credits of SACE Stage 1 Mathematics? Study a two-year associate degree at UniSA and transfer into the second year of your chosen Bachelor of Engineering (Honours) degree with credit for successfully completed courses.

Management)

See page 12 for more information.



MECHANICAL

ELECTRICAL AND ELECTRONIC ENGINEERING

STUDY

Bachelor of Engineering (Honours) (Electrical and Electronic)

\bigtriangledown

CHOOSE

A major

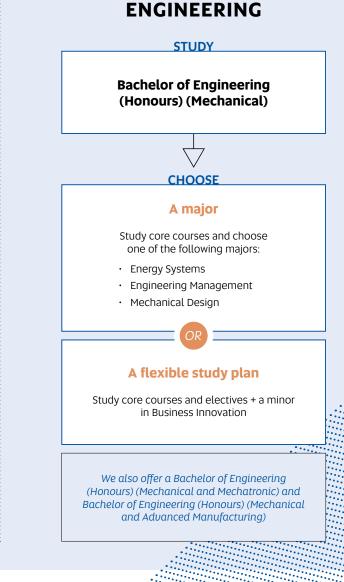
Study core courses and choose one of the following majors:

- Computer Engineering
- Power Engineering
- Telecommunications

A flexible study plan

Study core courses and electives + choose a minor in either Optical Engineering or Business Innovation

We also offer a Bachelor of Engineering (Honours) (Electrical and Mechatronic)



INTERESTED IN SURVEYING?

You can also choose to study the Bachelor of Engineering (Honours) (Surveying) degree, which builds on a strong foundation of civil engineering while gaining specialised knowledge in capturing data to help shape and contour different land environments. For more information, see page 18.

UNDERGRADUATE DEGREES

Your tertiary learning and career starts with undergraduate study.

To explore our 200+ degrees, visit unisa.edu.au/study

To learn more about how to apply, visit unisa.edu.au/apply

contents

Engineering (Flexible Entry) / 13 Civil / 14 Civil and Construction Management / 15 Civil and Structural / 16 Surveying / 18 Electrical and Electronic / 20 Electrical and Mechatronic / 20 Mechanical / 22 Mechanical and Advanced Manufacturing / 23 Mechanical and Mechatronic / 24 Construction Management / 26

ATAR > DEGREE FINDER

ATAR > Degree Finder, to explore which degrees you may be eligible for using your Selection Rank.

Associate Degree in Engineering

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 2 years full-time 	Intakes: Feb, JulReal-world projects
Selection Rank: cut-off 2020	SATAC code

UniSA College pathways: Foundation Studies Prerequisites: SACE Stage 1 Mathematics or equivalent Assumed knowledge: none

Kick-start your studies in engineering with an associate degree, before transitioning into a Bachelor of Engineering (Honours) to become a fully-qualified engineer or start a professional career in civil engineering, electrical engineering, mechanical engineering, or surveying. Graduate with credit (up to 1.5 years) for successfully completed courses that you can use towards your bachelor degree (entry criteria apply). Study introductory courses in engineering, mathematics, physics and chemistry in your first year and then complete core courses in your chosen specialisation in second year. Benefit from flexible learning options including on-campus, some online or blended study.

Bachelor specialisations:

- Civil
- Civil and Structural
- **Civil and Construction Management**
- Electrical and Electronic
- Electrical and Mechatronic
- Mechanical
- Mechanical and Advanced Manufacturing
- Mechanical and Mechatronic
- Surveying

CAREERS

Construction supervisor / project coordinator / site supervisor / maintenance engineer / technical support engineer / project scheduler / estimator

DEGREE STRUCTURE

- INDICATIVE OF CIVIL SPECIALISATION
- FIRST Essential Mathematics 1: Algebra and
- Trigonometry
- Introduction to Engineering Physics Programming Concepts Sustainable Engineering Practice Introduction to Engineering Chemistry Engineering Design and Innovation Essential Mathematics 2: Calculus Electrical and Electronic Systems
- Engineering Materials
- SECOND Mathematical Methods for Engineers 1
- Introduction to Surveying and Spatial Sciences
- Engineering and Environmental Geology
- Mathematical Methods for Engineers 2
- Engineering Mechanics
- Professional Engineering Design Practice Fluid and Energy Engineering

Bachelor of Engineering (Honours) (Flexible Entry)

unisa.edu.au/engineering

O Mawson Lakes Campus	Dintakes: Feb, Jul	
On-campus	Professional Practice Program	
♦ 4 years full-time*		
Selection Rank: cut-off 2020 70.95 guaranteed entry 70.00 VET:	SATAC code	
guaranteed entry Dip		

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering SAIBT pathways: Diploma of Technology

Prerequisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the mathematics prerequisites. See page 10.

Assumed knowledge: SACE Stage 2 Physics

*Transfer into your chosen engineering specialisation at the end of 12 months' full-time study.

Study the first year of your engineering degree in a flexible program that introduces you to key engineering concepts, then transfer into a Bachelor of Engineering (Honours) with a specialisation of your choice to complete your qualification. Complete common first year courses and receive a full year of study credit. Learn about the fundamentals in engineering practices, mathematics, engineering materials, computer applications, engineering design and innovation, mechanics, and electronic systems. Go on to graduate with honours after an additional three years of study with a specialisation focusing on civil engineering, electrical engineering, mechanical engineering, or surveying. Gain practice or overseas study exchange. Benefit from a degree accredited by Engineers Australia and be eligible to apply for graduate membership. You will also be eligible for membership with comparable international institutions.

Specialisations:

- Civil
- Civil and Construction Management
- Civil and Structural
- Electrical and Electronic
- Electrical and Mechatronic
- Mechanical
- Mechanical and Advanced Manufacturing
- Mechanical and Mechatronic
- Surveying

CAREERS

Depending on your chosen specialisation, you can go on to a career in the following roles:

Civil engineer / construction manager / project engineer / civil project manager / structural engineer / electrical engineer / electrical design engineer / mechanical engineer / mechatronics engineer / industrial engineer / renewable energy engineer / automation engineer / robotics engineer / electronics engineer / surveyor

DEGREE STRUCTURE

ectrical and Electronic Systems Igineering Mechanics athematical Methods for Engineers 2 Igineering Design and Innovation
ć

Following the successful completion of the common first-year engineering courses, you will then transfer into your preferred specialisation in either civil engineering, electrical engineering, mechanical engineering, or surveying.



Looking for alternative entry?

Preference a packaged Diploma in Engineering/Bachelor of Engineering (Honours) (Flexible Entry).

For more information, visit unisa.edu.au/college

SATAC code: 426068

Bachelor of Engineering (Honours) (Civil)

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 4 years full-time 	 Intakes: Feb, Jul Professional Practice Program 	
Selection Rank: cut-off 2020 70.85 guaranteed entry 75.00 VET: guaranteed entry Dip	SATAC code	

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering SAIBT pathways: Diploma of Technology Prerequisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Learn to design and maintain critical infrastructure such as bridges, buildings, airports, roads, railways and water systems. Focus on core courses in road design, soil mechanics, hydraulics and hydrology, geotechnical engineering, and reinforced concrete design. Tailor your studies by choosing a major study area in either Surveying, Business Innovation, Structural Engineering, or Construction Management. Access industry-standard facilities on campus, including the largest strong floor in Australia, along with high-tech testing and computer-modelling equipment. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. All our engineering specialisations feature opportunities to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible to apply for membership. You will also be eligible for membership with comparable international institutions.

CAREERS

Civil engineer / geotechnical engineer / water resources engineer / environmental engineer / engineering consultant / project engineer / transport engineer / structural engineer / project coordinator

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours)
- (Civil and Construction Management)
- Bachelor of Engineering (Honours) (Civil and Structural)
- Bachelor of Engineering (Honours) (Surveying)
- Bachelor of Construction Management (Honours)

FURTHER STUDY

- Master of Engineering civil specialisations
- Master of Engineering (Engineering Management)
- Master of Applied Project Management
- Master of Surveying

DEGREE STRUCTURE

- FIRST Programming Concepts
 - Engineering Materials
- Mathematical Methods for Engineers 1
- ' YEAR Sustainable Engineering Practice Mathematical Methods for Engineers 2 Engineering Mechanics
- Electrical and Electronic Systems Engineering Design and Innovation
- Engineering Modelling Mechanics of Materials
- 2 x Major
- SECOND

YEAR

- Introduction to Water Engineering Road Design and Traffic Management
- Professional Engineering Design Practice Major

Business Management for Engineers Soil Mechanics

- THIRD Steel and Timber Design
- YEAR Hydraulics and Hydrology Water Resources Systems Design Geotechnical Engineering
- Reinforced Concrete Design Major
- Industrial Experience N FOURTH Engineering Capstone Experience A
- Engineering Honours Project A
- 2 x Major YEAR
 - Engineering Capstone Experience B Engineering Honours Project B 2 x Major

4+1 Pathway to Masters

Package a Bachelor of Engineering (Honours) (Civil) + Master of Engineering (Civil and Infrastructure) or (Water Resource Management) and graduate in just five years.

Learn more at unisa.edu.au/engineering4plus1

SATAC code: 434013 (Civil) SATAC code: 434014 (Water)

Bachelor of Engineering (Honours) (Civil and Construction Management)

unisa.edu.au/engineering

Mawson Lakes CampusOn-campus	 Intakes: Feb, Jul Professional Practice Program
Ver:	SATAC code 434151 Program code LHMI ✓ part-time study available

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering SAIBT pathways: Diploma of Technology Prerequisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Study South Australia's only degree combining civil engineering and construction management. Learn to plan, implement and deliver major construction projects while meeting critical deadlines and budgets. Develop a strong foundation of engineering knowledge in your first year, with specialist construction management courses such as Construction Scheduling and Advanced Construction Management starting in third year. Access industry-standard facilities on campus, including the largest strong floor in Australia, along with high-tech testing and computer-modelling equipment. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. All our engineering specialisations feature opportunities to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible to apply for membership. You will also be eligible for membership with comparable international institutions.

CAREERS

Civil project manager / civil construction manager / civil engineer / geotechnical engineer / project engineer / engineering consultant / project coordinator / capital works manager

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Civil)
- Bachelor of Engineering (Honours) (Civil and Structural) .
- Bachelor of Construction Management (Honours)
- Bachelor of Engineering (Honours) (Surveying)

FURTHER STUDY

- Master of Engineering civil specialisations
- Master of Engineering (Engineering Management)
- Master of Applied Project Management

DEGREE STRUCTURE

- Programming Concepts FIRST
- Engineering Materials Mathematical Methods for Engineers 1
- YEAR Sustainable Engineering Practice
- Mathematical Methods for Engineers 2 Engineering Mechanics Electrical and Electronic Systems Engineering Design and Innovation
- Engineering Modelling
- SECOND Mechanics of Materials
- Introduction to Surveying and
- Spatial Sciences YEAR Engineering and Environmental Geology
- Introduction to Water Engineering Road Design and Traffic Management Civil Engineering Techniques Professional Engineering Design Practice

Business Management for Engineers

- THIRD Soil Mechanics Steel and Timber Design
- YEAR Hydraulics and Hydrology
- Water Resources Systems Design Geotechnical Engineering Reinforced Concrete Design Construction Scheduling
- Industrial Experience N
- FOURTH Engineering Capstone Experience A Engineering Honours Project A
- Contract Administration
- YEAR Principles of Project Management
- Engineering Capstone Experience B Engineering Honours Project B Advanced Construction Management Building Estimating

4+1 Pathway to Masters

Package a Bachelor of Engineering (Honours) (Civil and Construction Management) + Master of Engineering (Civil and Infrastructure) and graduate in just five years.

Learn more at unisa.edu.au/engineering4plus1

SATAC code: 434005

Bachelor of Engineering (Honours) (Civil and Structural)

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 4 years full-time 	Professional Practice Program	
Selection Rank: cut-off 2020	SATAC code 434941 Program code LHMI √ part-time study available	

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering SAIBT pathways: Diploma of Technology Prerequisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Build a career constructing, managing and maintaining the civil infrastructure that supports modern living. Develop the skills to design the formation of structures like bridges, buildings, airports, tunnels, ports and water systems. Study specialist structural engineering courses covering structural analysis, earthquake and masonry engineering, and advanced steel and concrete structures. Learn how to manage the social, environmental and financial components of large-scale construction projects to ensure they are delivered with a minimal footprint, on time and on budget. Access industry-standard facilities on campus, including the largest strong floor in Australia, along with high-tech testing and computer-modelling equipment. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. All our engineering specialisations feature opportunities to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible for graduate membership. You will also be eligible for membership with comparable international institutions.

CAREERS

Structural engineer / civil engineer / structural design engineer / civil designer / construction manager / environmental engineer / transport engineer / geotechnical engineer/ project coordinator

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Civil and Construction Management)
- Bachelor of Construction Management (Honours)
- Bachelor of Engineering (Honours) (Surveying)

FURTHER STUDY

- Master of Engineering civil specialisations
- Master of Engineering (Engineering Management)
- Master of Applied Project Management

DEGREE STRUCTURE

- Programming Concepts -IRST
- Engineering Materials Mathematical Methods for Engineers 1
- Sustainable Engineering Practice
- YEAR Mathematical Methods for Engineers 2 Engineering Mechanics Electrical and Electronic Systems Engineering Design and Innovation
- Engineering Modelling
- SECOND Mechanics of Materials
- Introduction to Surveying and
- Spatial Sciences Engineering and Environmental Geology
- YEAR Introduction to Water Engineering Road Design and Traffic Management Civil Engineering Techniques Professional Engineering Design Practice

Business Management for Engineers

- THIRD Soil Mechanics
- Steel and Timber Design
- YEAR Hydraulics and Hydrology Water Resources Systems Design Geotechnical Engineering Reinforced Concrete Design Structural Analysis
- Industrial Experience N
 - Engineering Capstone Experience A Engineering Honours Project A
- FOURTH Civil Engineering Elective 1
- YEAR Advanced Concrete Structures
- Engineering Capstone Experience B Engineering Honours Project B Earthquake and Masonry Engineering Advanced Steel Structures



4+1 Pathway to Masters

Package a Bachelor of Engineering (Honours) (Civil and Structural) + Master of Engineering (Civil and Infrastructure) and graduate in just five years.

Learn more at unisa.edu.au/engineering4plus1

SATAC code: 434006

Bachelor of Engineering (Honours) (Civil) **Bachelor of Business**



unisa.edu.au/engineering

Mawson Lakes CampusOn-campus	 Intakes: Feb, Jul Professional Practice Program 	
5 years full-time		
Selection Rank: cut-off 2020 NEW guaranteed entry 75.00	SATAC code	
VET: guaranteed entry Dip	✓ part-time study available	

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering Prerequisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Complete a double degree combining civil engineering with business in just five years of study. Learn to work creatively and sustainably in the design, construction and maintenance of critical infrastructure, including bridges and roads. Give yourself a competitive edge by also building core knowledge in marketing, management, international business and entrepreneurship, in order to develop the skills needed to work in diverse, interdisciplinary teams in the global business environment. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. You can also go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide.

CAREERS

Civil engineer / geotechnical engineer / water resources engineer / environmental engineer / business development engineer / engineering operations manager / engineering consultant

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Civil and Construction Management)
- Bachelor of Construction Management (Honours)

FURTHER STUDY

- Master of Engineering civil specialisations
- Master of Engineering (Engineering Management) •
- Master of Applied Project Management

DEGREE STRUCTURE

	FIRST YEAR	Programming Concepts Engineering Materials Mathematical Methods for Engineers 1 Sustainable Engineering Practice		
R	R	Mathematical Methods for Engineers 2 Engineering Mechanics Electrical and Electronic Systems Engineering Design and Innovation		
SECOND YEAR	Engineering Modelling Mechanics of Materials Accounting for Business Principles of Economics	-	-	
	Introduction to Water Engineering Road Design and Traffic Management Business and Society Professional Engineering Design Practice			
	THIRD YEAR	Business Management for Engineers Soil Mechanics Steel and Timber Design Hydraulics and Hydrology		
	R	Water Resources Systems Design		

Geotechnical Engineering Reinforced Concrete Design

Business Law

- Industrial Experience N õ Engineering Capstone Experience A Engineering Honours Project A Marketing Principles: Trading and Exchange
- IRTH YEAR Civil Engineering Elective Engineering Capstone Experience B Engineering Honours Project B Entrepreneurship for Social and Market
- Impact Civil Engineering Elective
- International Business Environments FIFTH Strategic Management
- 2 x Business Electives
- YEAR 2 x Business Electives
- 2 x Advanced Business Electives

"My degree was very practical, which has been useful in my career. You're provided with the foundation needed to become an engineer and, once you're working, everything makes sense when you apply your skills to real situations. You can go anywhere with civil engineering because it's such a broad area of practice, it's really unlimiting."

> Cindy Oliver civil engineering graduate

Bachelor of Engineering (Honours) (Surveying)

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 4 years full-time 	 Intakes: Feb, Jul Professional Practice Program 	
Selection Rank: cut-off 2020	SATAC code	

🗸 part-time study available VET: guaranteed entry Dip

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering

Prerequisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Study SA's only undergraduate degree providing a pathway to become a licensed surveyor. Learn to capture data about the shape and contour of different land environments for engineering, mapmaking and construction projects. You will study core courses in civil engineering and develop highly specialised knowledge in surveying, remote sensing, cartography and photogrammetry, along with business management to prepare you for the workplace. Explore key concepts such as modelling, spatial data analysis, engineering design and law. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, quest lectures, industry panels, site visits, networking and events. All our engineering specialisations feature opportunities to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree recognised by the Surveyors Board of South Australia and continue your professional training to become a certified surveyor.

Note: Graduates will be eligible to apply to the Surveyors Board of South Australia to complete training in cadastral surveying, which can lead to formal licensing as a Surveyor.

CAREERS

Licensed surveyors can work in a variety of settings, including:

Construction companies / private consultancies / government departments / councils / engineering firms / environmental protection agencies

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Civil) .
- . Bachelor of Engineering (Honours) (Civil and Construction Management)
- Bachelor of Construction Management (Honours)
- Bachelor of Environmental Science

FURTHER STUDY

- Master of Surveying
- Master of Engineering civil specialisations
- Master of Engineering (Engineering Management)
- Master of Applied Project Management

DEGREE STRUCTURE

- FIRST Programming Concepts
- Engineering Materials
- Mathematical Methods for Engineers 1 ' YEAR Sustainable Engineering Practice
- Mathematical Methods for Engineers 2 Electrical and Electronic Systems Engineering Mechanics
- Engineering Design and Innovation
- Introduction to Surveying and Spatial Sciences
- SECOND Engineering Modelling
- Mechanics of Materials
- YEAR Elective

Land Law and Administration Spatial Data Acquisition and Analysis Introduction to Water Engineering Professional Engineering Design Practice KGG544 Remote Sensing: Photogrammetry (University of Tasmania)

- THIRD Surveying 1
- YEAR Environmental Remote Sensing
 - Business Management for Engineers Geodetic Science Surveving 2
 - Web Cartography Civil Engineering Techniques
- Industrial Experience N
- FOURTH Engineering Capstone Experience A
- Engineering Honours Project A
- Cadastral Surveying YEAR
 - SVY2105 Surveying Computations B (University of Southern Queensland) Engineering Capstone Experience B
 - Engineering Honours Project B Surveying Applications
 - GNSS and Advanced Surveying Technologies



"Through my degree, I've been on plenty of field trips that have taken me all across South Australia. This has allowed me to see and explore places that I never would have gone to. All of the teaching staff are either working or have worked in the surveying industry, which has also provided great insight." 31

200

Michael Button surveying student

Bachelor of Engineering (Honours) (Electrical and Electronic)

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 4 years full-time 	 Intakes: Feb, Jul Professional Practice Program
Selection Rank: cut-off 2020 71.55 guaranteed entry 75.00 VET: guaranteed entry Dip	SATAC code 434951 Program code LHIF ✓ part-time study available

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering

SAIBT pathways: Diploma of Technology

Prerequisites: SACE Stage 2 Mathematical Methods The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10. Assumed knowledge: SACE Stage 2 Physics

Graduate as an electrical and electronics engineer, focused on the design, development and optimisation of electrical and electronic devices, equipment, technology and systems. Learn about the generation, transmission and distribution of electrical energy. Study analog electronics, digital electronics, embedded systems, electrical machines, computer networking, signal processing and control systems, and prepare for Industry 4.0 using cutting-edge software platforms and collaborative digital environments. Access our industry-standard facilities, including the Robotics and Machine Vision and the Sustainable Energy Systems learning spaces. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. Take the opportunity to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible for graduate membership, along with comparable membership with international institutions.

CAREERS

Electrical engineer / electrical design engineer / electronics engineer / power systems engineer / renewable energy engineer / control systems engineer / telecommunications engineer

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Electrical and Mechatronic)
- Bachelor of Software Engineering (Honours) •

FURTHER STUDY

- Master of Engineering electrical specialisations
- Master of Engineering (Engineering Management)
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE

- Programming Concepts
- FIRST YEAR Engineering Materials Mathematical Methods for Engineers
- Sustainable Engineering Practice
- Mathematical Methods for Engineers 2 Engineering Mechanics Electrical and Electronic Systems Engineering Design and Innovation
- Mathematical Methods for Engineers 3 SECOND
- Circuits and Signals
- Engineering Physics Major
- YEAR Analogue Devices and Circuits Digital Logic Fundamentals Data Communication Technologies Professional Engineering Design Practice
- Control Systems THIRD Microcontroller Interfacing and Applications Electrical Machines YEAR Major Embedded System Design Business Management for Engineers 2 x Major Industrial Experience -OURTH Engineering Capstone Experience A Engineering Honours Project A
 - 2 x Major Engineering Capstone Experience B
- YEAR Engineering Honours Project B 2 x Major

Bachelor of Engineering (Honours) (Electrical and Mechatronic)

unisa.edu.au/engineering

O Mawson Lakes Campus	Dintakes: Feb, Jul	
📕 On-campus	Professional Practice Program	
U 4 years full-time		
Selection Rank: cut-off 2020 72.30 guaranteed entry 75.00 VET: guaranteed entry Dip	SATAC code 434451 Program code LHIF ✓ part-time study available	

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering

SAIBT pathways: Diploma of Technology

Prereauisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Combine studies in electrical and mechatronic engineering, studying the fundamental principles underlying the generation, transmission, distribution and utilisation of electrical energy. Learn how to design, develop, control and integrate electromechanical devices and platforms, including automation systems and robots. Prepare for Industry 4.0 using cutting-edge software for 3D design, analysis, simulation and collaborative digital environments. Access our industry-standard facilities, including the Robotics and Machine Vision and the Sustainable Energy Systems learning spaces. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. Take the opportunity to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible for graduate membership, along with comparable membership with international institutions.

CAREERS

Mechatronics engineer / mechatronic device designer / power systems engineer / renewable energy engineer / control systems engineer / automation engineer / robotics engineer / electronics engineer

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Electrical and Electronic)
- Bachelor of Engineering (Honours) (Mechanical and Mechatronic)

FURTHER STUDY

- Master of Engineering electrical specialisations
- Master of Engineering (Engineering Management)
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE

- FIRST Programming Concepts
 - Engineering Materials
 - Mathematical Methods for Engineers 1 Sustainable Engineering Practice
- ' YEAR Mathematical Methods for Engineers 2
- Engineering Mechanics Electrical and Electronic Systems Engineering Design and Innovation
- Mathematical Methods for Engineers 3
- Circuits and Signals
- SECOND Engineering Physics Mechanical Engineering Practice
- **YEAR** Analogue Devices and Circuits
 - Digital Logic Fundamentals Data Communication Technologies Professional Engineering Design Practice

HIRD YEAR	Microcontroller Interfacing and Applications Electrical Machines Electromechanics
	Embedded System Design Engineering Dynamics Industrial Automation Systems Business Management for Engineers
FOURTH YEAR	Industrial Experience Engineering Capstone Experience A Engineering Honours Project A Advanced Control and Signal Processing Machine Learning and Vision Systems
R	Engineering Capstone Experience B Engineering Honours Project B Mobile Autonomous Robotic Systems Intergrated Industrial Actuation

Bachelor of Engineering (Honours) (Electrical and Electronic) Bachelor of Business



unisa.edu.au/engineering

Mawson Lakes Campus	Intakes: Feb, Jul
 On-campus 5 years full-time 	Professional Practice Program
Selection Rank: cut-off 2020	SATAC code

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering

Prerequisites: SACE Stage 2 Mathematical Methods

The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Complete a double degree combining electrical and electronic engineering with business in just five years of study. Focus on the design and operation of devices, equipment, technology and systems. Learn about the generation, transmission and distribution of electrical energy. Study analog electronics, digital electronics, embedded systems, electrical machines, computer networking, signal processing and control systems, and prepare for Industry 4.0 using cutting-edge software platforms and collaborative digital environments. Give yourself a competitive edge by also building core knowledge in marketing, management, international business and entrepreneurship, in order to develop the skills needed to work in diverse, interdisciplinary teams in the global business environment. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide.

CAREERS

Electrical engineer / electronics engineer / power system engineer / telecommunications engineer / systems engineer / business development engineer / engineering operations manager / engineering consultant

YOU MIGHT ALSO LIKE

- · Bachelor of Engineering (Honours) (Electrical and Electronic)
- · Bachelor of Engineering (Honours) (Electrical and Mechatronic)

FURTHER STUDY

- Master of Engineering electrical specialisations
- Master of Engineering (Engineering Management) •
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE

- FIRST Programming Concepts Engineering Materials
- Mathematical Methods for Engineers 1 Sustainable Engineering Practice Mathematical Methods for Engineers 2 Engineering Mechanics Electrical and Electronic Systems
- Engineering Design and Innovation Mathematical Methods for Engineers 3 Circuits and Signals
- SECOND Engineering Physics N
- Software Development
- YEAR Analogue Devices and Circuits Digital Logic Fundamentals Data Communications Technologies Professional Engineering Design Practice
- Control Systems
- Microcontroller Programming and IIRD
- Interfacing
- YEAR Electrical Machines 1 Accounting for Business
- Embedded System Design
- Principles of Economics
- Business and Society
- Business Management for Engineers

- Industrial Experience -OURTH Engineering Capstone Experience A Engineering Honours Project A
- 2 x Electrical Electives
- YEAR Engineering Capstone Experience B Engineering Honours Project B Business Law Electrical Elective
- Marketing Principles: Trading and
- FIFTH Exchange Entrepreneurship for Social and Market Impact
- YEAR International Business Environments Strategic Management
- 2 x Business Electives
- 2 x Advanced Business Electives



"Engineering is so much more than maths and physics: think robots, drones and exposure to world-class technology. No two days are ever the same and the opportunities are ridiculous. The future of every economy is based on electricity and electronics, meaning that this degree will be sustainable in terms of employment for many years to come."

Franke Agenbag electrical and mechatronic engineering student



Bachelor of Engineering (Honours) (Mechanical)

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 4 years full-time 	Nıtakes: Feb, Jul
Selection Rank: cut-off 202072.75 guaranteed entry75.00 VET: guaranteed entryDip	SATAC code434321 Program codeLHMR √ part-time study available

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering SAIBT pathways: Diploma of Technology

Prerequisites: SACE Stage 2 Mathematical Methods The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10. Assumed knowledge: SACE Stage 2 Physics

Become a mechanical engineer, creating innovative designs and mechanised solutions that use power, advanced mechanisms and digital tools. Study the key principles of motion, energy and force. Build a career designing components, machines, or systems that meet human and environmental needs such as engines, appliances, generators and production equipment. Develop the skills to take a product to market, focusing on the full production cycle from functional design and practicality to aesthetics, manufacturing and maintenance. Prepare for Industry 4.0 using cutting-edge software platforms and collaborative digital environments. Benefit from valuable practical experience by participating in the Warman Design and Build Competition, applying hands-on skills and knowledge to a complex engineering project. Access our industry-standard facilities, including the Robotics and Machine Vision, and the Sustainable Energy Systems spaces. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. All our engineering specialisations feature opportunities to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible for graduate membership. You will also be eligible for membership with comparable international institutions.

CAREERS

Mechanical engineer / industrial engineer / mechanical design engineer / maintenance engineer / hydraulics engineer / energy system engineer / product development manager / entrepreneur / project coordinator

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Mechanical and Advanced Manufacturing)
- Bachelor of Engineering (Honours) (Mechanical and Mechatronic)

FURTHER STUDY

- Master of Engineering (Engineering Management)
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE

FIRST

YEAR

SECOND YEAR

Programming Concepts THIRD Control Systems Computer Aided Engineering Practice **Engineering Materials** Mathematical Methods for Engineers 1 Sustainable Engineering Practice Energy Conversion and Management YEAR Major Mathematical Methods for Engineers 2 Mechanics of Machines Engineering Mechanics Business Management for Engineers Electrical and Electronic Systems 2 x Major Engineering Design and Innovation Industrial Experience FOURTH YEAR Mathematical Methods for Engineers 3 Engineering Capstone Experience A Mechanical Engineering Practice Engineering Honours Project A Mechanics of Materials 2 x Major Major Engineering Capstone Experience B Engineering Dynamics Engineering Honours Project B Fluid and Energy Engineering 2 x Maior Mechanical Design Practice Professional Engineering Design Practice

Bachelor of Engineering (Honours) (Mechanical and Advanced Manufacturing)

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 4 years full-time 	 Intakes: Feb, Jul Professional Practice Program
Selection Rank: cut-off 2020	SATAC code

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering SAIBT pathways: Diploma of Technology

Provide the second se

Prerequisites: SACE Stage 2 Mathematical Methods The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Integrate mechanical engineering knowledge with high-precision machinery, and advanced manufacturing and management techniques. Combine information and communication technologies with automation and innovative manufacturing practices to improve products and processes. Explore the latest in manufacturing such as intelligent systems, additive manufacturing, digital manufacturing, and industrial actuation and automation. Prepare for Industry 4.0 using cutting-edge software platforms and collaborative digital environments. Benefit from valuable practical experience by participating in the Warman Design and Build Competition, applying hands-on skills and knowledge to a complex engineering project. Access our industry-standard facilities, including the Robotics and Machine Vision and the Sustainable Energy Systems learning spaces. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. All our engineering specialisations feature opportunities to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible for graduate membership. You will also be eligible for membership with comparable international institutions.

CAREERS

Mechanical engineer / manufacturing engineer / industrial engineer / systems engineer / CAE engineer / quality engineer / product development manager / entrepreneur / project coordinator

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours) (Mechanical)
- Bachelor of Engineering (Honours) (Mechanical and Mechatronic)

FURTHER STUDY

YEAR

SECOND

YEAR

- Master of Engineering (Engineering Management)
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE

Programming Concepts THIRD Control Systems Engineering Materials Mathematical Methods for Engineers 1 YEAR Sustainable Engineering Practice Mathematical Methods for Engineers 2 Engineering Mechanics Electrical and Electronic Systems Engineering Design and Innovation Mathematical Methods for Engineers 3 Mechanical Engineering Practice FOURTH Mechanics of Materials Manufacturing Processes Engineering Dynamics YEAR Fluid and Energy Engineering Mechanical Design Practice Professional Engineering Design Practice

Computer Aided Engineering Practice Energy Conversion and Management Intelligent Manufacturing Systems Mechanics of Machines Advanced Thermo-Fluid Engineering Design in Plastics and Advanced Composites Business Management for Engineers Industrial Experience Engineering Capstone Experience A Engineering Honours Project A Total Quality Management Robotics and Automation

 Engineering Capstone Experience B Engineering Honours Project B Integrated Industrial Actuation Design for Manufacture and Assembly

Bachelor of Engineering (Honours) (Mechanical and Mechatronic)

unisa.edu.au/engineering

 Mawson Lakes Campus On-campus 4 years full-time 	 Intakes: Feb, Jul Professional Practice Program
Selection Rank: cut-off 2020	SATAC code 43478 1 Program code LHMR ✓ part-time study available

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering SAIBT pathways: Diploma of Technology

Prerequisites: SACE Stage 2 Mathematical Methods The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10. Assumed knowledge: SACE Stage 2 Physics

Learn to combine mechanical components with computing, integrated automation, and digital control to create new products and improve technical operating systems. Explore new ways to make systems smarter and improve technologies that meet human and environmental needs. Study specialised courses and the latest developments in robotics, machine tool control and machine vision systems. Prepare for Industry 4.0 using cutting-edge software platforms and collaborative digital environments. Benefit from valuable practical experience by participating in the Warman Design and Build Competition, applying hands-on skills and knowledge to a complex engineering project. Access our industry-standard facilities, including the Robotics and Machine Vision, and the Sustainable Energy Systems spaces. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, quest lectures, industry panels, site visits, networking and events. All our engineering specialisations feature opportunities to complete projects that tackle engineering challenges for real clients, from the tender phase through to feasibility, concept development and detailed design. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide. Graduate with a degree accredited by Engineers Australia and be eligible for graduate membership. You will also be eligible for membership with comparable international institutions.

CAREERS

Mechanical engineer / systems engineer / mechatronic device designer / mechatronic development engineer / automation engineer / robotics engineer / electronics engineer / entrepreneur / project coordinator

YOU MIGHT ALSO LIKE

- · Bachelor of Engineering (Honours) (Mechanical)
- Bachelor of Engineering (Honours) (Mechanical and Advanced Manufacturing)
- Bachelor of Engineering (Honours) (Electrical and Mechatronic)

FURTHER STUDY

- Master of Engineering (Engineering Management)
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE

- Programming Concepts FIRST Engineering Materials
- Mathematical Methods for Engineers 1
- Sustainable Engineering Practice
- YEAR Mathematical Methods for Engineers 2 Engineering Mechanics Electrical and Electronic Systems
- Engineering Design and Innovation Mathematical Methods for Engineers 3
- SECOND Mechanical Engineering Practice
- Mechanics of Materials
- Circuits and Signals
- YEAR Engineering Dynamics Fluid and Energy Engineering Mechanical Design Practice

Professional Engineering Design Practice

- Control Systems THIRD Computer Aided Engineering Practice Energy Conversion and Management
- YEAR Electromechanics Mechanics of Machines Digital Logic Fundamentals Industrial Automation Systems Business Management for Engineers
- Industrial Experience
- FOURTH Engineering Capstone Experience A
- Engineering Honours Project A
- Advanced Control and Signal Processing YEAR Machine Learning and Vision Systems
- Engineering Capstone Experience B Engineering Honours Project B Integrated Industrial Actuation Mobile Autonomous Robotic Systems

Bachelor of Engineering (Honours) (Mechanical) Bachelor of Business

unisa.edu.au/engineering

Mawson Lakes Campus	🚺 Intakes: Feb, Jul
On-campus	Professional Practice Program
5 years full-time	
Selection Rank: cut-off 2020	SATAC code
VET:	v part time stady available
guaranteed entry Dip	

UniSA College pathways: Foundation Studies or Diploma in Engineering UniSA pathways: Associate Degree in Engineering

Prerequisites: SACE Stage 2 Mathematical Methods The UniSA Maths Short Course is available for students who do not have the Stage 2 mathematics prerequisite. See page 10.

Assumed knowledge: SACE Stage 2 Physics

Complete a double degree combining mechanical engineering with business in just five years of study. Discover the latest in mechanical system design, robotics and automation, manufacturing technologies and sustainable energy technologies. Give yourself a competitive edge by also building core knowledge in marketing, management, international business and entrepreneurship, in order to develop the skills needed to work in diverse, interdisciplinary teams in the global business environment. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. Go on an overseas study exchange and choose from over 25 countries and more than 60 universities worldwide.

CAREERS

Mechanical engineer / production engineer / business development engineer / mechanical designer / engineering operations manager / engineering consultant

YOU MIGHT ALSO LIKE

- Bachelor of Engineering (Honours)
- (Mechanical and Advanced Manufacturing)
- Bachelor of Engineering (Honours) (Mechanical and Mechatronic)

FURTHER STUDY

- Master of Engineering (Engineering Management)
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE





Bradley Toole mechanical engineering graduate





Bachelor of Construction Management

unisa.edu.au/construction

City East Campus	Intakes: Feb, Jul	
3 years full-time		
Selection Rank: cut-off 202065.00 guaranteed entry70.00 VET: guaranteed entryDip	SATAC code	

UniSA College pathways: Foundation Studies or Diploma in Construction Prerequisites: none

Assumed knowledge: none

Build a professional career in the construction industry covering the development of low-rise residential, light commercial and high-rise buildings. Study core courses in construction, building surveying, quantity surveying, law, economics, construction management and communication. Develop your knowledge in estimating, contract administration, scheduling and cost planning. Graduate with a degree professionally endorsed by the Australian Institute of Building Surveyors and be eligible to apply for accreditation as a Level 2 Building Surveyor. Continue your studies and graduate with honours through the Bachelor of Construction Management (Honours) degree with only one year of extra study - criteria apply.

CAREERS

Construction manager / site supervisor / estimator / construction planner / contract administrator / project coordinator / quantity surveyor / building surveyor

YOU MIGHT ALSO LIKE

- Bachelor of Construction Management (Honours)
- Bachelor of Architectural Studies
- Bachelor of Business (Property) .
- Bachelor of Engineering (Honours) •
- (Civil and Construction Management) Bachelor of Engineering (Honours) (Surveying)

FURTHER STUDY

- Graduate Diploma in Building Surveying
- Master of Applied Project Management •
- Master of Applied Project Management (Contract Management) •

DEGREE STRUCTURE

FIRST Introduction to Contract Administration

- Construction 1 Introduction to Construction Management
- YEAR Construction Communication Construction Materials Introduction to Construction Business Management
- Structures 1 University Elective
- Quantity Surveying Practice 1 Contract Administration
- Construction 2
- Structures 2
- SECOND YEAR **Building Estimating**
- Construction Cost Planning Construction Scheduling Building Services N

Development Regulation THIRD

- Project Appraisal Construction Environmental Science YEAR Building Surveying Construction Operations and Safety Advanced Contract Administration
 - Fire Engineering N Sustainable Construction



"I was interested in a career within construction that was hands-on, yet still included a focus on management, so this degree was the perfect blend. My studies have taken me overseas to South Korea where I was lucky enough to experience different dynamics and cultural practices within the construction industry. I've also secured part-time employment as an estimator and look forward to a career in the commercial sector when I graduate."

Edward Holmes construction management student

Bachelor of Construction Management (Honours)

unisa.edu.au/construction

 City East Campus On-campus 4 years full-time 	 Intakes: Feb, Jul Professional Practice Program
Selection Rank: cut-off 202082.10 guaranteed entry85.00 VET: guaranteed entryAdvDIP	SATAC code

UniSA College pathways: Foundation Studies or Diploma in Construction Prerequisites: none

Assumed knowledge: none

Study South Australia's only honours degree combining construction management, quantity surveying and building surveying. Prepare for future leadership and managerial roles in the building and construction industry and develop the technical and practical skills to manage large-scale commercial, infrastructure and residential projects. Learn about the fundamentals of construction, including building technology and building structures. Develop your knowledge in contract administration, development regulation and development economics. Tailor your studies by choosing to focus on two key specialisation areas in your final year, including Quantity Surveying, Building Surveying or Construction Management. Graduate career-ready by completing the Professional Practice Program as part of your degree. Gain at least 450 hours of skills and competencies through a range of engagement activities such as placements, internships, guest lectures, industry panels, site visits, networking and events. Depending on your final year specialisation, you will be able to apply for corporate membership with the Australian Institute of Building, the Australian Institute of Building Surveyors (Level 1), the Australian Institute of Quantity Surveyors, and/or the Royal Institution of Chartered Surveyors (UK).

Note: Students that successfully complete the three-year Bachelor of Construction Management (IBBE) can also transfer directly into the fourth and final year of this program. Eligibility criteria apply.

CAREERS

Construction manager / capital works manager / operations manager / quantity surveyor / building surveyor / project manager / site supervisor / estimator / construction planner / contract administrator / bid manager

YOU MIGHT ALSO LIKE

- Bachelor of Construction Management
- Bachelor of Architectural Studies
- Bachelor of Business (Property)
- Bachelor of Engineering (Honours) (Civil and Construction Management)
- Bachelor of Engineering (Honours) (Surveying)

FURTHER STUDY

- Graduate Diploma in Building Surveying
- Master of Applied Project Management
- Master of Applied Project Management (Contract Management)

DEGREE STRUCTURE

FIRST Introduction to Contract Administration FOURTH YEAR Construction 1 Introduction to Construction Management YEAR Construction Communication Construction Materials Introduction to Construction Business Management Structures 1 University Elective Quantity Surveying Practice 1 SECOND YEAR Contract Administration Construction 2 Structures 2 Building Estimating Construction Cost Planning Construction Scheduling Building Services N Development Regulation THIRD Project Appraisal Construction Environmental Science YEAR **Building Surveying** Construction Operations and Safety Advanced Contract Administration Fire Engineering N Sustainable Construction

Research Theory and Practice

- Integrated Project
- AND two of the following three specialisation courses:
- Quantity Surveying Specialisation: Quantity Surveying Practice 2
- Building Surveying Specialisation: Asset Management and Building Pathology
 Construction Management
- Construction Management Specialisation: Construction Business Management

NBE Honours Research Project Industry Experience AND two of the following three

- specialisation courses:
- Quantity Surveying Specialisation: Advanced Quantity Surveying
 Building Surveying Specialisation:
- Advanced Building Surveying
 Construction Management
- Construction Management Specialisation: Advanced Construction Management

Looking for alternative entry?

Preference a packaged Diploma in Construction/Bachelor of Construction Management (Honours).

For more information, visit unisa.edu.au/college

SATAC code: 426072

Bachelor of Construction Management

unisaonline.edu.au/construction-management

I00% online Image: UniSA Online Image: State	 Intakes: Jan, Apr, Jun, Sept Real-world projects
Program code XBBE	√ part-time study available

Time commitment: 10–15 hours per week per course

Pathways: Literacy and Numeracy Test with relevant work experience (UniSA Online); or Foundation Studies or Diploma in Construction (UniSA College).

Prerequisites: none

Assumed knowledge: none

STUDY ON DEMAND

Study a 100% online construction management degree designed specifically for flexible learning. Prepare for a professional career in the construction industry covering the development of low-rise residential, light commercial and high-rise buildings. Study core courses in construction, building surveying, quantity surveying, law, economics, construction management and communication. Benefit from a degree developed in collaboration with industry bodies such as the Australian Institute of Building, Australian Institute of Building Surveyors, Australian Institute of Quantity Surveyors and the Royal Institution of Chartered Surveyors. Access online support services seven days a week, view learning resources 24/7 and log in to the interactive online environment anywhere, anytime, and on any device. Benefit from flexible study with no need to attend lectures or come on campus - all courses and assessments are delivered online. Scholarships and grants are also available for eligible students.

CAREERS

Construction manager / quantity surveyor / building surveyor / project manager / site supervisor / estimator / construction planner / contract administrator

CREDIT CHECK

Fast-track your degree and receive credit for past study and/or work experience.

HOW TO APPLY

- 1. Check your eligibility at unisaonline.edu.au/eligibility
- Gather your relevant documents
- Complete your application and send through your documents
- Applu directly at unisaonline edu au or call 1800 531 962

DEGREE STRUCTURE

- Critical Approaches to Online Learning
- Introduction to Construction Management YEAR Construction Communication Construction 1 Construction Materials Introduction to Construction Business Management Structures 1

Introduction to Contract Administration

- Construction Scheduling
- Construction 2
- SECOND Quantity Surveying Practice 1 Contract Administration
- YEAR Structures 2
- **Building Estimating**
- Building Services Construction Cost Planning
- **Development Regulation** THIRD Sustainable Construction Project Appraisal YEAR Construction Environmental Science Construction Operations and Safety Fire Engineering **Building Surveying** Advanced Contract Administration

Bachelor of Construction Management (Honours)

unisaonline.edu.au/construction-management-honours

Program codeXHCM	√ part-time study available
🕐 4 years full-time	
📃 UniSA Online	Real-world projects
🔦 100% online	防 Intakes: Jan, Apr, Jun, Sept

Time commitment: 10-15 hours per week per course

Pathways: Literacy and Numeracy Test with relevant work experience (UniSA Online); or Foundation Studies or Diploma in Construction (UniSA College)

Prereauisites: none

Assumed knowledge: none

STUDY ON DEMAND

Study a 100% online construction management honours degree designed specifically for flexible learning. Study a four-year professional degree that will prepare you for future leadership and managerial roles in the building and construction industry. Develop the technical and practical skills to manage large-scale commercial, infrastructure and residential projects. Choose to specialise in one of three high-growth areas in construction project management, quantity surveying or building surveying in your final year. Study a degree developed in collaboration with industry bodies such as the Australian Institute of Building, Australian Institute of Building Surveyors, Australian Institute of Quantity Surveyors and the Royal Institution of Chartered Surveyors. Access online support services seven days a week, view learning resources 24/7 and log in to the interactive online environment anywhere, anytime, and on any device. Benefit from flexible study with no need to attend lectures or come on campus - all courses and assessments are delivered online. Scholarships and grants are also available for eligible students.

CAREERS

Construction manager / quantity surveyor / building surveyor / project manager / site supervisor / estimator / construction planner / contract administrator

CREDIT CHECK

Fast-track your degree and receive credit for past study and/or work experience.

HOW TO APPLY

- 1. Check your eligibility at unisaonline.edu.au/eligibility
- Cather your relevant documents Complete your application and send through your documents

Apply directly at unisaonline.edu.au or call 1800 531 962

DEGREE STRUCTURE

- FIRST Critical Approaches to Online Learning
 - Introduction to Construction Management
- YEAR Construction Communication Construction 1

- Construction Materials Introduction to Construction Business Management
- Structures 1
- Introduction to Contract Administration

Construction Scheduling Construction 2

- Quantity Surveying Practice 1 Contract Administration
- SECOND YEAR Structures 2
- **Building Estimating**
 - Building Services Construction Cost Planning

- **Development Regulation** Sustainable Construction
- THIRD Project Appraisal
- YEAR Construction Environmental Science Construction Operations and Safety Fire Engineering Building Surveying
- Advanced Contract Administration
- Integrated Project FOURTH Research Theory and Practice NBE Honours Research Project A & B 4 x Electives*
- **YEAR**

*Choose electives from two of three specialisations in auantity surveying building surveying, or construction project management

POSTGRADUATE AND RESEARCH DEGREES

Take your career to the next level and develop your knowledge further through postgraduate study.

You can also make a positive and lasting contribution to your field through a research degree.

> To explore our postgraduate degrees, visit unisa.edu.au/study

To learn more about our research degrees, visit unisa.edu.au/resdegrees

contents

POSTGRADUATE

Engineering / 29 Engineering Management / 30 Defence Systems Integration / 32 Applied Project Management / 32 Building Surveying / 34 Surveying / 34 Space Studies / 35

RESEARCH

Masters by Research / 35 Doctor of Philosophy (PhD) / 35

Master of Engineering

Degrees:

Master of Engineering (Civil and Infrastructure)

Master of Engineering (Water Resources Management)

unisa.edu.au/engineering

 Mawson Lake On-campus 2 years full-time 	·		eb, Jul wealth supported* nal Practice Program
Civil and Infrastructure SATAC code Program code	2 years 4CM156 LMCL	1.5 years with Advanced Standing 4CM155 LMCL	1 year with Advanced Standing 4CM154 LMCL
Water Resources Management SATAC code Program code	2 years 4CM162 LMCL	1.5 years with Advanced Standing 4CM161 LMCL	1 year with Advanced Standing 4CM160 LMCL

🗸 part-time study available

*see page 36 for more information

Develop advanced knowledge in civil engineering theory and practice, and tailor your studies by choosing the specialisation that interests you most. In the Civil and Infrastructure stream, you will focus on structural and geotechnical engineering, and study critical infrastructure such as bridges, buildings, roads and transport systems. In the Water Resources Management stream, you will learn to create and design key water resources and management systems. Access industry-standard facilities on campus, including high-tech testing and computer-modelling equipment. You can also choose to study project management and leadership in your degree through elective courses. Have your eligible prior learning recognised by applying for Advanced Standing and complete the program in less than two years of full-time study.

CAREERS

Depending on your chosen program, your career options can include: Project manager / operations manager / civil engineer / structural engineer / water resources engineer / construction manager / engineering consultant / lead engineer / engineering manager / researcher

ENTRY REQUIREMENTS

- Bachelor degree or equivalent qualification in civil engineering, or a related discipline, from a recognised higher education institution. A related discipline may be other four-year engineering or science degrees.
- · Applicants who do not meet the standard entry requirements will be assessed on a case-by-case basis by the University.
- Some applicants may be eligible for Advanced Standing and can complete the program in 1.0 or 1.5 years full-time study, or equivalent part-time study.

YOU MIGHT ALSO LIKE

- Master of Engineering (Engineering Management)
- Master of Applied Project Management

DEGREE STRUCTURE

<u> </u>	INDICATIVE OF CIVIL AND
77	INFRASTRUCTURE PROGRAM

- Soil Mechanics
- Steel and Timber Design Research Data Analysis Elective 1

Geotechnical Engineering Reinforced Concrete Design Advanced Soil Mechanics Elective 2

Engineering Masters Industrial Experience

- SECOND YEAR Engineering and Environmental Masters Design Project

 - Masters Research Theory and Practice Elective 3
 - NBE Masters Research Project Elective 4 Elective 5

Master of Engineering

Degrees:

- Master of Engineering (Electrical Power)
- Master of Engineering (Telecommunications)

unisa.edu.au/enaineerina

Mawson Lakes Campus	防 Intakes: Feb, Jul
On-campus	\$ Commonwealth supported*
🕐 2 years full-time	Professional Practice Program
Electrical Power	SATAC code
Telecommunications	SATAC code
Program code	
✓ part-time study available	

*see page 36 for more information

Develop advanced knowledge in electrical engineering theory and practice, and tailor your studies by choosing the specialisation that interests you most. In Electrical Power, you will focus on electrical engineering by studying the operation and control of modern power systems, renewable and distributed energy generation, and modelling of electrical machines. In Telecommunications, you will learn about information and communication technologies by exploring wireless and mobile communication systems, theory and coding, and complex telecommunication networks. Complete a major research project and a minor engineering thesis during your studies, focusing on real-world engineering challenges. Benefit from links to our internationally-recognised Institute for Telecommunications Research, dedicated to developing new technologies for wireless communications, and the multi-million dollar Future Industries Institute located on campus, aimed at transforming the industries of today and seeding the futures of tomorrow.

CAREERS

Depending on your chosen program, your career options can include: Electrical engineer / telecommunications engineer / operations manager / networking planning manager / project manager / renewable energy engineer / engineering consultant / researcher

ENTRY REOUIREMENTS

· Bachelor degree in electrical engineering, or a related discipline, or equivalent qualification. Entry is competitive and experience in engineering and information technology, along with
 completion of professional qualifications will be taken into account.

YOU MIGHT ALSO LIKE

- Master of Defence Systems Integration
- Master of Engineering (Engineering Management)
- Master of Applied Project Management

DEGREE STRUCTURE

 INDICATIVE	OF	FLECTRICAL	
	UI.	LLLCINICAL	LOWFL

PROGRAM LS2

CORF COURSES YEAR Renewable Energy Systems

Power System Analysis Engineering Research Practice

- SPECIALISATION COURSES
- Select a total of 22.5 units from the followina:
- Design and Integration of Renewable
- Energy Systems Operation and Control of Modern Power Systems
- Power Electronics
- Learning in the Workplace Project

Engineering Masters Industrial
Experience
Renewable and Distributed Pov

CORE COURSES

SECOND YEAR

- ted Power Generation
- Advanced Electrical Machines Advanced Power System Modelling

and Analysis Engineering Minor Thesis 1

Engineering Minor Thesis 2

- Select one of: Engineering Economic Analysis
 - Total Quality Management Lean Six Sigma
- Project Planning and Control G
- Enterprise Resource Planning Operations Management Systems

Master of Engineering (Engineering Management)

Nested with:

- Graduate Certificate in Engineering (Engineering Management) (LCEB)
- Graduate Diploma in Engineering (Engineering Management) (LGEB)

unisa.edu.au/engineering

Mawson Lakes Campus	Intakes: Feb, Jul
On-campus	\$ Commonwealth supported*
2 years full-time	Real-world projects
SATAC code	√ part-time study available
*see page 36 for more information	

see page 36 for more informatior

Learn how to manage operations within an engineering project, department or organisation. Develop advanced knowledge and skills in operations management, total quality management, supply chain management, enterprise resource planning, automation, and project management. Tailor your studies through a wide range of electives including project planning and control, intelligent production systems and energy management. Complete a major industry project or a minor research thesis in an area of interest. Explore the latest findings and innovations in engineering by connecting with our leading research concentrations

CAREERS

Operations manager / engineering manager / quality assurance manager / business development manager / department manager / bid manager

ENTRY REOUIREMENTS

- Bachelor degree in engineering, science or technology from a recognised higher education institution; or
- Graduate certificate or graduate diploma in engineering from a recognised higher education institution.
- Entry is competitive and experience in engineering and information technology, along with completion of professional qualifications will be taken into account.

YOU MIGHT ALSO LIKE

- Master of Engineering various specialisations
- Master of Applied Project Management
- Master of Defence Systems Integration

DEGREE STRUCTURE

- FIRST Professional Engineering Practice E Elective Elective ' YEAR Elective
- Engineering Research Practice Elective Elective
- Elective
- Engineering Economic Analysis
- Enterprise Resource Planning
- SECOND YEAR Minor Thesis 1 (Eng)
- Supply Chain Management G
- **Operations Management Systems**
- Minor Thesis 2 (Eng)

"I wanted to study engineering management because I was interested in overseeing large-scale projects at multiple stages. My studies are preparing me to manage and balance time, costs, resources, quality controls, communications, procurements and risk management – all the things you need for successful project delivery. Through a workplace project, I was able to get industry experience and work on my presentation skills in professional meetings with real clients."

> Hazel Zapanta engineering management student

14 - St 4 11 St

.

IG

IL= VIL-VCE RC

Set VCE = 0

Set Icco

 $\int_{C} = \frac{V_{CL}}{R_{C}} = \frac{15}{22x}$

 $0 = \frac{V_{CL} - V_{CL}}{R_C}$ $0 = V_{CL} - V_{CL}$ $= \frac{V_{CL} - V_{CL}}{CL}$

Master of Defence Systems Integration



Nested with:

Graduate Certificate in Defence Systems Integration (LCDI) Graduate Diploma in Defence Systems Integration (LGDI) •

unisa.edu.au/engineering

SATAC code	Program codeLMDI
💟 3 years part-time	Real-world projects
On-campus	\$ A\$39,750* indicative 2020
Mawson Lakes Campus	防 Intakes: Jun

✓ part-time study only

*see page 36	for more	e information
--------------	----------	---------------

Designed for mid-career engineers and defence industry professionals looking to move into senior leadership positions, you will develop high-level engineering skills relevant to Australia's national defence priorities. Learn to apply advanced interdisciplinary skills in engineering management, integrated logistics support, testing and evaluation, and project management. Explore the full systems engineering lifecycle, from conceptual design through to delivery into operations. Draw on your experience and expertise to complete real-world projects focusing on key industry challenges. Graduate with the knowledge and skills needed of a highly specialised workforce, ready to deliver on the Australian Government's \$200 billion investment in the nation's defence capability over the next decade.

CAREERS

This program is designed for qualified engineers and defence industry professionals seeking to further their qualifications and can lead to senior roles within the defence industry and government, spanning leadership, strategy, management and technical positions.

ENTRY REQUIREMENTS

- Bachelor degree, graduate certificate or a graduate diploma in a relevant discipline from a recognised higher education institution. Relevant disciplines typically include engineering (aeronautics, astronautics, biomedical, chemical, civil, computer, electrical, environmental, industrial, mechanical, nuclear, software or systems), chemistry, physics, computer science, or mathematics.
- · Applicants with qualifications in other disciplines are encouraged to apply and will be assessed on a case-by-case basis

YOU MIGHT ALSO LIKE

- Master of Engineering (Engineering Management)
- Master of Engineering electrical specialisations
- Master of Applied Project Management

DEGREE STRUCTURE

Principles of Systems Engineering FIRST Defence Systems Principles of Test and Evaluation YEAR Elective **Engineering Management** System Design and Integration Integrated Logistics Support Elective Systems Integration Project Planning SECOND AND Systems Integration Project Execution

ÓR YEAR Minor Thesis 1 (Eng) AND

Minor Thesis 2 (Eng)

This program is studied primarily through intensive on-campus delivery, but may also include some online delivery options, and can only be completed with a part-time study load.

Master of Applied Project Management

Degrees:

- Master of Applied Project Management
- Master of Applied Project Management (Contract Management)
- Master of Applied Project Management (Defence Industries)

Nested with:

- Graduate Certificate in Project Management (ICPM)
- Graduate Diploma in Project Management (IGBP)

unisa.edu.au/projectmanagement

 On-campus/Online 1.5 years full-time 	Commonwealth supported* Real-world projects		
City East Campus	Intakes: Feb, Jul		

🗸 part-time study available

*see page 36 for more information

Fast-track your studies in project management by studying a 1.5 year program where you will develop fundamental knowledge that can be applied across a wide variety of sectors. Develop an advanced understanding of risk management, leadership, strategy and international best practice. Graduate with the skills to apply effective project management methodologies, work in multi-disciplinary teams and manage projects from inception to delivery and evaluation. Complete a major integrated research project, which can focus on a real issue or challenge within your workplace. Benefit from a program that explores the latest international best practice guidelines from PMI (PMBOK) and PRINCE2. You can also choose to specialise in Contract Management, the only specialisation of its kind in Australia, focused on understanding, negotiating and administering contracts. Graduate with a degree endorsed by the Australian Institute of Project Management, a member of the International Project Management Association (IPMA). Benefit from flexible learning, with the Applied Project Management stream also offered online through Open Universities Australia (OUA). The Defence Industries specialisation is only avaliable online through OUA.

CAREERS

Qualified project managers can work across a wide range of industries, including:

Information technology / construction / engineering / health / defence / finance / mining and resources / pharmaceuticals / the arts / government / not-for-profit / education / marketing

ENTRY REQUIREMENTS

- Bachelor degree from a recognised higher education institution: or
- Graduate certificate or graduate diploma in project management from a recognised higher education institution.

DEGREE STRUCTURE

YEAR

FIRST INDICATIVE OF APPLIED PROJECT MANAGEMENT PROGRAM Principles of Project Management

Project Governance and Ethics

Project Leadership and Teams

Economic, Social and Environmental

Masters Research Theory and Practice

Procurement and Contract Management

Project Risk Management

Project Control Methods

Analysis

- Portfolio and Program Management NBE Masters Research Project
- Select one of the following courses:
- SECOND YEAR Strategy in Project Organisations
 - Managing Complexity in Projects

Students may be required to undertake a combination of on-campus or online study. Students may be required to attend on-campus lectures, tutorials and practicals.

"UniSA brings together like-minded individuals who are passionate about lifelong learning. I believe that project management is an important area of study, and continuing education enhances professional skills, project outcomes and productivity."

> Alison Boag project management graduate

Graduate Diploma in Building Surveying

Nested with:

· Graduate Certificate in Building Surveying (ICBE)

unisa.edu.au/surveying

 City East Campus On-campus/Online 1 year full-time 	 Intakes: Feb, Jul Commonwealth supported*
SATAC code	√ part-time study available
*see page 36 for more information	

age 36 for more information

Develop the knowledge and skills to become a professionally accredited building surveyor in Australia, with the ability to assess building plans to ensure they comply with particular codes and standards. Gain a strong understanding of the construction industry and the complete building lifecycle. Focus on core courses in building processes and technologies, assessment and analysis of structures, construction law, and building codes and regulations. Graduate with accreditation as a Building Surveyor (Level 1) with the Australian Institute of Building Surveyors (AIBS).

Note: The Graduate Certificate in Building Surveying (ICBE) provides an entry pathway into this program for applicants who have a minimum six years of relevant industry experience

CAREERS

Licensed building surveyors can work across a wide range of projects from residential through to multidisciplinary construction works.

ENTRY REOUIREMENTS

- Bachelor degree in built environment, civil engineering, structural engineering, building surveying, quantity surveying, property, construction management or architecture from a recognised higher education institution; or
- Graduate Certificate in Building Surveying (ICBE) from the University of South Australia, or equivalent qualification from a recognised higher education institution.
- Applicants that have completed bachelor degrees from other relevant disciplines will also be considered on a case-by-case basis

DEGREE STRUCTURE

- The Constructed Environment
- IRST Introduction to Construction Law
- Building Structures and Materials YEAR Building Surveying Fire Engineering N Development Regulation
 - Asset Management and Building Pathology Advanced Building Surveying

This program is delivered completely online, however students also have the option of studying through a blended mode of online and on-campus delivery.

Master of Surveying

unisa.edu.au/surveying

Mawson Lakes Campus	Dintakes: Feb
On-campus	\$ Commonwealth supported*
0 1.5 years full-time	
SATAC code	√ part-time study available

*see page 36 for more information

Build a career as a land surveyor with the ability to measure and map the surrounding environment using mathematics and science coupled with specialised technology and equipment. Develop the skills to prepare field plans and onsite measurements that can be used across a wide range of projects from major construction to mining exploration, land subdivision and structural builds. Complete fieldwork during your studies and attend study camps where you will gain practical experience in cadastral surveying, GPS surveying, geodetic science and precision positioning. Connect with industry through a real-world project in your final year. Graduate with a degree recognised by the Council of Reciprocating Surveyors Boards of Australia and New Zealand. Students can exit after one year of successful study with a Graduate Diploma in Survevina.

Note: After one year of study in this program, students will have the option to undertake additional industry training in cadastral surveying with the Surveyors Board of Australia, which will lead to formal licensing. After 1.5 years, students will receive official credit towards the experience required to become a fully-licensed surveyor.

CAREERS

Licensed surveyors can work in a variety of settings, including:

Major construction / government infrastructure projects /

mining and resources / councils / agriculture / environmental remediation / exploration

ENTRY REQUIREMENTS

- Bachelor degree or equivalent qualification in a related discipline from a recognised higher education institution with a minimum Grade Point Average (GPA) of 4.5. The qualification must show strength in geospatial science and reside in disciplines such as Geographical Information Systems (GIS), science, environmental science, natural resource management, or geography.
- Applicants that do not meet the GPA requirements may also be considered for entry based upon three years of full-time relevant work experience. Relevant experience would typically be in the field of engineering or cadastral surveying. These applicants are also required to submit a detailed curriculum vitae.
- All applicants must have passed university coursework that includes basic and advanced courses in land surveying including GPS; earth systems/geology; geographical information systems; maps and coordinate systems; mathematics (preferably engineering the basic systems) and surveying the systems in the systems and surveying the systems and systems and systems in the systems in the systems and syste mathematics); physics; remote sensing; and urban planning.

YOU MIGHT ALSO LIKE

- Master of Engineering (Water Resources Management)
- Master of Environmental Science

DEGREE STRUCTURE

Cadastral Surveying IRST Geodetic Science Remote Sensing: Photogrammetry (KGG544. University of Tasmania) YEAR Survey Computations B (SVY2105. University of Southern Queensland) Cadastral Surveying Experience Land Law and Administration GNSS and Advanced Surveying Techniques Surveying Applications Surveying Project 1N SECOND YEAR

Surveying Project 2

Graduate Certificate in Space Studies

unisa.edu.au/engineering

SATAC coden/a	Program code LCSD
0.5 years full-time	
On-campus/Online	\$ A\$14,700* indicative 2020
O Mawson Lakes Campus	ট Intakes: Feb, Jul

see page 36 for more information

Explore your curiosity and complete a postgraduate qualification in space studies. Complete an individual space-themed research project under the supervision and advice of space industry experts. Examine an area of interest, including from space technology, applications and services, space science, exploration and human spaceflight, through to space economics, regulation and management, and more. Kick-start your studies with an intensive three-day program of workshops on campus, exploring your project theme. Your research project can then be completed online, under the supervision of an expert academic from the Southern Hemisphere Space Studies Program (SHSSP) or the International Space University (ISU).

CARFERS

This program can lead to specialised careers in the space industry, including:

Analyst / researcher / policy adviser / project manager / scientist / engineer

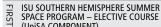
ENTRY REQUIREMENTS

- · Bachelor degree from a recognised higher education institution or equivalent; and
- Successful completion of either the Southern Hemisphere Space Studies Program (SHSSP). or the International Space University Space Studies Program.

SHSSP

The Southern Hemisphere Space Studies Program (SHSSP) is an intensive, five-week, live-in experience held during summer. The program is conducted by the University of South Australia, in partnership with the International Space University (ISU). It provides a well-rounded overview of the concepts involved in space science and exploration, space applications and services, human spaceflight and life science, space systems engineering and technology, space business and management, and space legal and regulatory issues. Please note that there are additional costs associated with this program.

DEGREE STRUCTURE



- SPACE PROGRAM ELECTIVE COURSE (UniSA COMPONENT) Space Studies Project OR Strategic
- YEAR Space Law

Students may complete their studies online or on-campus

Masters by Research Doctor of Philosophy (PhD)

Masters by Research	Program code LMIE	
Doctor of Philosophy (PhD)	Program codeLPHD)

Contribute to the progress of science and technology by investigating a topic of interest. Flourish in a technological hub of theoretical, applied and cross-disciplinary research. Benefit from links to our multi-million dollar Future Industries Institute located on campus, aimed at transforming the industries of today and seeding the futures of tomorrow. Learn alongside world-class supervisors on industry-based projects focused on meeting the challenges of modern enterprise.

DISCIPLINE AREAS

- Applied Physics
- Bioinformatics
- Biomaterials Engineering and Nanomedicine
- Civil Engineering
- Computer and Information Science
- Construction Management
- **Electrical Engineering** .
- Energy and Advanced Manufacturing •
- **Environmental Science**
- Environmental Science and Engineering
 - Geographic Information Science
 - . Information and Communication Technology
- Mathematics
- Mechanical Engineering
- Minerals and Resources
- Project Management
- . Statistics
- Systems Engineering

ENTRY REQUIREMENTS

Masters by Research

- Bachelor degree of at least three years in a relevant discipline with a minimum credit average; or
- Honours 1, Honours 2, Honours 3 or an appropriate master's degree or equivalent qualification; or
- No tertiary qualifications (some discipline areas only) with demonstration of research capabilities via assessment of relevant quality publications and professional experience.

Doctor of Philosophy (PhD)

Honours 1, Honours 2A, or an appropriate master's degree or equivalent qualification.

Alternative entry

Other postgraduate and undergraduate degrees may be considered for admission into the Masters by Research or Doctor of Philosophy (PhD) with demonstration of research capabilities via assessment of relevant quality publications and professional experience.

Eligibility for entry into a research degree is also subject to an assessment of the proposed research, supervisor availability, and any University or research-specific eligibility requirements.

STUDY AT UNISA – THE BASICS

Minimum entry requirements for undergraduate degrees

APPLYING WITH YEAR 12

Applicants are required to have successfully completed the South Australian Certificate of Education (SACE) with:

- a competitive Selection Rank (ATAR) including adjustment factors; AND
- the fulfilment of the program's prerequisite requirements (where applicable).

Applicants may also be eligible to compete for entry if they have completed the program's prerequisite requirements and have completed one of the following:

- an interstate or overseas qualification considered by the University as equivalent to SACE; or
- the International Baccalaureate Diploma with a minimum score of 24 points.

For some degrees, applicants who have not achieved the Selection Rank (ATAR) required for automatic selection into their preferred degree may be selected for any remaining places based on the grades of their Year 12 subjects.

ADJUSTMENT FACTORS

Universities in South Australia include ATAR-related adjustment factors (previously known as bonus points) for Australian high school students applying for entry into university via the following schemes:

- **The Universities Equity Scheme** provides additional points for students coming from specified schools, as well as individuals experiencing socio-economic disadvantage.
- The Universities Language, Literacy and Mathematics Adjustment Scheme – provides additional points for students who successfully complete a language other than English, or specified English and Mathematics subjects.

unisa.edu.au/adjustmentfactors

GUARANTEED ENTRY

UniSA offers guaranteed entry into many programs for domestic Year 12 and VET students. If your Selection Rank (ATAR) or VET award meets the UniSA Guaranteed Entry score for that program, you have met the prerequisites and any other program specific entry requirements, and you have listed the program as your first preference, you are in. It's guaranteed. Please note application timelines may apply.

unisa.edu.au/guaranteed

FEES

All domestic undergraduate students at the University of South Australia are in Commonwealth-supported places. Students in these places pay a contribution of their fees depending on the program chosen and the contribution band in which those courses are classified (see table below). The amount of your student contribution also depends on the unit value of your courses of study.

As per the Australian Government guidelines, the student contribution amounts for 2020 are:

BAND	AREA OF STUDY	STUDENT CONTRIBUTION For one year of full-time load (1 EFTSL)	STUDENT CONTRIBUTION For each subject (0.125 EFTSL)
1	Humanities, behavioural science, social studies, foreign languages, visual and performing arts, clinical psychology, nursing and education.	\$6,684	\$835
2	Computing, built environment, health, engineering, surveying, agriculture, mathematics, statistics and science.	\$9,527	\$1,190
3	Law, dentistry, medicine, veterinary science, accounting, administration, economics and commerce.	\$11,155	\$1,394

ADMISSIONS PATHWAYS

Entering your chosen program straight from high school is not the only pathway into UniSA. Applicants may also meet the minimum requirements to apply for entry (via competitive selection) through one of the following:

Higher education study – completion of at least half a year of full-time equivalent study at UniSA or a recognised higher education institution. You can apply using your Grade Point Average (GPA).

Higher education diploma – completion of a higher education diploma from UniSA College (applicable programs listed on each bachelor program in this guide), the South Australian Institute of Business and Technology (SAIBT), or another recognised higher education institution.

Special entry – a competitive Special Tertiary Admissions Test (STAT) score. A personal competencies statement or relevant employment experience may also be considered for some programs.

Vocational Education Training (VET) – applicants may be eligible for entry with the completion of an award from TAFE or another Registered Training Organisation at AQF Certificate IV or above.

UniSA College – there are a variety of pathway options offered through UniSA College, including diplomas and the Foundation Studies program.

Alternative education providers – there are a range of alternative pathways including bridging qualifications offered

through SAIBT and Eynesbury. **Open Universities Australia** – completion of at least four Open Universities Australia (OUA) courses at an undergraduate level or higher. unisa.edu.au/pathways

BEFORE APPLYING

All applicants should check and ensure that they meet all entry and prerequisite requirements before applying. For more information on entry requirements, visit: *unisa.edu.au/study*

SUPPORT SERVICES

UniSA offers a full range of support services, including career advice, disability and inclusion services, and counselling. For more information, contact (08) 8302 2376 or visit:

unisa.edu.au/studentservices

SCHOLARSHIPS

UniSA offers a range of scholarships and grants to support students from all walks of life. Each year, 2,500 students benefit from scholarships at UniSA, providing financial assistance as well as valuable work experience, mentoring opportunities and even overseas travel. For more information and to check the eligibility criteria, visit:

unisa.edu.au/scholarships

HOW TO APPLY

Applications to most programs at UniSA are administered through the South Australian Tertiary Admissions Centre (SATAC). For more information, visit: unisa.edu.au/applu

For UniSA Online degrees apply directly at, unisaonline.edu.au

*Some postgraduate programs are also Commonwealth-supported (or CSP), while others are full fee-paying; this is listed on applicable programs. For programs under 1.0 year full-time study, fees are listed as the whole program fee (indicative of 2020). For programs over 1.0 years full-time study, fees are listed based on the cost per annum (indicative of 2020). For more information on fees including eligibility for Commonwealth-supported places, deferring your student contribution through HECS-HELP or FEE-HELP loans, please visit: unisa.edu.au/fees

Need some help? Contact Future Student Enquiries on (O8) 83O2 2376 or at unisa.edu.au/enquire



Get cultured – expand your thinking and see the world through a student exchange program.



Pridham Hall – discover the new heart of the University, featuring a graduation space, sports centre, gym and swimming pool.



UniSA Sport – keep active and make lasting friendships by joining one of our sporting teams.



Events on campus – participate in a wide range of events and activities on campus throughout the year.



MOD. – explore this on-campus futuristic museum of discovery, offering immersive experiences.

Your student experience

Orientation is the start of your journey at university. Explore your campus, meet new people, get study advice, and enjoy different activities and entertainment.

Campus Central are the on-campus gurus for ID cards, enrolment, fees and student services.

Support services are available to you throughout your time at university, including study support, personal counselling and peer mentoring, along with access to a range of community health clinics located on campus.

USASA is your student association at UniSA. They provide advocacy services, organise social activities and coordinate over 100 student clubs.

UniSA+ can provide you with a range of leadership, entrepreneurial, volunteering and self-development opportunities during your degree.

Student lounges provide you with a space to study or chill out, featuring work spaces, kitchen facilities, mobile charging stations, social spaces, lockers, gaming stations and more.

Food vendors and café-style dining facilities are now open at all UniSA campuses, including Honki Tonki, Zambrero, Abbots and Kinney and more.

UniSA Sport has over 25 sporting clubs, including rowing, netball, gridiron, rock climbing and so much more. You can also gain access to fully-equipped gym facilities on all metro campuses.

Accommodation services are available to help you set up a home away from home.

24-hour security services are available on campus and the free SafeZone app is available for download through the App Store or Google Play.

2020 EVENTS

Our events give you the opportunity to take a tour around campus, attend presentations, ask questions about different degrees and careers, and talk to current staff and students.

UniSA OPEN DAY

Sunday 16 August / 9:00am-4:30pm / City West and City East Campus

CAMPUS DAYS

Magill Campus Day: Wednesday 26 August / 4:00pm-8:00pm Mawson Lakes Campus Day: Tuesday 25 August / 4:00pm-7:30pm Mount Gambier Open Day: Sunday 9 August / 11:00am-4:00pm Whyalla Open Day: Sunday 30 August / 11:00am-3:00pm For more information, visit unisa.edu.au/infosessions

SCHOOL HOLIDAY TOURS

We also offer campus tours during the school holidays. Make an online booking at unisa.edu.au/campustours



MyCareerMatch is a free personality and career profiling tool that you can complete before you start university. Contact Future Student Enquiries on (08) 8302 2376 or at *unisa.edu.au/enquire*



ATAR > DEGREE FINDER

Go online and check out our new ATAR > De which degrees you may be eligible for using unisg edu gu/atar-degree-finder



Australia's University of Enterprise

unisa.edu.au Telephone: (08) 8302 2376 Make an enquiry: unisa.edu.au/enquire





Acknowledgement of Country

UniSA respects the Kaurna, Boandik and Barngarla peoples' spiritual relationship with their country. We also acknowledge the diversity of Aboriginal peoples, past and present. Find out more about the University's commitment to reconciliation at unisa.edu.au/RAP The information provided in this publication is for general information only, and the University of South Australia makes no representation about the content, suitability, accuracy or completeness of this information for any purpose. It is provided "as is" without express or implied warranty. Information correct at time of printing (March 2020) CRICOS provider number 001218

For information specific to international students, please visit unisa.edu.au/international