MASTER OF APPLIED CYBERNETICS

2023 Application Pack
Introduction

Established in 2021, the School of Cybernetics is the Australian National University's first new school in nearly half a century.

We are establishing cybernetics as an important tool for navigating major societal transformations, through capability building, policy development and safe, sustainable and responsible approaches to new technological systems, like Artificial Intelligence and the metaverse.

Our goal is to build a new generation of practitioners who will shape a future that we want through and with technology.

The ANU Master of Applied Cybernetics is our flagship education program. It is the first of its kind and the only master’s program in applied cybernetics in the world.

The program offers a transformational education experience, drawing upon high-impact research, and creating meaningful engagements with industry and the broader community.

Our graduated master’s students have gone on to senior leadership roles in digital, data and AI in federal and state governments, non-profits and industry, as well as on to PhDs with top universities.

Entry to the program is by competitive application only, and the number of students is strictly limited to under 20. Generous scholarships of $30,000 are available to those accepted into the program.

We welcome applications from candidates who come from diverse backgrounds and disciplines, and even those who do not have undergraduate degrees or have pursued non-traditional academic pathways but have met the professional experience levels of assumed knowledge.

This application pack provides details on how to apply for one of the limited number of positions on this degree program in 2023.

At a glance

<table>
<thead>
<tr>
<th>Admission</th>
<th>Competitive entry (see page 4), small cohort (approx. 12-20 students).</th>
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</thead>
<tbody>
<tr>
<td>Length</td>
<td>1 year for Master of Applied Cybernetics or 1.5 years for Master of Applied Cybernetics (Advanced). Full-time on ANU campus from Feb 2023 – Nov 2023.</td>
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<tr>
<td>Fees</td>
<td>Indicative fees for 2023 entrants to the 1 year program are: Domestic: $37,710 and International: $47,940 per annum.</td>
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<tr>
<td>Application Time</td>
<td>18 July - 09 September, 12:00 pm</td>
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<tr>
<td>Contact Us</td>
<td><a href="mailto:cybernetics@anu.edu.au">cybernetics@anu.edu.au</a></td>
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Student Profile

We are recruiting a small cohort of students. Successful applicants will undertake the program over one year commencing in February 2023 through to November 2023. Courses are delivered full-time and in-person on the ANU campus in Canberra, Australia.

For students who would like to complete a larger research and/or industry project in 2024, students may take the Master of Applied Cybernetics (Advanced), which extends the period of study to 18 months full-time equivalent.

Criteria For Selection

Entry into the Master of Applied Cybernetics is based on a competitive two-stage selection process. Candidates will be assessed based on the following criteria:

- A track record of outputs illustrating intellectual leadership in your field, such as, but not limited to:
  - Awards, grants and projects secured
  - Publications, media, policy briefings, outreach activities, guidelines and training delivered
  - IP, products and product concepts created
- A demonstrated ability to communicate complex ideas across disciplines, media and sectors, and to a range of audiences.
- A demonstrated ability to operate with a high degree of flexibility and openness to calculated risk-taking.
- Demonstrated determination and resilience. Aptitude for working in uncertain and fast-changing environments.
- Demonstrated aptitude for transdisciplinary collaboration
- Individual and/or group-based professional / entrepreneurial / community service contributions. Experience in one or multiple of these fields (highly regarded): education, policy, technology, business, the arts, science, engineering, computing, social sciences, and entrepreneurship.
- Ability to operate across disciplinary silos. Ability to think laterally and critically. Collaborative and mission-driven mindset.

Assumed Level of Knowledge

Although not formal entry requirements, the following level of cognate study in any discipline, or relevant professional experience is assumed.

- A Bachelor degree with honours or international equivalent, or higher qualification, and GPA of 5/7; or
- A Bachelor degree or international equivalent with a minimum GPA of 5/7 and a minimum of 3 years full-time, relevant work experience at ANZSCO Skill Level 1; or
- GMAT (Graduate Management Admission Test), completed no more than 5 years before the time of application, with a minimum score of 600 (minimum 5.0 in Analytical Writing) and a minimum of 8 years full-time, relevant work experience; or
- GRE General test, completed no more than 5 years before the time of application, with a minimum score of 155 for Verbal Reasoning, 155 for Quantitative Reasoning and 4.0 in Analytical Writing and a minimum of 8 years full-time, relevant work experience; or
- A minimum of 15 years of full time, relevant work experience at ANZSCO Skill Level 1.

In addition, candidates must:

- Be ready to start in February 2023 and commit to full-time, in-person studies on the ANU campus until November 2023.
- Meet the University’s English Language Admission Requirements for students.
Application Process

Applications will open on 18 July 2022 and close on 12:00pm on 09 September 2022. The competitive selection process will include a review of documentary submissions and interviews with applicants.

We will contact short-listed applicants by late-September for the interviews.

Domestic applicants must be available to participate in an in-person interview. Overseas applicants are given a virtual interview option.

What to submit:
- Most recent CV / resumé;
- A cover letter (max 2 A4 pages) addressing admission requirements
- A Portfolio Piece that succinctly demonstrates your interest in the program. Your Portfolio Piece must be your own work and can be in any format – e.g. a short piece of writing, an artwork, a video recording, a piece of software, a poem, a blueprint, etc. – we encourage you to be creative! We recommend you contact us early if your portfolio piece is a large file or if you require any form of assistance.

Applications open
18 July 2022

Applications close
12:00 pm
9 September 2022

Applicants contacted
Mid-September 2022

Interviews
Late-September to early October 2022

Offers made
Early-November 2022

Acceptance of offer by
Mid-November 2022
Scholarships

All applicants will be automatically considered for a scholarship to cover full tuition, plus a $30,000 stipend for living expenses. Scholarship recipients will be notified upon successful admission to the ANU into the Masters of Applied Cybernetics.

Candidates may also apply for the following scholarships, if they meet the eligibility criteria. Please note, scholarship recipients may only receive one of the scholarships attached to the Masters of Applied Cybernetics.

Florence Violet McKenzie Master of Applied Cybernetics scholarships

This scholarship honours the legacy of Florence Violet Mackenzie.

The award will be given to a successful applicant who has never received an undergraduate degree, but can demonstrate appropriate experience that is relevant to the field of cybernetics.

The award covers full tuition, plus a $30,000 stipend.

To accelerate Indigenous participation in our School, we are also offering a targeted Florence Violet McKenzie Indigenous scholarship opportunity for our 2023 Master of Applied Cybernetics program.

Information on Florence and this scholarship is available here.

The Bill Hickson & Engineers Australia Scholarship for Masters in Applied Cybernetics

The Bill Hickson & Engineers Australia Scholarship for Masters in Applied Cybernetics will be awarded to two successful applicants to the 2023 program who have an undergraduate degree in engineering.

The award scholarship covers full tuition, plus a $30,000 stipend for living expenses.

To apply for these scholarships, indicate your intent to be considered in the online application form.
## Program Outline

Students are expected to dedicate approximately 40 hours per week to the program and commit to full-time, in-person studies for one-year (subject to the usual university holiday breaks). Around 20 hours per week will be contact hours; the remaining hours per week will be reading, listening, reflecting, viewing, discussing and writing, as well as individual and group projects.

### Program structure

The Master of Applied Cybernetics is comprised of four main courses that interact and reinforce each other.

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Units</th>
<th>Hours per week</th>
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<tbody>
<tr>
<td><strong>‘Questions’</strong></td>
<td>Semester 1 2023</td>
<td>12 units</td>
<td>20 hours</td>
</tr>
<tr>
<td></td>
<td><strong>Practice</strong></td>
<td>Semester 2 2023</td>
<td>12 units</td>
</tr>
<tr>
<td><strong>Build’</strong></td>
<td>Semester 1&amp;2 2023</td>
<td>24 units</td>
<td>20 hours</td>
</tr>
<tr>
<td><strong>Professional Experience’</strong></td>
<td>Winter 2023 or Summer 2024</td>
<td>0 units</td>
<td>140 hours</td>
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- **‘Questions’**
  - This course will start to create pioneers who can critically examine new and emerging technological constellations and the questions they raise for human society. It challenges participants to (a) engage with technological detail and understand the building blocks of the technologies around us, (b) integrate multiple disciplinary perspectives in order to move from a focus on solving problems, to a focus on framing critical questions about cyber-physical systems (CPS).

- **‘Practice’**
  - This course uses a case-study approach focusing on emerging CPS. It is designed to (a) provide participants with an appreciation of the complexity and dynamics of the settings in which CPS are planned, designed, built, operated and maintained, and (b) give participants a practical grounding in new and existing approaches they could use to analyse and intervene throughout the CPS lifecycle.

Building on the critical framework established in ‘Questions’, this course challenges participants to explore the key questions of autonomy, agency and assurance, plus how we decide metrics for success and what the interface looks like, when planning, designing, building, operating and maintaining cyber physical systems.

- **‘Build’**
  - This course will give participants a hands-on understanding of new and emerging technological constellations and their separate components. Participants will complete a range of lab-based projects to develop an understanding of systems as designed objects which embody values. They will also gain confidence in designing, building and understanding learned in ‘Questions’ and ‘Practice’. Through learning-by-doing, participants will complement their existing skillsets and gain the mastery required to build and guide teams developing and understanding new and emerging technologies.

- **‘Professional Experience’**
  - This course will enable students to develop competencies expected of professionals working in business, government academia or the broader community. There may be internship opportunities available, for which students can apply. A holistic selection process will be used to select the best applicant for each opportunity.

**Master of Applied Cybernetics (Advanced)**

Courses as above plus the following course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester 1 2024 or negotiable</th>
<th>Units</th>
<th>Hours per week</th>
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<tbody>
<tr>
<td><strong>‘Capstone Project’</strong></td>
<td></td>
<td>24 units</td>
<td>40 hours</td>
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Capstone research and/or industry projects will be established following negotiations between the student, ANU and the potential host organisations or project sponsors, before being offered to students along with other opportunities.
Where and when can I apply for the 2023 ANU Master of Applied Cybernetics?
You can apply on our website: https://cybernetics.anu.edu.au/.
Applications will open on 18 July 2022 and close on 09 September. The selection and interview process will happen from September to November.

I don’t meet the assumed level of knowledge for the Master of Applied Cybernetics. Should I apply?
Yes. The selection panel will review all applications received and make informed decisions on the basis of the information provided by candidates and their suitability against the selection criteria.

If I want to pursue extended research after my master’s program, what options do I have?
The Master of Applied Cybernetics is a one-year, 48-unit degree. For students seeking an additional research experience, including an extended industry placement, they may pursue a Master of Applied Cybernetics (Advanced) and take an additional 24-unit research project course. This can be taken individually over a period negotiated with project supervisors. Students keen to pursue a PhD but have not previously undertaken large research projects are encouraged to pursue the Advanced track. The Master’s program is mandatory for those wanting to do their PhD at the School of Cybernetics.

What are the fees for the Master of Applied Cybernetics?
Estimated fees for students commencing in 2023:
- For Master of Applied Cybernetics (1 year; 48 units) — Domestic: $37,710 and International: $47,940.

The schedule of fees is regularly updated. Check the Master of Applied Cybernetics’ most recent schedule of fees on the Program and Courses page of the Australian National University website.

How will you select the 2023 cohort for the ANU Master of Applied Cybernetics?
Applications will be reviewed against the assumed level of knowledge and criteria for selection (listed under Student Profile). Applications will then be ranked. If you have access and equity considerations that require tailored support, we would be happy to assist. Equity and access scholarships are available, please review the scholarship section.

Contact us at cybernetics@anu.edu.au or +61 2 6125 0140.

Will students receive a scholarship for living expenses?
All applicants will automatically be considered for a scholarship of $30,000, if they are accepted into the program.

More information on scholarships is available in the Application Pack under the Scholarships section.

How many students will you accept for 2023?
We will admit up to 20 students in our next cohort.
Frequently Asked Questions

Will I need to commit 40 hours a week every week?

You will need to commit approximately 40 hours per week to the program during the ANU Semesters 1 & 2 2023, as follows:

<table>
<thead>
<tr>
<th>Academic Period</th>
<th>Activity – On-campus delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 February – 17 February</td>
<td>Introduction and orientation week</td>
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<tr>
<td>20 February – 03 April</td>
<td>Term 1, Semester 1</td>
</tr>
<tr>
<td>17 April – 17 June</td>
<td>Term 2, Semester 1, including exam period</td>
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<tr>
<td>24 July – 04 September</td>
<td>Term 1, Semester 2</td>
</tr>
<tr>
<td>18 September – 18 November</td>
<td>Term 2, Semester 2, including exam period</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Period</th>
<th>Activity – Off-campus delivery</th>
</tr>
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<tbody>
<tr>
<td>Winter 2023 or Summer 2024</td>
<td>Student time for professional experience (4 weeks full time equivalent)</td>
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I cannot meet all the time commitments outlined in the application pack, is it OK to miss out on some of the courses or activities?

No. Students are required to study full-time and in-person on the ANU campus in Canberra, Australian Capital Territory.

What if I can’t relocate to Canberra for reasons beyond my control?

The nature of teaching and learning in this program requires in-person delivery. Unfortunately, we cannot hold your place in the program if you are unable to move to Canberra, Australia.

Is it possible to maintain full-time or part-time work during this program provided it doesn’t clash with class contact hours?

Due to the nature of the intensive program, group-work requirements and additional non-coursework activities, it will be highly challenging to keep up with external work commitments.

What happens if I get sick or am no longer able to commit to the ANU Master of Applied Cybernetics due to an unforeseen change in circumstances?

We realise that life sometimes gets in the way of best-laid plans. If your circumstances change and you are no longer able to commit to the ANU Master of Applied Cybernetics, the School of Cybernetics team will work with you to find the best way forward based on your situation.
Good Luck!

If you have questions, please contact us at cybernetics@anu.edu.au

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