



Annual Report 2023

About us

The Australian Council of Engineering Deans (ACED) has formally been in operation for more than 20 years, with the stated mission “To create economic and social impact by advancing engineering education, research and scholarship on behalf of Australian universities.”

ACED does this in the national and international interest, which for education and research includes assuring the public that engineering graduates will conduct their work in the public interest with due regard for human safety and the sustainability of the environment.

ACED is an incorporated association whose members are the Australian public universities that provide undergraduate and postgraduate degree programs and research in engineering.

The Council elects a President for a two-year period. The President is supported by the Executive Committee, whose members are elected by the Council.

The Council meets in full twice a year (Autumn and Spring).

ACED has strong links with the Australasian Association of Engineering Education (AaeE) whose members are primarily engineering academics in Australian and New Zealand universities. ACED sponsors the annual AaeE award for Excellence in Teaching.

ACED invites a representative of the New Zealand Council of Engineering Deans to attend Council meetings. ACED supports and encourages members to become members of the Global Engineering Deans Council (GEDC).

ACED also has strong links with Engineers Australia (EA). Representatives of the EA Accreditation Centre attend all ACED meetings to inform and discuss with members developments in the national engineering program accreditation system as well as matters of importance arising within the International Engineering Association (IEA) that has oversight of the international engineering education Accords of which EA is a member.

ACED Governance

Executive Committee (at 31 Dec 2023)

President	Professor Vishnu Pareek
Deputy President	Vacant
Past President	Professor Ian Burnett
Members	Professor John Wilson
	Professor Rosalind Archer (interim)
	Professor Friso de Boer
	Professor Tim Finnigan
	Professor Anne Gardner (representing the ADTL Group)
	Professor Guoxing Lu (representing the ADR Group)
	Professor Scott Smith (representing ADI Group)
	Assoc Professor Steven Goh (representing the AaeE)
	Ms. Bernadette Foley (representing Engineers Australia)
Executive Officer	Em. Professor Doug Hargreaves AM
Contact Officer to the Office of Fair Trading NSW	Dr Rob Jarman

ACED Objectives

- **Promotion:** To provide a forum for Australian leaders of engineering education to discuss matters of mutual concern and national importance, thereby contributing to matters such as raising general community awareness on the need for and value of high-quality engineering education, research training in the higher education sector.
- **Engagement:** To further the interests of engineering education and research in the higher education through engagement and outreach with relevant national and international bodies, particularly EA, AaeE and NZCED.
- **Policy:** To develop positions and make statements on relevant issues in response to government inquiries and concerns of professional and industry bodies, and to the media and the general community.
- **Projects:** To initiate and conduct reviews and projects consistent with its mission. This would include monitoring the state of engineering education and scholarship, benchmarking programs and resources and the quality of outcomes.
- **Leadership:** To support the development of leaders of engineering education and research within the faculties and schools.

ACED Meetings 2023

The Council for the AGM and Ordinary meetings on 23-24 March at University of Tasmania (Hobart) and on 24-25 October at University of Canberra.

ACED Project “Engineering 2035” Implementation Phase

Engineering Futures Initiative (EFI)

In June 2023, the EFI recruited a Lead Coordinator part-time role (Justine Lawson) and in February 2024, appointed the National Student Projects Lead (Osman Mah & Christopher Wilson), also part-time. The appointment of this latter position was delayed following the withdrawal of EWB from the initiative.

- The EFI has delivered on the development of a multipage website and suite of digital assets, with content currently being generated for the site.
- The EFI completed an initial phase of national benchmarking by analysing publicly available data on core engineering subjects that incorporated socio-technical language into their intended learning outcomes. There is an associated deep dive into this data to determine how these capabilities are assessed.
- Members of the EFI Steering Committee and the Lead Coordinator were invited to provide feedback on and contribute to Engineers Australia’s development of the new National Competency Standard.
- A Consultative Group has been established and is comprised of academic and industry representatives with practice-based expertise in socio-technical engineering curriculum and practice and/or project-based learning. This group informs the coordination of professional learning resources and events.
- The EFI has facilitated two workshops focused on socio-technical projects and project scoping methodology, with one workshop at the AaeE2023 Conference.
- The EFI continues to develop visibility with its partnerships and promotion across a range of international conferences including the International Conference for Engineering Education Accreditation and World Engineers Conference.
- The remainder of 2024 is tightly focused on accelerating the national student projects work.
- A website was set up for this project:

<https://www.engineeringfuturesinitiative.org/>

The following projects and workshops work in conjunction with the EFI Project. to progress recommendations of the Futures 2025 report. The projects were funded in 2022 and work continued into 2023.

Projects

- “Engineering educator capability and capacity, how do we accelerate implementation of best practice to meet the Eng2035 vision for engineering Education” by Sarah Dart, Alexander Gregg and Sam Cunningham. Slides used in the presentation were circulated to all members on 28 October.
- “Integrated inclusion; developing best practice for engineering education and the profession” by Nick Brown, Karen Whelan and Eva Cheng. Slides used in this presentation were circulated to all members on 28 October.
- “Current best practice, support mechanisms and experiences of project-based learning” by Sarah Grundy, Gulen Miao, Nick Brown, Marina Belkina, Tom Goldfinch and Iresha Ranaraja.
- “Experience of Engineering Students with disabilities engaging in WIL placements” by Timothy Boye.

Workshops

- “Evidencing Teaching-Focussed Excellence and Impact: Aligning Job Applications and Promotion to the 20355 Vision” Facilitated by Sarah Dart, Sam Cunningham, Alexander Gregg and Amy Young, at AaeE2023, December 2023, Gold Coast.
- “Socio-technical projects, developing a project methodology.” Facilitated by Tom Goldfinch and Justine Lawson, 20 September 2023 at University of Sydney,
- “Shaping the future of engineering education through socially contextualised and industry-connected learning.” Facilitated by Tom Goldfinch and Justine Lawson, at AaeE2023, December 2023, Gold Coast.

ACED Representation on other bodies

ACED worked closely with Engineers Australia (EA), and during 2023 had several discussions with EA officers on engineer shortages, the contributions that the universities can make to increasing supply and accurate data on the number of graduates from Australian universities. In 2023 this included input into the EA

Strengthening the engineering workforce in Australia

(<https://www.engineersaustralia.org.au/publications/strengtheningengineering-workforce-australia>). The report was informed by ACED produced statistics for engineering education and analysis of migrant/visa data. EA’s Chief Engineer Jane Macmaster and Peter Briggs presented separately to ACED on Professional Standards and the Engineering Workforce. The workforce data was gleaned from Census data in 2021 and 2016.

ACED and the Australian Council of Deans of Science (ACDS) had a joint meeting at University of Canberra on 23 October 2023. Relevant presentations were given by several members of both ACED and ACDS. As a result of this joint meeting, ACDS and ACED are working together (in 2024) with Australian Council of Deans of Education (ACDE) and Australian Council of Environmental Engineering Deans and Directors (ACEDD) on the Level of mathematics in Secondary and tertiary education.

The President and Executive Officer ACED represent ACED on the ***Tripartite Committee***, together with representatives of the Academy of Technology and Engineering (ATSE) and Engineers Australia (EA). No meetings were held in 2023.

Publications and presentations at national and international conferences

AaeE 2023

The EFI and its work were promoted in several presentations including two workshops facilitated by Engineers Australia. The sociotechnical work of the EFI was promoted in both workshops – one on benchmarking, and particularly in the Stage 1 Competency review.

“Shaping the future of engineering education through socially contextualised and industry-connected learning.” Facilitated by Tom Goldfinch and Justine Lawson, at AaeE2023, 4 December 2023, Gold Coast.

The output generated from this workshop has informed the National Students Project role and activities.

ICEEA 2023

Tom Goldfinch presented an overview of the EFI at the International Conference for Engineering Education Accreditation in July 2023.

WEC 2023

Bernadette Foley presented at the World Engineering Conference in October 2023.

ACED submissions to national reviews

ACED responds to requests to make submissions to the Australian Government's consultation processes on matters that relate to engineering education and research. These responses are normally then published on the ACED website.

During 2023, ACED made a submission to the Australian Universities Accord. The final Australian Universities Accord can be found at

<https://www.education.gov.au/australian-universities-accord/resources/final-report>

ACED Financial Report (from Auditor's report)

Opening Balance (1 Jan 2023)	\$ 371 998
Income (members' dues + interest)	\$ 221 659
Total Expenditure	\$ (159 459)
Retained surplus (31 Dec 2023)	\$ 434 198
Total Current Assets (all 4 accounts)	\$ 442 778
Total Current Liabilities	\$ (8 580)
Nett Assets	\$ 434 198

ACED Website

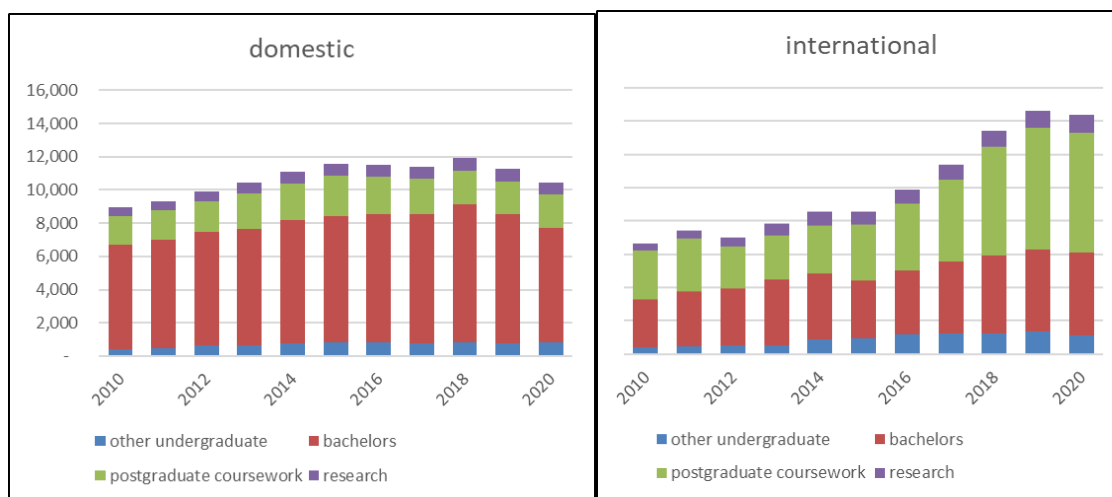
The ACED website [www.aced.edu.au] was continually updated.

ACED Statistics

ACED compiles an annual report on higher education student enrolments and graduations in engineering and related matters, from the most recent data published and collected by the Australian Higher Education Statistics Unit.

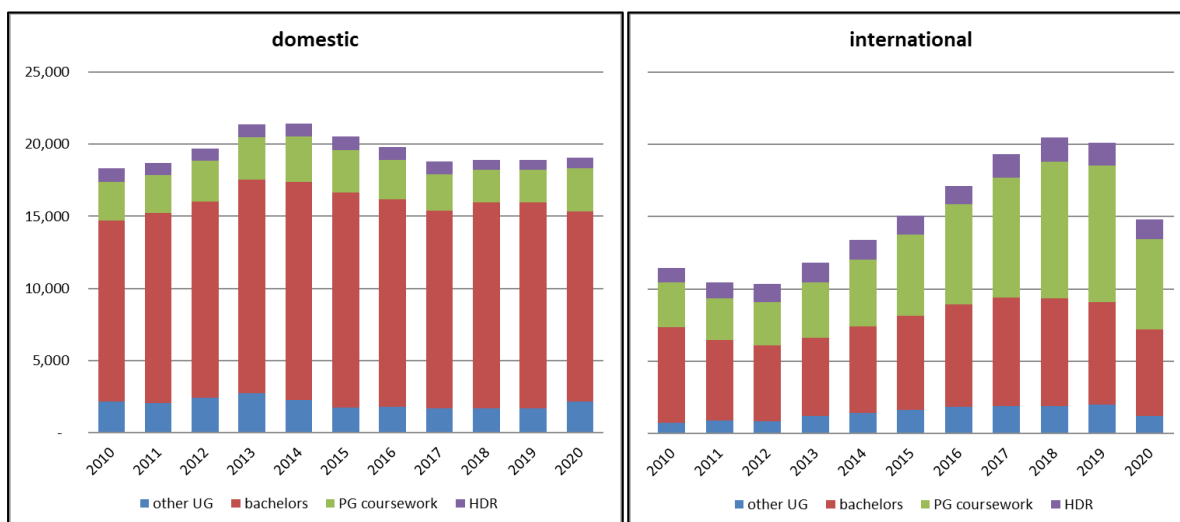
Due to the passing of Em Robin King AO, ACED has not produced statistics for 2023. However, ACED and EA are working together to continue producing these data. However, for completeness, the same data published in the 2022 Annual Report is included in this report.

The Australian Government collections of student data for 2020 were not published until Feb 2022. This has delayed compilation of the Annual Statistics report. From the 2020 data, the early impacts of the COVID pandemic are evident. Due to the delays in the publishing of 2020 data, the ACED statistics report was not finalised until April 2022, with an early assessment of data published in the ACED March 2022 annual report. The April 2022 statistics are available on the ACED website and show a flattening of graduations for both domestic and international students.



Graduations in Engineering & Related Technologies 2010-20

Commencing numbers as shown in the following charts give some cause for concern.



Commencing Enrolments in Engineering and Related Technologies 2010 - 20

The Department of Education released 2021 student data in February 2022. ACED will analyse this data for comparison against its previous data set, which included

more granular data for engineering FoEs purchased directly from the Department of Education.

The Department of Education is available in an interactive format at <https://www.education.gov.au/higher-education-statistics/student-data>

Contact us

Executive Officer: Em Prof Doug Hargreaves AM, d.hargreaves@qut.edu.au
website:

www.aced.edu.au