



College of Design
and Engineering

COLLEGE OF DESIGN AND ENGINEERING 2022-2025

From
Here
To
Beyond

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OUR

STORY _

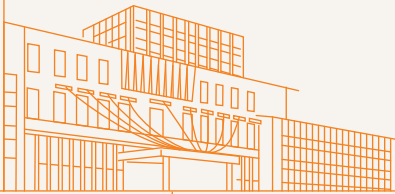
1955

1955

Professional engineering programmes commences at the then University of Malaya.

1962

The University of Singapore is established.



1976

The Faculty of Architecture & Building is one of the first faculties to move into the Kent Ridge campus.

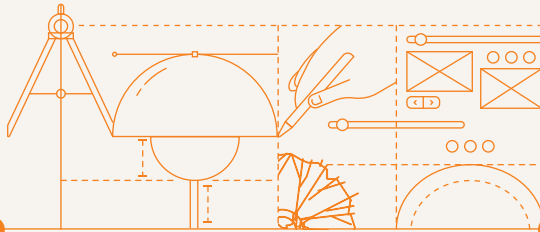
1977

The Faculty of Engineering moves to the new Kent Ridge Campus.

1980



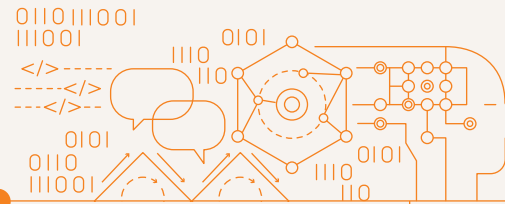
2000



2020

2021

Students enrolling in the Faculty of Engineering as well as the SDE can seamlessly take courses from both schools to develop competencies across different fields.



2023

NUS' first building cluster targeting net-zero launched.



NUS Cities, a new interdisciplinary education and research centre formed, boosting Singapore's capabilities for sustainability leadership.



1958

The Department of Engineering elevated to full Faculty status, offering a four-year professional engineering diploma. School of Architecture opens at Singapore Polytechnic.

1969

The Faculty of Engineering is constituted under the University of Singapore. The Faculty of Architecture offers degrees in Architecture and Building & Estate Management.

1986

The Department of Building Science merges with the Department of Building & Estate Management to form the School of Building & Estate Management (SBEM).

2000

The Faculty of Architecture, Building and Real Estate is renamed the School of Design and Environment (SDE). Division of Industrial Design was set up.

Introduction of a Common Curriculum that integrates knowledge and skillsets relevant to the professional training offered by both schools.

2022

Formal merger of the Faculty of Engineering and the SDE to form the College of Design and Engineering (CDE) with Professor Aaron Thean as the Dean.

2024

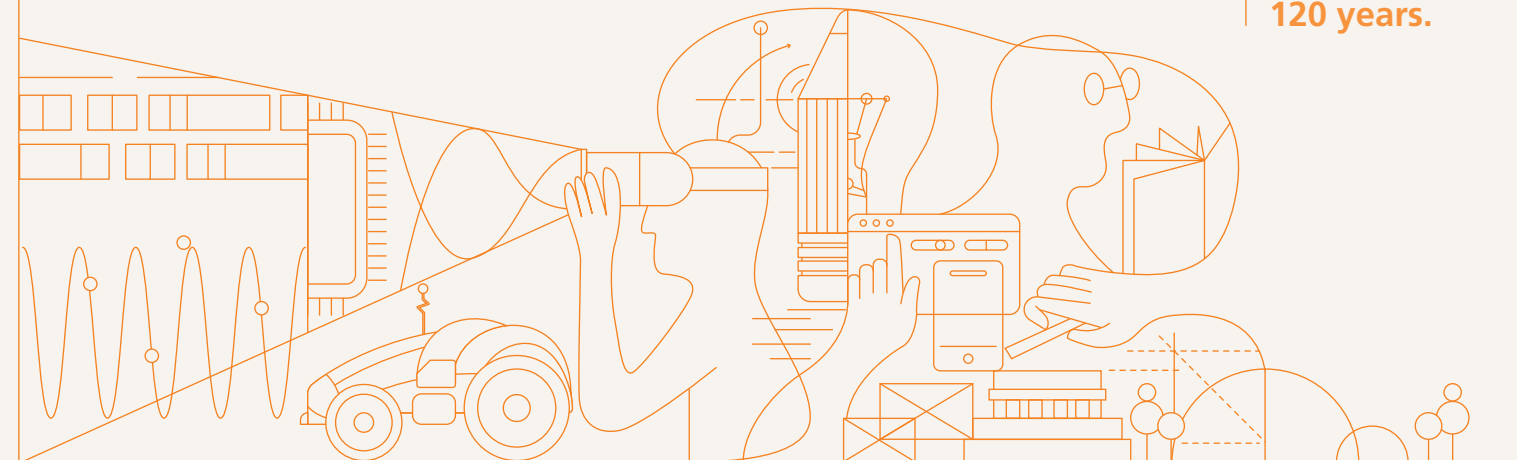
NUS alumnus Professor Teo Kie Leong named second Dean of CDE.

2025

CDE celebrates 70 years of Engineering and NUS celebrates 120 years.

OUR LEGACY

Our story spans more than 70 years. CDE builds on the legacy and achievements of two world-class institutions at NUS, the Faculty of Engineering and the School of Design and Environment.



TRANSFORMATIVE EDUCATION:



FORGING
THEIR OWN
PATHS

A Spectrum of Opportunities for Continuing Education and Learning

Indeed, learning does not end at graduation. A wide range of coursework-based programmes at CDE, full-time or part-time, extend opportunities for growth, whether for working professionals refining their expertise or graduates venturing into new fields.

From urban planning to robotics to biomedical engineering, the broad spectrum of disciplines speaks to the breadth of pathways that learners continue to explore at CDE.

Our Graduate Programmes by Coursework

Architecture

- Master of Architecture
- Master of Arts in Architectural Conservation
- Master of Arts in Urban Design
- Master of Landscape Architecture
- Master of Science in Intergrated Sustainable Design
- Master of Urban Planning

Built Environment

- Master of Science in Building Performance and Sustainability
- Master of Science in Project Management

Civil and Environmental Engineering

- Master of Science in Civil Engineering
- Master of Science in Environmental Engineering

Materials Science and Engineering

- Master of Science in Materials Science and Engineering

Biomedical Engineering

- Master of Science in Biomedical Engineering

Chemical and Biomolecular Engineering

- Master of Science in Chemical Engineering
- Master of Science in Energy Systems
- Master of Science in Safety, Health and Environmental Technology

Electrical and Computer Engineering

- Master of Science in Computer Engineering
- Master of Science in Electrical Engineering
- Master of Science in Semiconductor Technology and Operations

Mechanical Engineering

- Master of Science in Mechanical Engineering
- Master of Science in Robotics

Industrial Systems Engineering and Management

- Master of Science in Industrial and Systems Engineering
- Master of Science in Management of Technology and Innovation
- Master of Science in Maritime Technology and Management
- Master of Science in Supply Chain Management

Engineering Design and Innovation

- Master of Science in Engineering Design and Innovation

Industrial Design

- Masters of Design in Integrated Design



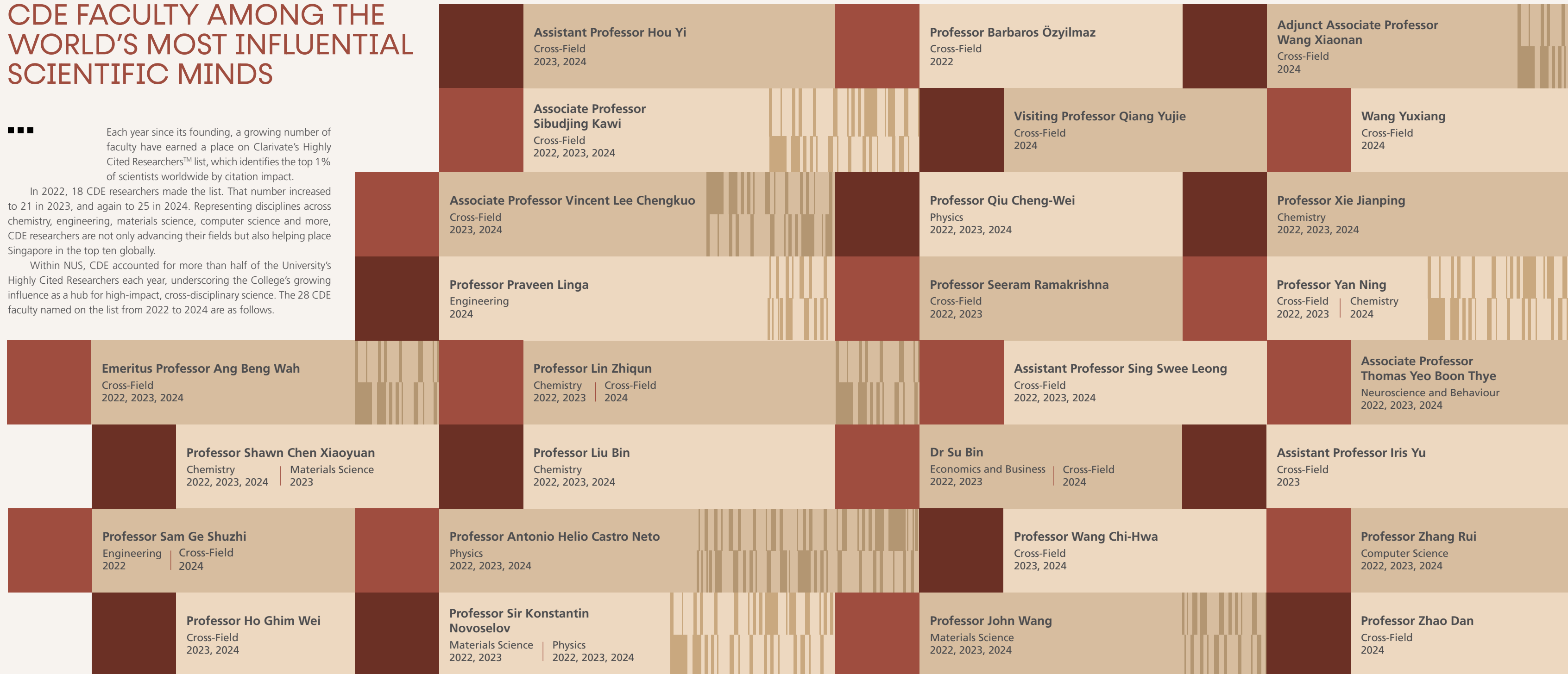
CDE FACULTY AMONG THE WORLD'S MOST INFLUENTIAL SCIENTIFIC MINDS



Each year since its founding, a growing number of faculty have earned a place on Clarivate's Highly Cited Researchers™ list, which identifies the top 1% of scientists worldwide by citation impact.

In 2022, 18 CDE researchers made the list. That number increased to 21 in 2023, and again to 25 in 2024. Representing disciplines across chemistry, engineering, materials science, computer science and more, CDE researchers are not only advancing their fields but also helping place Singapore in the top ten globally.

Within NUS, CDE accounted for more than half of the University's Highly Cited Researchers each year, underscoring the College's growing influence as a hub for high-impact, cross-disciplinary science. The 28 CDE faculty named on the list from 2022 to 2024 are as follows.



FORGING NEW FRONTIERS WITH RESEARCH

Research at CDE drives real-world impact for communities, society and industry. From sustainable cities and health innovations to advanced materials, artificial intelligence, robotics and environmental resilience, CDE's brightest minds tackle some of the most pressing challenges of our time while aligning with Singapore's national needs. Through interdisciplinary collaboration and design thinking, CDE is forging new frontiers in science and technology to shape industries, inform policies and improve everyday lives.

Global challenges are constantly evolving. So too must the frontiers of research that address them. CDE's innovators are exploring new and emerging fields, from active ageing solutions that support longer healthspans, to quantum and microelectronics technologies that redefine the future of computing and secure communications.



The CDE Research Newsletter *Forging New Frontiers* was launched in 2024 to collate and showcase the progress CDE is making in academia and beyond!

From left to right, top to bottom
 Issue 1 — Climate Resilience Technology
 Issue 2 — From Ideas to Reality
 Issue 3 — Ageing
 Issue 4 — Robotics
 Issue 5 — Microelectronics

Key Areas of Research

Active Ageing

Advancing knowledge and practices essential for enhancing living environments that foster the physical, psychological and social well-being of individuals across all age groups, especially in light of demographic shifts and climate change.

Data Science and AI

Driving industrial digitalisation, tackling cybersecurity challenges and advancing machine learning for climate modelling, urban planning, biomedical innovation, materials discovery, and robotics.

Decarbonisation Analytics and Intelligence

Leveraging advanced data analytics, machine learning and artificial intelligence to assess and optimise strategies to help industries minimise carbon footprints.

Environmental Research

Focused on creating innovative, science-driven solutions to address the growing impacts of climate change. This includes developing technologies and strategies for renewable energy, sustainable urban development, climate-resilient infrastructure, and circular economy systems. By integrating insights from engineering, design, and data science, this research seeks to understand and reduce the environmental footprint of human activity while enhancing the resilience of both natural and built environments.

Future Microelectronics

Focuses on developing next-generation IoT technologies to support the infrastructure of a Smart Nation. Key priorities include ultra-low-power devices, edge computing, flexible electronics and integrated sensor networks that are efficient, secure and scalable. It addresses critical challenges in energy efficiency, miniaturisation and real-time data processing to enable seamless connectivity across smart cities, healthcare, transportation and environmental systems.

Health Innovation

Advancing accessible healthcare innovation by combining engineering and design in areas like digital health, AI, diagnostics, robotics, biomaterials, imaging and education.



A DYNAMIC, INNOVATIVE & CARING



COMMUNITY

Industry and Innovation Days

Bringing together experts from industry and academia, CDE held its first Industry Day in 2023 to explore and discuss sustainable solutions for critical issues facing our planet.



The first CDE Innovation Day held in October 2024 saw the conclusion of Innovus@CDE, a six-month initiative set up to spark innovative ideas and a sense of entrepreneurship among students through a series of workshops and challenges. Supported by NUS Enterprise, the event also showcased startups and initiatives from NUS and CDE.



As part of Innovus, students participated in a series of workshops designed to prepare them for the final pitch competition on Innovation Day, where the finalists of the Eureka and Impact Accelerator Challenges got to pitch their startup ideas to a judging panel 'Shark Tank' style.



Far left
The winning project led by Professor He Jianzhong (right) offers a low-energy, cost-effective solution for wastewater treatment.

Left
Second place was awarded to a project led by Associate Professor Justin Yeoh (second from right) that aims to streamline construction inspections.

Shaping Inclusive Futures

CDE hosted the Asian Deans' Forum 2024, where members from leading Asian universities gathered to explore how research can be translated into meaningful impact. Discussions centred on balancing fundamental research with applied outcomes, and how collaboration across institutions can strengthen talent development and innovation in the region.



The hallmark event was the Rising Stars Women in Engineering Workshop. The workshop convened young women scholars, researchers and engineers from around the world, fostering professional development and expanding opportunities for those aspiring to build and advance careers in academia.



Above
The Asian Deans' Forum brings together representatives from engineering schools of seven leading Asian universities to share experiences and approaches to the development of engineering knowledge with the aim of leading the field for the 21st century.

Left
Through keynote lectures, panel discussions and mentoring sessions, more than 50 participants exchanged insights on leadership in engineering and how women can continue to drive breakthrough in research.

Building futures: The story behind the CDE Bursary

At CDE, opportunity should never depend on circumstance. The CDE Bursary embodies this belief, empowering driven students to realise their potential and uplifting a community built on equity and care.

The inaugural CDE Bursary Night held in October 2024 brought together donors, alumni, students and staff in a celebration of generosity and purpose. Professor Teo Kie Leong thanked benefactors whose gifts strengthen the College's mission of inclusive education and shape future innovators.

With the new CDE Bursary Fund, supported by NUS management, the NUS Alumni Student Advancement Committee and the Engineering Class of 1982, CDE reaffirms a shared vision that success is not defined by background, but by a passion to make an impact for good.



Top
Teoh Yu Ting (Year 4, Mechanical Engineering), a recipient of the Malaysian Community Bursary, volunteers at College events such as the CDE Charity Golf, where she served as emcee.

Bottom left and right
Donors, alumni and CDE leaders gathered at the inaugural CDE Bursary Night 2024 to honour the generosity that fuels student support and future innovators.



Our Circle of Patrons

The College has been fortunate to have support from its alumni, partners and others like yourself, who have provided financial assistance and granted opportunities to our students.

Each generous gift bestowed upon us has had a profound impact on our students' lives. Your financial support has relieved them of significant burdens, allowing them to fully immerse themselves in their education at CDE. This has not only inspired them to excel in their chosen fields but also to give back, ensuring that the cycle of generosity and opportunity-giving continues.

Together, we are building a community within CDE that is dedicated to making a positive difference. We are united by our passion for using our expertise in architecture, design, and engineering to create real change in various ways. Our shared aim is to inspire all our students with a spirit of innovation that can address complex challenges and ultimately contribute to the betterment of society.

Partnering for Change & Impact



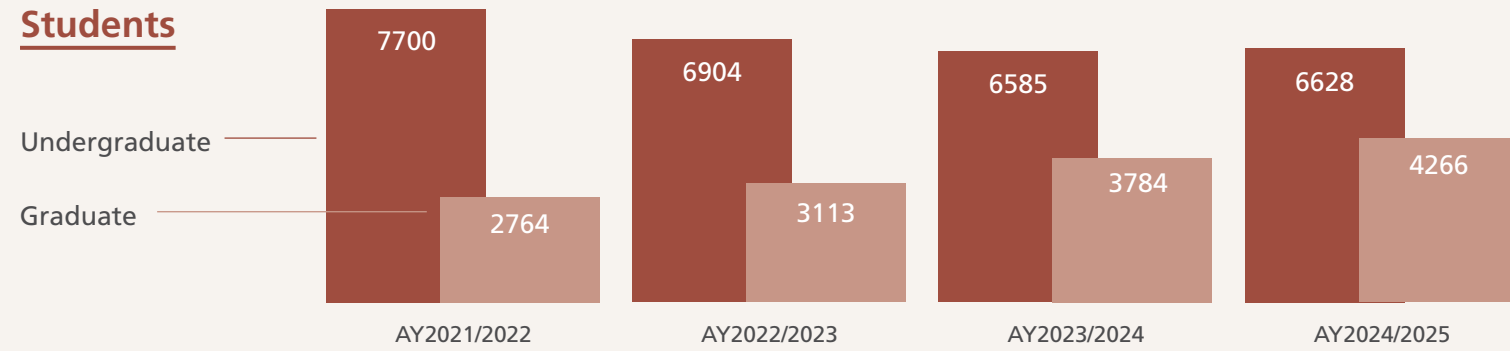
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BY THE

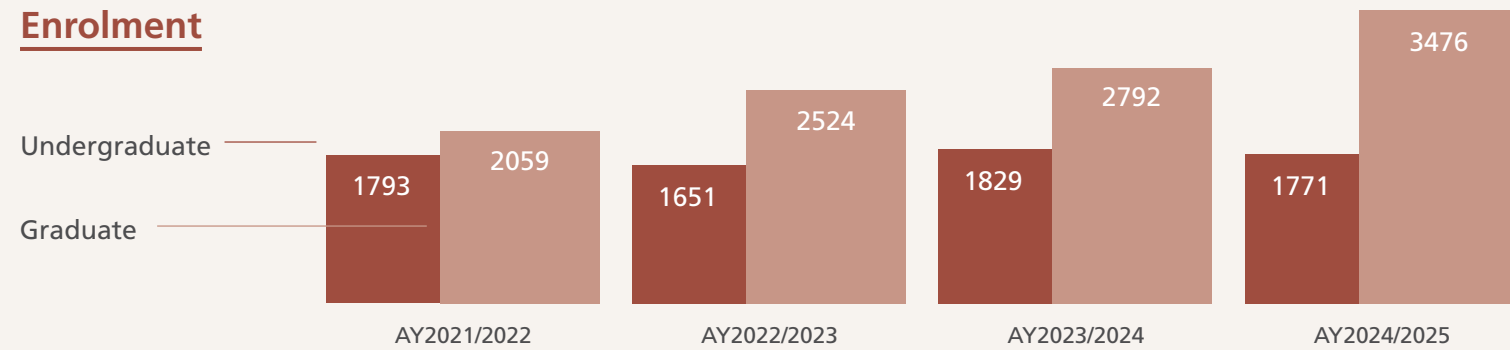
NUMBERS _

Profile of Students

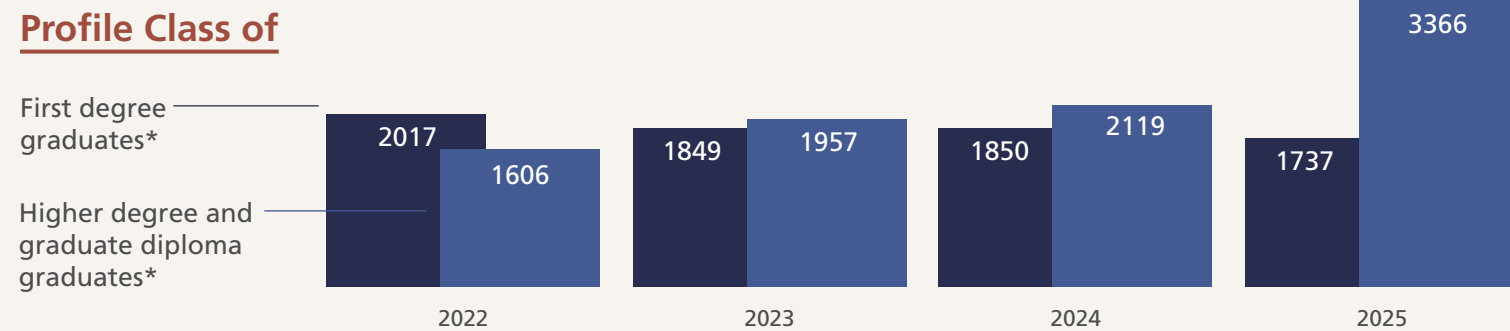
Students



Enrolment



Profile Class of



*Figures are based on degrees conferred between 1 July 20XX and 30 June 20XX+1. Double degree graduates are counted towards both their home and second faculties.

New Programmes

	AY2021/2022	AY2022/2023	AY2023/2024	AY2024/2025
Master's Degree Programmes	Master of Science in Maritime Technology and Management	<ul style="list-style-type: none"> Master of Science in Biomedical Engineering Master of Science in Energy Systems Master of Science in Computer Engineering Master of Science in Robotics Master of Science in Engineering Design and Innovation 		<ul style="list-style-type: none"> Master of Science in Semiconductor Technology and Operations Master of Design in Integrated Design
Bachelor's Degree Programmes				Bachelor of Engineering (Robotics and Machine Intelligence) (Hons)
Second Majors	Sustainable Urban Development			Computing (Design and Engineering)
Minors	Innovation and Design Programme	Landscape Architectural Studies	<ul style="list-style-type: none"> Cities Visual Communication Design 	Computing (Design and Engineering)
Specialisations		<ul style="list-style-type: none"> Community Healthcare and Technology Industry 4.0 Microelectronics and Quantum Materials Process Engineering Space Technology Tissue Engineering 	<ul style="list-style-type: none"> Landscape Practice Landscape Studies Safety and Sustainability Sustainability Analytics 	<ul style="list-style-type: none"> Artificial Intelligence in MSE Sustainable Green Buildings

*Full list of programmes can be found in the sheets titled "Master's Degree Programmes" and "UG Programmes". The items listed here are the new programmes/majors/minors/specialisations newly added (or name/curriculum change) during the AY.