



UNSW
CANBERRA

Australia's
Global
University

2021 Undergraduate Guide



2021





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UNSW CANBERRA

WHO ARE WE?

A founding member of the Group of Eight, Australia's leading research universities, the University of New South Wales (UNSW) is one of Australia's top performing universities and has an outstanding international reputation – ranked 43rd in the 2020 QS World University Ranking.

UNSW has proudly provided education services to the Australian Defence Force (ADF) in Canberra for over 50 years. Our graduates shape Australia, the region and the international community as leaders in defence, government, and industry.

UNSW Canberra is located at the Australian Defence Force Academy (ADFA) and through our experience in education and our achievements in research, we excel in teaching undergraduate, postgraduate, and doctoral research.

We provide undergraduate programs across a range of disciplines to Navy midshipmen and Army and Air Force Officer Cadets pursuing the ADFA Trainee

Officer program, and STEM programs to non-Defence students and students supported by the Defence Civilian Undergraduate Sponsorship (DCUS) scheme.

Regardless of their study pathway, all of our undergraduate students benefit from the best university student-to-teacher ratio and one of the highest student retention rates in Australia, and have access to custom-built facilities and outstanding industry networks. They also graduate from one of Australia's top performing universities with an outstanding international reputation.



UNSW is ranked 43rd in the **2020 QS World University Rankings**



UNSW has been educating leaders in defence, government, and industry in **Canberra for over 50 years**



UNSW Canberra provides the **best teacher-to-student** ratio in Australia



UNSW is a member of the prestigious **Group of Eight research intensive universities**



UNSW Canberra offers globally recognised, specialised engineering degrees, with Engineers Australia accreditation



UNSW Canberra has purpose built **workshops and facilities**



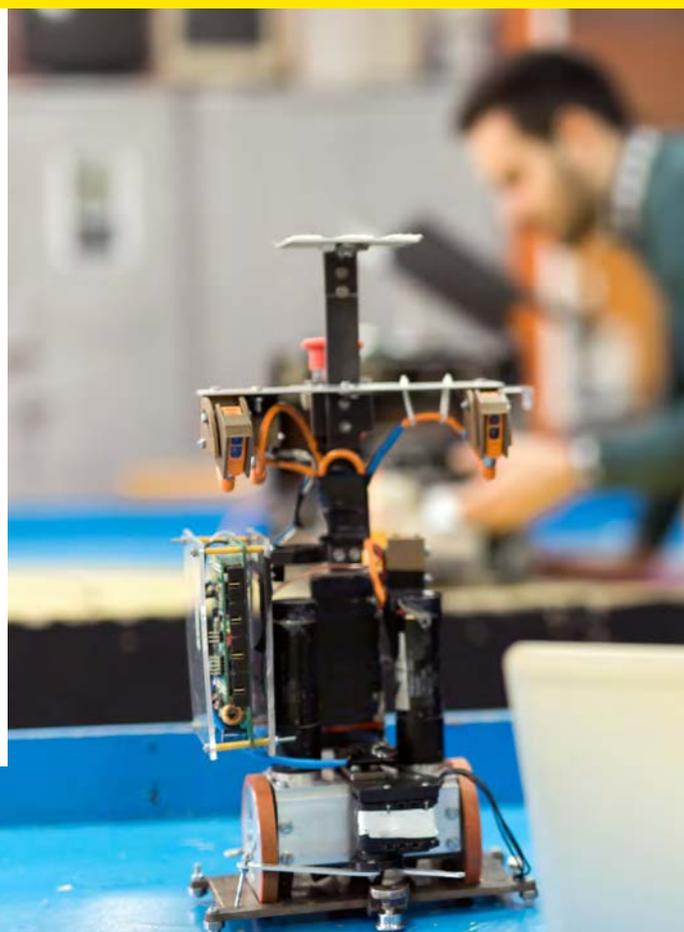
WHO CAN STUDY AT

Non-Defence

In 2016 UNSW Canberra opened up admissions for Engineering and Engineering/Science double degrees to non-Defence domestic students*, as well as single-year Honours programs in Arts, Business, Computing and Cyber Security, and Science.

Our specialist Engineering degrees (in Aeronautical, Civil, Electrical, and Mechanical) are accredited by Engineers Australia, and incorporate at least 60 days of industrial work experience. This means that if you study with us, you will graduate with a degree from one of Australia's top universities, and be qualified to begin working immediately as an accredited engineer. In addition to this, under the Washington Accord, you will also be able to work as an engineer in the US, UK, Canada, Japan, and Southeast Asia.

**Domestic students include Australian Citizens, Permanent Residents of Australia, and New Zealand Citizens.*





ADFA Trainee Officers

Navy Midshipmen and Army and Air Force Officer Cadets begin their careers in the Australian Defence Force (ADF) receiving a full-time salary while they undertake a program of military and leadership training at the Australian Defence Force Academy (ADFA). Simultaneously, they study an undergraduate degree program in Arts, Business, Computing and Cyber Security, Engineering, Science or Technology with UNSW Canberra.

If you are accepted into the ADFA Trainee Officer program you will receive your military training and education program from one of Australia's top universities, fully paid for by the Australian Defence Force, which will provide you with the knowledge, skills, professional abilities, and qualities you will need as an officer in the ADF.

UNSW CANBERRA?



DCUS

The Department of Defence offers the Defence Civilian Undergraduate Sponsorship (DCUS) scheme for aspiring students who wish to pursue a Computing and Cyber Security or an Engineering degree at UNSW Canberra. The Sponsorship provides participants with full tuition fee coverage, a generous bursary of \$2000 per year of study, and paid work experience placements.

If you complete your degree program at UNSW Canberra as a DCUS student, you will graduate from one of the top universities in Australia with no HECS-HELP debt, and also be eligible to apply for a full-time job at the Department of Defence.

Although the DCUS scheme is aimed at students interested in a career in the Department of Defence, there are no return of service obligations upon graduation.

UNSW CANBERRA

STUDENT LIFE

Non-Defence

Student Team-Based Projects

Our students have numerous opportunities to participate in extra-curricular, team-based engineering projects while studying at UNSW Canberra. These projects provide valuable team-building skills and are also a lot of fun!

Warman Design and Build Competition

The Warman Design and Build Competition has been an annual highlight at UNSW Canberra for 30 years. Student teams compete against each other to design, build and test a solution to a mythical engineering scenario. In 2017, 12 teams of second year mechanical and aeronautical engineering students competed to engineer a mining solution for Gondwana, a small planet on the outer fringes of our Galaxy, including, for the first time, a team comprising non-defence students. UNSW Canberra has placed first at the Warman Design and Build Competition national finals on two occasions, and achieved numerous podium placements.

UAV Challenge - Medical Express

The UAV Challenge - Medical Express is an international competition, aimed to demonstrate the use of robotic aircraft for medical retrieval and delivery. UNSW Canberra aeronautical engineering students participate in this bi-annual competition, and work together to design and build a UAV (Unmanned Aerial Vehicle) capable of flying 30km autonomously and then landing vertically in uncontrolled airspace. Students travel to remote Queensland to compete against other teams from around the world in this week-long competition.

Formula SAE Racing

Formula SAE Racing is an international design competition focused on the development, manufacture,

testing, and racing of open-wheel Formula SAE spec cars. Over 500 teams from around the world compete in at least eight competitions which are held in the United States, the United Kingdom, Germany, Italy, Brazil, Japan, and Australia. UNSW Canberra students compete in the Formula SAE Australasian competition, which involves racing at Calder Park in Victoria. Participants take away valuable applied engineering experience, as well as developing team-building, communication, and project management skills. The UNSW Canberra team has also competed at Formula Student UK.

Learning Abroad

While you are studying at UNSW Canberra, we encourage you to think about participating in an overseas experience such as semester exchange, short courses, internships, or volunteer programs. With planning and approval, these opportunities can be counted as credit towards your degree, and many of them are supported with scholarships and travel grants. You may also be eligible to support your overseas experience with OS-HELP, a Commonwealth Government financial assistance scheme.

Full details can be found at:

 student.unsw.edu.au/exchange

Accommodation

UNSW Canberra recognises the importance of student accommodation. We continuously seek opportunities to provide the best accommodation options for our non-Defence students. Please contact us for further information about student accommodation options available to you.

ADFA

Accommodation

Trainee Officers live in comfortable, functional accommodation at ADFA. Each Division consists of approximately 30-35 Trainee Officers, who are allocated a single accommodation building, or block. Within that block each Trainee Officer has a private room with a bed, storage and facilities for studying. Each corridor of four individual rooms contains a shared bathroom and laundry facilities. Trainee Officers at ADFA live and train in tri-service (combined Navy, Army and Air Force) Divisions.

VECCS

ADFA offers a range of sporting and voluntary extra-curricular clubs (VECCS) for Trainee Officers, encouraging them to compete against and become involved with local and interstate organisations. Some of the sporting clubs and VECCS currently offered at ADFA include: AFL, basketball, cricket, crossfit, cyber security, cycling, hockey, military shooting VECC, netball, photography, precision drill team, rowing, rugby, rugby league, soccer, swimming and many more.



UNSW CANBERRA

UNDERGRADUATE

DEGREE PROGRAMS

Program	Available to			Indicative Selection Rank 2020 ATAR		
	ADFA	DCUS	Non-Defence	ADFA	DCUS	Non-Defence
Bachelor of Arts	•			75		
Bachelor of Business	•			80		
Bachelor of Computing and Cyber Security	•	•		80	80	
Bachelor of Engineering (Honours)	•	•	•	85	85	93
Bachelor of Engineering (Honours) / Science			•			93
Bachelor of Science	•			75		
Bachelor of Technology Aeronautical Engineering	•			85		
Bachelor of Technology Aviation	•			80		



Jade Burton

My degree at UNSW Canberra provides me with the flexibility to explore the many disciplines in humanities and social sciences, as well as those in business and the physical and environmental sciences. This has really helped me to find where my passions lie. I have always been drawn to learning languages, so I am really pleased that I have been able to continue my Indonesian language and cultural studies at UNSW Canberra. I've also had the opportunity to participate in a week-long study visit to Gadjah Mada University in Yogyakarta, Indonesia.

Studying at UNSW Canberra as a Trainee Officer has provided me with an amazing opportunity to study with world-class lecturers, and the small class sizes has helped me to gain a more thorough understanding of course content. My lecturers always make themselves available if I have any questions.

The military and academic programs at ADFA work together well. Although it can be challenging at times to maintain a good work/life balance, the workload really helps you to develop your time management skills. The environment at ADFA ensures that you not only achieve your military and academic goals, but that you also enjoy yourself while doing so!

Bachelor of Arts

Bachelor Degree

Arts

Years

3

Majors

Business, English and Media Studies, Geography, History, Indonesian Studies, International and Political Studies

Assumed Knowledge

English

Indicative Selection Rank 2020

ATAR

75

Offered to

ADFA Trainee Officers

FOR CAREER
OPTIONS SEE
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Program Description

A UNSW Canberra Bachelor of Arts degree gives you strong written and oral communication skills, the capacity to research, think critically and the ability to work independently and collaboratively—all essential attributes of effective leaders in the Australian Defence Force.

The Bachelor of Arts degree enriches your understanding of how human beings make and debate life's meaning and values. Students develop their capacity for critical analysis and argument as well as an awareness of the value of language as a political, intellectual, creative and communicative tool.

The diverse range of courses and electives form pathways for majors in:

**Business • English and Media Studies • Geography • History
Indonesian Studies • International and Political Studies (IPS)**

Bachelor of Business

Bachelor Degree

Business

Years

3

Assumed Knowledge

English

Indicative Selection Rank 2020

ATAR

80

Offered to

ADFA Trainee Officers

**FOR CAREER
OPTIONS SEE
PAGES 34–37**

Program Description

A UNSW Canberra Bachelor of Business degree prepares you for your Australian Defence Force career by developing key business management skills.

As you progress through your ADF career you will be called upon to manage the nation's critical security resources from finances and personnel to aircraft, ships and tanks. You will be involved in business areas such as acquisition and procurement, project management, logistics and the management of people.

The UNSW Canberra Bachelor of Business degree uses the world class academic expertise of UNSW researchers to develop a sophisticated knowledge of strategy, leadership and other managerial concepts. The diverse range of electives form discipline pathways in economics, accounting, management and human resources and build a solid core of fundamental business knowledge.

If you want qualifications and skills highly sought after internationally by industry and government, the UNSW Canberra Bachelor of Business has you covered.

Emma Stansbie

I have always been interested in how a business operates, so my degree will not only help me prepare for my job as a Logistics Officer in the RAAF, but it will also provide me with an understanding of how organisations operate and how an organisation's mission and vision is achieved. The project management, logistics, and people management skills I am learning within my degree will not only be helpful for achieving good outcomes and managing professional relationships within the ADF, but also managing ADF engagement with private enterprise.

The opportunity to study a full degree without incurring a HECS debt at the end of it is a great benefit of studying at UNSW Canberra as a Trainee Officer. However, the thing that makes studying at UNSW Canberra stand out above other universities is its reputation. UNSW is one of the top universities in Australia, and UNSW graduates are held in high esteem in the business world. I feel that I will be able to provide my employer (the ADF) with a great asset!

I haven't found it challenging to balance my military training and my studies, as UNSW Canberra is very accommodating and understands the importance of our military commitments.



Bachelor of Computing and Cyber Security

Bachelor Degree

Computing and Cyber Security

Years

3

Assumed Knowledge

Mathematics (Advanced)

Indicative Selection Rank 2020 ADFA & DCUS

ATAR

80

Offered To

ADFA Trainee Officers
DCUS

FOR CAREER
OPTIONS SEE
PAGES 34–37

Program Description

The Bachelor of Computing and Cyber Security is a three year program at pass level. Students who complete the pass degree at an appropriate level may be admitted to an additional one-year Honours program.

The program is designed to build the graduate attributes and skills for market-ready graduates seeking a career in software and cyber security engineering, industry, innovation, management, operations, and research.

The program is delivered using state of the art infrastructure for software design, development, networking,

security, simulation, testing, operations, and research.

The Bachelor of Computing and Cyber Security introduces students to Computer Science fundamentals and builds practical programming and cyber security skills. Topics include application development, cyber-physical systems, digital forensics, algorithms and data representation, and network design and operation. In the third-year capstone project course, teams of students select from a variety of real-life ADF and civilian challenges to which they apply the knowledge and skills they gained during the program.



Jade Boreta

Cyber security excites me because it opens up a whole new set of ideas and issues which challenge existing frameworks in all areas, including the legal system, business and everyday routines. The cyber realm is so embedded in modern society, yet cyber security is considered such a new industry.

The best thing about studying at UNSW Canberra is access to tools and software used in industry. We have a cyber lab on campus, which is open to all students and that we regularly use in our tutorials and labs.

Once I finish my degree, I hope to work within the Department of Defence in cyber-crime analysis and investigation. Eventually, I would like to work in counterterrorism and strategy.

The cyber security industry is one of the fastest growing industries today and there are currently fantastic employment opportunities for motivated and qualified candidates. Don't be afraid to take a chance on this exiting and growing field of study; university is a time for learning and the degree will teach you everything you need to know.

Bachelor of Engineering (Honours) Aeronautical

Program Description

Aeronautical engineering is the study of the design, development, manufacture, maintenance, and control of machines or vehicles operating in the Earth's atmosphere or in outer space.

The design of a flight vehicle is complex and demands knowledge of many engineering disciplines such as aerodynamics, propulsion systems, structural design, materials, avionics, and stability and control systems. Maintaining and operating a flight vehicle requires an understanding of materials, reliability and stability, structural analysis for necessary repairs, and the knowledge required for successful design and construction.

If you select the Bachelor of Engineering (Honours) Aeronautical at UNSW Canberra, you will study subjects such as engineering practice and design, computational problem solving, programming, mathematics, physics, engineering materials, aircraft and systems design, cyber security, and applied thermodynamics and propulsion. You will spend at least 60 days gaining practical engineering experience in the workplace during your degree, and you will undertake your own capstone research project in your final year. Your degree will also be accredited with Engineers Australia, which means that you will be qualified to begin working as an engineer in Australia and many parts of the world as soon as you graduate.

Bachelor Degree

Engineering (Honours)

Years

4

Assumed Knowledge

Mathematics (Advanced) and Physics

Indicative Selection Rank 2020

ADFA & DCUS

ATAR

85

Indicative Selection Rank 2020

Non-Defence

ATAR

93

Offered to

ADFA Trainee Officers

DCUS

Non-Defence

FOR CAREER
OPTIONS SEE
PAGES 34–37



Teddy Zvidza

Growing up in Zimbabwe when I used to see planes fly over my house or school my friends and I would start chanting “Aeroplane, Aeroplane!!”. We would start running after a plane or follow its path from the ground until we lost sight of it. This developed my interest in planes and engineering, and made me want to learn more about them - how they flew and why we could hear them pass us from such a great distance from the ground.

When searching for aeronautical engineering degrees, UNSW Canberra popped up as the first option. After researching the course and contacting student administration, I knew this was the degree and institution for me.

What I love most about studying at UNSW Canberra is that it is a small community. We have small class sizes, the lecturers and students know each other, and people are willing and available to assist you when you need.

Once I finish my degree, I am hoping to work in the defence sector or become an engineering consultant in the aerospace industry. Alternatively, I am also considering continuing my studies and undertaking a PhD in aeronautical engineering here at UNSW Canberra.

Jack Lawrence

I first became interested in basic engineering concepts at a young age. I used to spend hours building Lego and pulling old toys apart to see how they worked.

As I grew up and progressed through school I knew that I wanted to study civil engineering but I was unaware of any opportunities within the ACT. Just as I was about to begin the final year of my senior secondary studies an older friend of mine was accepted into the inaugural civilian engineering class at UNSW Canberra. I knew UNSW had a good reputation for their engineering programs, and after hearing about his experience I decided to apply to study with UNSW Canberra as well.

The best thing about studying at UNSW Canberra is the small class sizes. Since there is a small number of students in your classes (especially in comparison to other universities) it is much easier to develop one on one relationships with the academic staff who are teaching you.

Once I graduate, I hope to be employed by an engineering consulting firm and work on large infrastructure projects. Finally, as UNSW engineering degrees are internationally recognised I would love to work overseas if the right opportunity comes along.



Bachelor of Engineering (Honours) Civil

Bachelor Degree
Engineering (Honours)

Years
4

Assumed Knowledge
Mathematics (Advanced) and Physics

**Indicative Selection Rank 2020
ADFA & DCUS**
ATAR
85

**Indicative Selection Rank 2020
Non-Defence**
ATAR
93

Offered to
ADFA Trainee Officers
DCUS
Non-Defence

Program Description

Civil engineering focuses on the planning, design, construction and management of civil facilities of all types, such as traffic, buildings, roads, bridges, airfields, water supply and storage, waste treatment facilities, offshore platforms, wind farms and landfills.

A degree in civil engineering will provide you with professional engineering design, construction, and management skills, as well as an opportunity to focus on the interaction between civil engineering and other disciplines, and the effect that civil engineering works have on the environment.

If you select the Bachelor of Engineering (Honours) Civil at UNSW Canberra, you will study subjects such as engineering mechanics, computational problem solving, mathematics, physics, structural analysis, geotechnical design, transportation and traffic engineering, hydrology, hydraulic engineering and environmental engineering practice. You will spend at least 60 days gaining practical engineering experience in the workplace during your degree. In your final year you will undertake your own capstone research project, and work in a team to complete an integrated design project. Your degree will also be accredited with Engineers Australia, which means that you will be qualified to begin working as an engineer in Australia and many parts of the world as soon as you graduate.

**FOR CAREER
OPTIONS SEE
PAGES 34–37**

Bachelor of Engineering (Honours) Electrical

Bachelor Degree

Engineering (Honours)

Years

4

Assumed Knowledge

Mathematics (Advanced) and Physics

Indicative Selection Rank 2020 ADFA & DCUS

ATAR

85

Indicative Selection Rank 2020 Non-Defence

ATAR

93

Offered to

ADFA Trainee Officers
DCUS
Non-Defence

Program Description

Electrical engineering is built on a foundation of mathematics, computer science, and physical science.

A degree in electrical engineering will provide you with high-level project management skills, as well as engineering expertise to equip you with the skills you need to practice as an electrical engineer.

If you select the Bachelor of Engineering (Honours) Electrical at UNSW Canberra, you will study subjects such as computational problem solving, programming, mathematics, physics, signals processing, communications, analog and digital design and power engineering. You will spend at least 60 days gaining practical engineering experience in the workplace during your degree, and you will undertake your own capstone research project in your final year. Your degree will also be accredited with Engineers Australia, which means that you will be qualified to begin working as an engineer in Australia and many parts of the world as soon as you graduate.

FOR CAREER
OPTIONS SEE
PAGES 34–37

Jane Millward

I became interested in engineering after reading an article about successful female engineering entrepreneurs in a magazine. Engineering was an enticing field because it presented an opportunity to apply science to challenging real world problems and to engage in entrepreneurial and more business-related activities.

There are so many great things about studying at UNSW Canberra: a fantastic library, a small campus (it's hard to get lost), state of the art laboratory facilities, small class sizes, to name a few! The best thing about studying at UNSW Canberra, however, is the people. Teaching staff and other students are friendly and supportive. This creates a safe and productive learning environment where students can succeed.

After I finish at UNSW Canberra, I would like to complete a graduate program with a major defence contractor, or pursue further research level study.





Paul Nilsson

I first became interested in engineering in high school due to various school events and functions that promoted it. As I loved science during my schooling, I really wanted to move into something that would allow me to apply this practically, which is what engineering is all about.

I heard about UNSW Canberra through my high school, and then shortly after my older sibling started a degree in engineering there via the DCUS sponsorship. It has a lot of facilities and a much smaller cohort, which has a lot of benefits such as making the group (across Defence, DCUS, and civilian students) work better in collaboration. The mechanical engineering degree has several courses that are very hands-on, providing valuable experience that may not be easily obtained elsewhere.

I believe that mechanical engineering at UNSW Canberra is a fantastic choice for a degree. It provides an intellectual challenge while also giving you important practical skills alongside the necessary theoretical knowledge, building a balanced skills base before going on to a wide range of employment opportunities.

Bachelor of Engineering (Honours) Mechanical

Bachelor Degree
Engineering (Honours)

Years
4

Assumed Knowledge
Mathematics (Advanced) and Physics

**Indicative Selection Rank 2020
ADFA & DCUS**

ATAR
85

**Indicative Selection Rank 2020
Non-Defence**

ATAR
93

Offered to
ADFA Trainee Officers
DCUS
Non-Defence

**FOR CAREER
OPTIONS SEE
PAGES 34–37**

Program Description

Mechanical engineering is the branch of engineering concerned with machines and the production of power, and with forces and motion. It focuses on the core task of devising new and better ways to extract mechanical power from heat, and to use that power to perform useful tasks.

A degree in mechanical engineering will provide you with a solid understanding of thermodynamics, mechanical systems dynamics, properties of solid materials, fluid dynamics, design, and high-level project management skills.

If you select the Bachelor of Engineering (Honours) Mechanical

at UNSW Canberra, you will study subjects such as computational problem solving, programming, mathematics, physics, fluid mechanics, mechanics of machines, mechanical design, engineering materials, and cyber security. You will spend at least 60 days gaining practical engineering experience in the workplace during your degree, and you will undertake your own capstone research project in your final year. Your degree will also be accredited with Engineers Australia, which means that you will be qualified to begin working as an engineer in Australia and many parts of the world as soon as you graduate.

Bachelor of Engineering (Honours) Bachelor of Science

Bachelor Degree

Engineering (Honours) / Science

Years

5

Assumed Knowledge

Mathematics (Advanced) and
Physics

Indicative Selection Rank 2020

93

Offered to

Non-Defence

**FOR CAREER
OPTIONS SEE
PAGES 34–37**

Program Description

All of the engineering degrees at UNSW Canberra can be combined with a Bachelor of Science, which provides students with the option of graduating with two degrees at the end of five years of combined study.

If you choose to study the Bachelor of Engineering (Honours)/Bachelor of Science, in addition to gaining the knowledge in your chosen branch of engineering, you will also gain an understanding of the physical universe and the way humans interact with it.

Science is the foundation of most human knowledge, and all the machinery and technology in our society. Science is fundamental to technology creation, computers, aircraft, ships, weapons and explosives, code-making and code-breaking and more.

A Bachelor of Science will provide you with invaluable skills that will be useful in all professions, including creative thinking, problem-solving, critical thinking, and communication skills.



Max Pickering

I had a lot of flexibility in my degree choice at UNSW Canberra, as I was selected as a pilot for the RAAF. I chose a Bachelor of Science as it allows me to study something that I am really interested in, and would have chosen at another university if I hadn't been accepted into the ADF.

Although it doesn't necessarily relate directly to my job, my degree is helping me to develop the way that I think and learn. The blend of a military and university learning environment exposes us to unique learning methods, which will hopefully hold me in good stead while I continue my training and complete my pilots course.

Although living and learning in a tri-service environment can present some challenges, it also facilitates great networking opportunities and develops amazing comradery and a great culture. Sometimes it might be difficult to keep all the balls in the air, but we are allowed to make, and more importantly, learn from our mistakes. No other university in Australia can offer the same environment of mateship and fun!



Bachelor of Science

Program Description

A UNSW Canberra Bachelor of Science degree keeps your Defence career options open. The Australian Defence Force requires leaders with sound scientific knowledge and problem-solving skills. As a BSc graduate you will possess the intellectual and analytical skills required to be an effective leader and have broad choices about where to take your ADF career.

A Bachelor of Science degree from UNSW Canberra offers you a diverse understanding of the physical and social world, from chemistry and sub-atomic physics, to large-scale behaviours of oceans and planets, to contemporary transformations in social and cultural life, and to computational techniques and data analysis.

Science is the foundation of most human knowledge, and all the machinery and technology in our society. Science is fundamental to technology creation, computers, aircraft, ships, weapons and explosives, code-making and code-breaking and more.

The UNSW Canberra Bachelor of Science degree develops skills in critical thinking, problem solving and communication. It develops scientific literacy, and gives detailed scientific knowledge in your chosen fields of study. Your studies will prepare you in your career as an Officer to deal with a breadth of technical, scientific, strategic and logistic issues.

The diverse range of courses and electives form pathways for majors in:

**Aviation • Chemistry • Computer Science •
Geography • Mathematics • Oceanography • Physics**

Bachelor Degree

Science

Years

3

Majors

Aviation, Chemistry, Computer Science, Geography, Mathematics, Oceanography, Physics

Assumed Knowledge

Mathematics (Advanced): *for Aviation, Chemistry, Oceanography and Physics majors.*

Physics: *for Aviation, Oceanography and Physics majors.*

Indicative Selection Rank 2020

ATAR

75

Offered to

ADFA Trainee Officers

**FOR CAREER
OPTIONS SEE
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Bachelor of Technology Aeronautical Engineering

Bachelor Degree

Technology (Aeronautical Engineering)

Years

3

Assumed Knowledge

Mathematics (Advanced) and Physics

Indicative Selection Rank 2020

85

Offered to

ADFA Trainee Officers

**FOR CAREER
OPTIONS SEE
PAGES 34–37**

Program Description

The Bachelor of Technology (Aeronautical Engineering) degree provides a solid and broad foundation in Engineering Technology, specially developed to meet the needs of the Australian Defence Force and accredited by Engineers Australia at the Engineering Technologist level.

The Bachelor of Technology (Aeronautical Engineering) is organised into areas such as foundation science, engineering technology, materials and structures, dynamics and control, thermofluids, and design and management, as well as discipline specific areas such as aircraft design and maintenance and engine performance.

At the discretion of the Services, if you have completed the Bachelor of Technology and wish to upgrade to a Bachelor of Engineering (Honours) degree in Aeronautical Engineering, you may undertake further study at a later date.

Jace Stallard

I always enjoyed science, maths, and engineering subjects at high school, so doing a Bachelor of Technology (Aeronautical Engineering) seemed perfect for me. I was also very interested in doing an engineering-based degree, regardless of which job I pursued in the Navy. My UNSW Canberra degree will open avenues into flight test engineering, which is an area that I am very interested in and would like to pursue through my career.

Living and studying on campus and having access to prepared meals each day really helps me to focus on my studies and get more out of them. As I live with most of the people I go to university with, it makes it really easy to organise group study sessions. Also, if I don't know how to do something, there is always a friend nearby who can help.

UNSW Canberra and Defence work really well together to ensure that we have a healthy balance of university studies and military training. By ensuring that you develop your time management skills as soon as you arrive, it doesn't take long to settle into a good routine.



Annaliese Palmer

My UNSW Canberra degree is providing me with aircraft knowledge that will be relevant for me throughout my career—from theories surrounding flight, to instructions on how to fly, through to air-traffic management. It is also providing me with a greater technical understanding of an aircraft and will provide me with the ability to interact confidently with engineers and senior pilots and assess aircraft technicalities.

I haven't had any problems balancing my academic and military commitments so far, as UNSW Canberra and ADFA work together to ensure that assessment doesn't overlap too much, and that we aren't put under undue pressure.

I study and live in an environment with like-minded people who always offer to help me with my academic and military studies. I feel that I have already made life-long friendships, as well as connections that I will be able to utilise throughout my ADF career.



Bachelor of Technology Aviation

Program Description

The Bachelor of Technology (Aviation) degree involves three years of study. Year one is a common program of foundation science and engineering courses with other first year technology and engineering students.

In second and third years, you focus on human factors in the aviation discipline. You develop a solid understanding of the function of Pilots, Air Combat Officers, Maritime Aviation Warfare Officers and Joint Battlefield Airspace Controllers and their role in aviation, infrastructure, and safety management systems. You develop a sound knowledge of key safety practices-components that underpin aviation.

Courses in aerodynamics and aviation systems incorporate problem based learning informed by academic research and industrial practice.

Electives and a final semester project enable you to pursue your interests both within and outside the Technology (Aviation) discipline.

Bachelor Degree

Technology (Aviation)

Years

3

Assumed Knowledge

Mathematics (Advanced) and Physics

Indicative Selection Rank 2020

80

Offered to

ADFA Trainee Officers

FOR CAREER
OPTIONS SEE
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CHIEF OF THE DEFENCE FORCE (CDF) PROGRAMS

The Chief of the Defence Force (CDF) programs offer the opportunity for students entering UNSW Canberra with a high Entrance Rank, and who maintain a high level of performance in their studies, to undertake research in a range of disciplines that will develop their critical thinking and independent research skills beyond that available in the standard bachelor degree programs.

The range of CDF programs are characterised by the inclusion of specialist courses in critical analysis and/or research methods appropriate to the area of study.

All programs also include discipline-specific research projects. The research projects will be supervised by academic staff from the relevant discipline. With the approval of the Head of School, multi- or cross-disciplinary projects may be undertaken. Students in the research courses may work independently or as part of a team, depending on the nature of the project undertaken, though all students will submit individual assessment. Final assessment will be based on a written paper or report and oral presentations.

Throughout the program, students will be engaged with cohort activities so as to develop and maintain their interest and continuing involvement in the program via invited lectures, seminars, general reading and social events.

- This program is not open to applications (by invitation only).
- Students will be invited to enter the program relative to their degree, i.e. Bachelor of Arts student can be invited into Bachelor of Arts CDF in Year 1 or the start of Year 2 and must maintain a high level of academic performance.
- CDF graduates receive a distinctive award to reflect their involvement in the Program.
- Adjustment Factors (Bonus Points) do not apply for entry to the CDF Program.

Lowest Selection Rank 2020

Program	ATAR
CDF Arts	95
CDF Business	95
CDF Computing and Cyber Security	98
CDF Engineering (Honours)	98
CDF Science	98
CDF Technology	98

WHAT CAN I BE?

All information contained in this section is to the best of our knowledge accurate at the date of publication and is subject to change after publication without notice. Persons intending to act on any information contained within this brochure should first check with their local Defence Force Recruiting Centre whether or not the information is still correct and accurate.

UNSW Degree	Navy	Army
Aeronautical Engineering	Aerospace Engineer Marine Engineer Marine Engineer Submariner	Aeronautical Engineer Avionics Engineer Army Officer, in any specialisation or corps
Civil Engineering		Army Officer, in any specialisation or corps
Electrical Engineering	Aerospace Engineer Electronics Engineer Electronics Engineer Submariner Marine Engineer Marine Engineer Submariner	Avionics Engineer Mechatronic and Electrical Engineer Army Officer, in any specialisation or corps
Mechanical Engineering	Aerospace Engineer Marine Engineer Marine Engineer Submariner	Aeronautical Engineer Mechanical Engineer Army Officer, in any specialisation or corps
Computing & Cyber Security	Helicopter Pilot Intelligence Officer Maritime Aviation Warfare Officer Maritime Logistics Officer Maritime Warfare Officer Maritime Warfare Officer Submariner	Army Officer, in any specialisation or corps

Air Force**Civilian**

Aeronautical Engineer
Armament Engineer

With a degree in Aeronautical Engineering, you could design, build, maintain or manufacture aeroplanes and helicopters, design and operate unmanned aerial vehicles or wind turbines, or conduct research in the aerospace or energy sector. Engineering graduates may work for aerospace companies, airlines, energy companies or civilian and military aerospace organisations. Leading companies in these sectors include Boeing, Airbus, BAE Systems, Lockheed Martin, Northrop Grumman and Qantas. You might also work in the space industry, in defence or as a consultant to both sectors.

Airfield Engineer

With a degree in Civil Engineering, you will be qualified to design, build, supervise, operate, construct and maintain infrastructure projects and systems in the public and private sector, including traffic, roads, buildings, airports, tunnels, dams, bridges, and systems for water supply and sewage treatment etc. You could work with government agencies, specialist consulting firms, construction companies, and financial and management consultancies.

Armament Engineer
Electronics Engineer

With a degree in Electrical Engineering, you could design, build, maintain or manufacture telecommunications, biomedical or computational systems. You could also work for start-ups, for telecommunications or biomedical firms, electricity authorities or large private industrial groups such as Thales, Alstom, BHP, Boeing Australia, Honeywell, Dolby Australia, IBM and Google. You might also work in defence or as a consultant.

Aeronautical Engineer
Armament Engineer

With a degree in Mechanical Engineering, you could develop, design, construct and improve mechanical systems such as biomedical devices, automatic control systems, environmental pollution control devices, clean combustion, underwater exploration and space vehicles. You could also work for small start ups or large corporations such as Google, Honeywell, Boeing, Lockheed Martin Corporation, Ford or Rio Tinto.

Air Traffic Controller
(Mission Controller)
Cyber Warfare Officer
Ground Defence Officer
Human Resource Manager
Intelligence Officer
Logistics Manager
Mission Aircrew
Pilot

The Bachelor of Computing and Cyber Security program develops students' lifetime skills including creativity, problem-solving ability, critical thinking and communication skills that will be useful not only in a Cyber Security or Cyber war environment but in all professions. It prepares students to deal with technical issues in a computing environment. It develops intellectual and practical problem-solving skills through studies across a range of computing specialisations.

Continued over page →

UNSW Degree	Navy	Army
Technology (Aeronautical Engineering)	Helicopter Pilot Maritime Aviation Warfare Officer Maritime Warfare Officer Maritime Warfare Officer Submariner	Helicopter Pilot
Technology (Aviation)	Helicopter Pilot Maritime Aviation Warfare Officer	
Arts	Helicopter Pilot Intelligence Officer Maritime Aviation Warfare Officer	Army Officer, in any specialisation or corps
Business	Maritime Logistics Officer Maritime Warfare Officer Maritime Warfare Officer Submariner	
Science		



Air Force

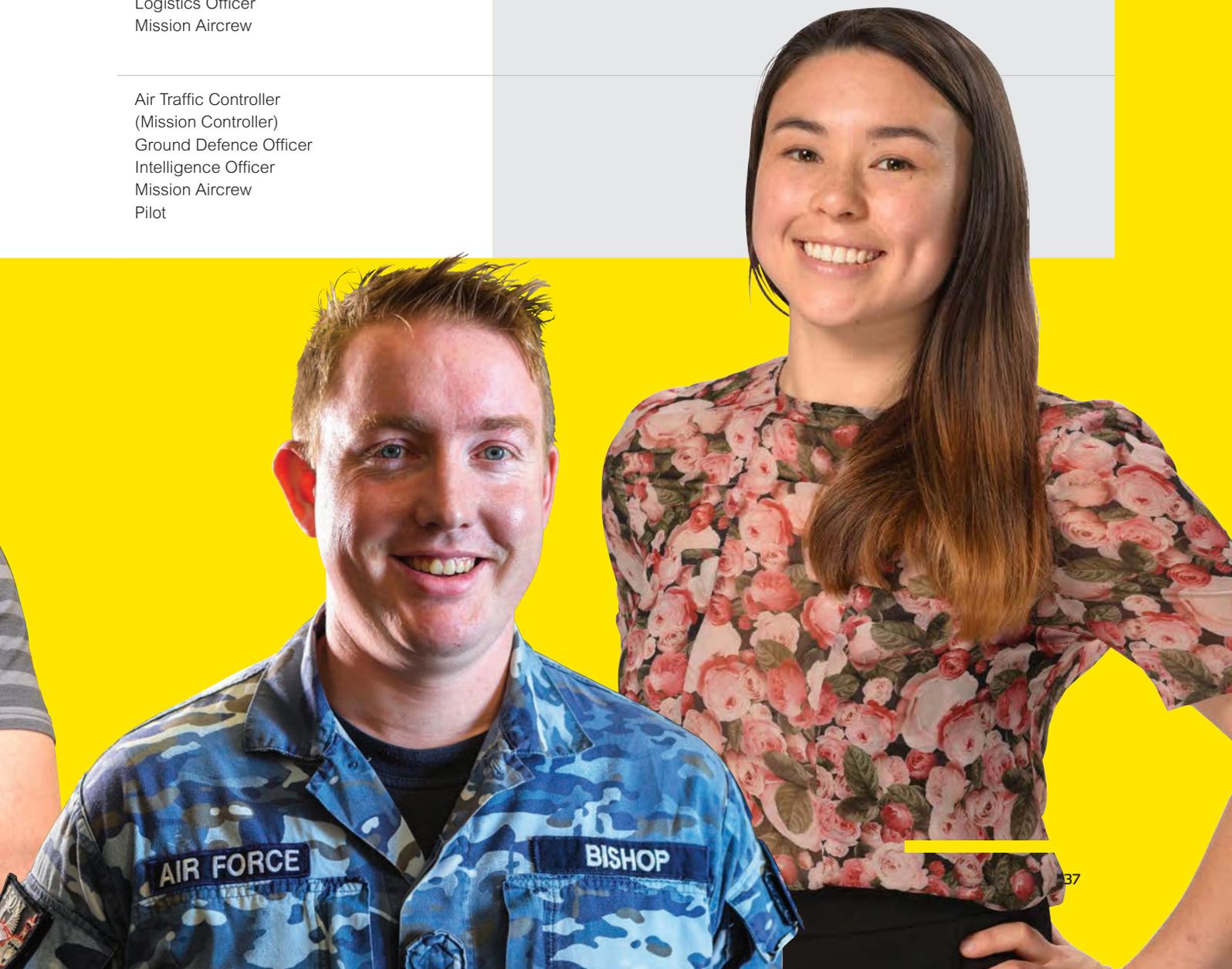
Civilian

Air Traffic Controller
 (Mission Controller)
 Ground Defence Officer
 Human Resource Manager
 Intelligence Officer
 Mission Aircrew
 Pilot

Air Traffic Controller
 (Mission Controller)
 Ground Defence Officer
 Mission Aircrew
 Pilot

Air Traffic Controller
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 Human Resource Manager
 Intelligence Officer
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 Mission Aircrew
 Pilot







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