

State of Engineering for Global Development

AUSTRALIA + NEW ZEALAND

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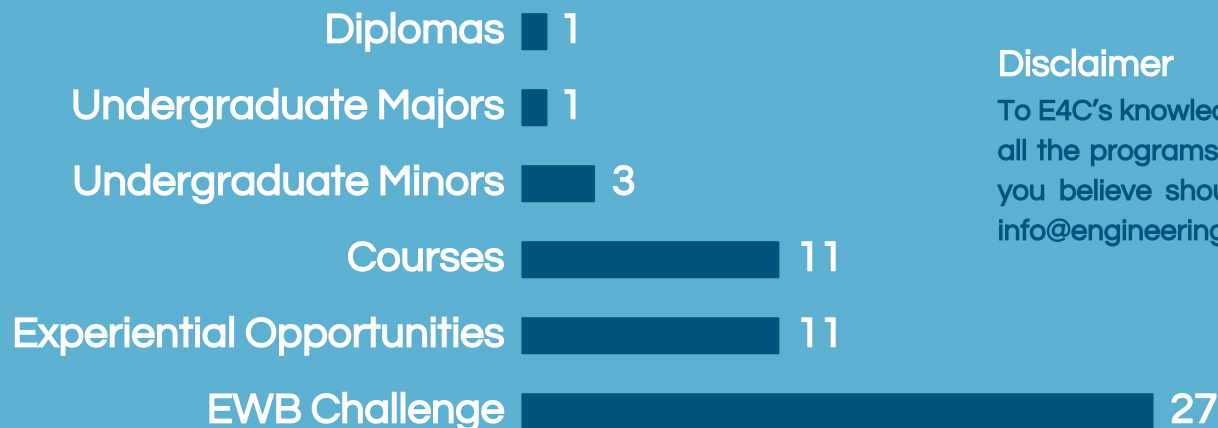
The 2019 state of Engineering for Global Development (EGD)
in academic institutions in Australia and New Zealand.

2019



Engineering for Global Development (EGD) is a growing field in which technology and design are utilized to support communities around the world and improve quality of life. Specifically in this region, the field is commonly referred to as “Humanitarian Engineering” and encompasses short and long-term activities including disaster response and relief, resilience, development, humanitarian aid, and refers to both domestic and international operations. Humanitarian Engineering was coined by EWB Australia in 2011 in their “Year of Humanitarian Engineering” campaign. Eight years since, this report attempts to comprehensively highlight the university programs, non-government organisation partnerships, research and innovation centres, conferences, and academics and professors dedicated to this work in Australia and New Zealand. The intended audience is primarily students interested in pursuing EGD or Humanitarian Engineering opportunities within Australia and New Zealand, as well as institutions and academics wanting to understand the sector, connect and collaborate.

Institutional offerings



Disclaimer

To E4C’s knowledge, this is the first report of this kind to attempt to list out all the programs in EGD. If you identify any programs or professors that you believe should also be included in this report, please email us at info@engineeringforchange.org.

Want to learn more?

To read about these programs in detail, [click here for the full report.](#)



EGD Diplomas and Majors

University of Canterbury
Diploma in Global Humanitarian Engineering

University of Sydney
Humanitarian Engineering Major

EGD Minors

Australian National University
Humanitarian Engineering Minor

Swinburne University
Engineering Social Impact Minor

University of Adelaide
Humanitarian Engineering Minor



Experiential opportunities

Key Partnerships + NGOs

Curriculum

EWB Australia
EWB Design Challenge
EWB Technical Challenge
EWB Research Challenge
EWB Research Projects

Experiential

EWB Australia
Design Summit

Unbound

Global University Programs
Generation Launch

Project Everest Ventures

Global Internships
Global Ventures

Pollinate Group

Student Fellowships

Co-curricular

The Warren Centre
Humanitarian Innovation Awards
Humanitarian Hackathon

Humanitarian Institute
Pre-service Academy

RedR Australia
Humanitarian Training Courses



EWB-Australia Programs

EWB Challenge. Embedded in a first-year engineering core subject, the EWB Challenge sets students the aim of designing a practical solution for a community unknown to the students. This has been running since 2007 and is delivered across 27 universities in Aus & NZ.

Design Summit. A 2-week experiential immersive program that invites engineering and science students from second-year onwards to a community partner in the Asia-Pacific region, to learn how to applied human centred design in a community.

Technical/Research Challenge. A semester long project that dives deeper into the technical skills required to be a development practitioner, and is delivered to second to final-year students. This program is due to begin in 2020, and will be offered to all universities in the region.



Want to learn more?

To read about these programs in detail, [click here for the full report.](#)

EGD Researchers

In Australia and New Zealand, 15 PhD-level researchers at institutions of higher education and EWB are currently conducting EGD-related research. Research is defined as practices that systematically investigate EGD-related topics, which lead to new conclusions and developments.



15 Professors



10 Institutions

Research & Innovation Centers

Institute for Sustainable Futures, University of Technology - Sydney

Energy Storage Test Facility, ARENA

Humanitarian Engineering Education Network of Australasia, Australian National University

Natural Hazard Research Centre, University of Canterbury

Centre for Sustainable Infrastructure, Swinburne University

Institute for Global Development, University of New South Wales

Development Policy Centre, Australian National University

China-Australia Centre for Sustainable Development, University of South Australia

Risky Frontiers, Macquarie University

Sustainable Development Institute, Monash University

Centre for Appropriate Technology, Alice Springs, NT

Research for Development Impact (RDI) Network, Canberra, ACT

The Warren Centre, University of Sydney

QuakeCore, University of Canterbury



Want to learn more?

To view the full list of researchers and centers, [click here for the full report.](#)

Program Highlight

The EWB Challenge

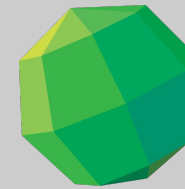
Australia + New Zealand

First year design project:

- + Launched in 2007 with 700 students, there are now 8000+ students participating from 27 universities across Australia and New Zealand
- + Design brief is delivered to students in conjunction with the human-centred design principles
- + Finalists each year present their solutions to the community partners in a showcase event

Past winners:

- + 2018: A small-scale road maintenance solution to the problem of road deterioration
- + 2017: Cosmic Ice: Refrigeration system for Espiritu Santo, Vanuatu
- + 2016: Creating a composting solution



engineers
without borders
australia



Photo Credit: Engineers Without Borders Australia

Program case study

University of Sydney

Humanitarian Engineering Major Program

- + Requires 8 subjects that include theory, an experiential program, humanities studies and a research project.
- + Experiential program to be undertaken domestically within indigenous communities, or in communities in the Asia-Pacific.
- + Final-year research project is undertaken with a partner NGO focusing on engineering in a development context.

Private sector case study

REDR Australia

Humanitarian Training Courses and Consultation

- + RedR Australia is a humanitarian response agency that deploys engineers in response to a disaster anywhere in the world. They are currently the only UN Standby Partners in Australia.
- + The fields they offer expertise in including WASH, shelter, nutrition, coordination, logistics, public health, information management, protection, project management and communications.
- + Offer training courses in Humanitarian practices

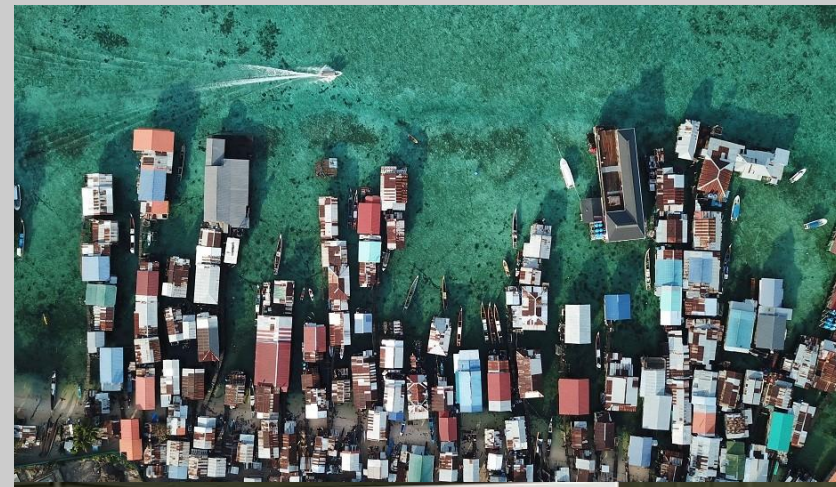


Photo Credit: University of Sydney

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EGD Conferences

Some examples of conferences with EGD focus and/or EGD-related tracks. For more information, [click here](#).

Australasian Association for Engineering Education

Engineering World Health

EWBUTS Design Corner

EWB NZ Humanitarian Engineering Conference

Humanitarian Engineering Conference

Humanitarian Innovation Hackathon

Leadership for Inclusive Development (#L4ID)

WhyDev

