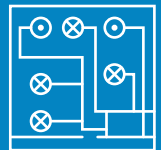NUS National University of Singapore | College of Design and Engineering
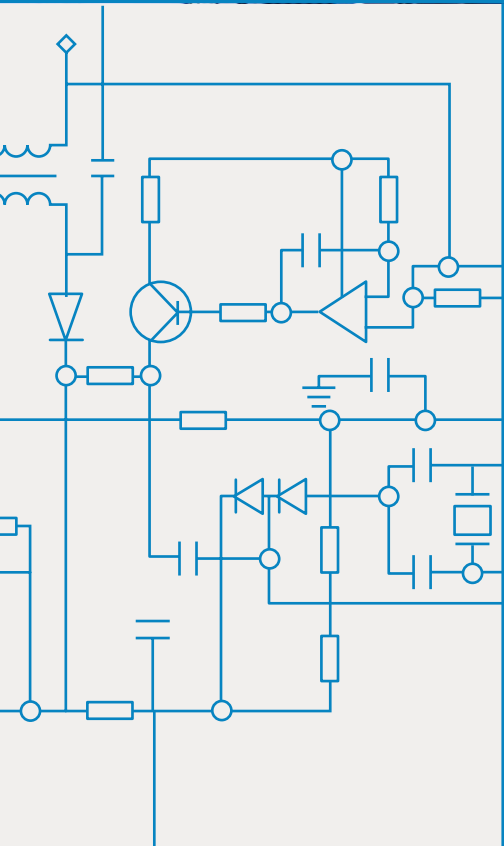
ELECTRICAL ENGINEERING

The Driving Force Behind Modern Inventions

Why Choose NUS Electrical Engineering?

Electrical Engineering is about creating technologies and services through innovation to address complex societal challenges. With a foundation in science and mathematics, this discipline is a catalyst for inventions that address key issues such as healthcare, mobility and sustainable energy.

The NUS Electrical Engineering (EE) programme cultivates discovery, innovation and creativity, preparing versatile engineers ready for immediate employment and future challenges. The programme emphasises a strong scientific and engineering foundation, offering diverse and rich educational and research opportunities tailored to career aspirations.

Career Prospects

Graduates from NUS Electrical Engineering programme are versatile and equipped with a balance of fundamental skills and knowledge, making them suitable for a wide range of industries.

Aerospace & Aviation: Rolls-Royce, SIA Engineering

Automotive: Bosch, Continental

Chemicals: ExxonMobil, Shell

Consumer Business: Dyson, Procter & Gamble

Control & Automation: Hexagon, Seagate Automation, Siemens, Yokogawa

Electronics & Semiconductors: AMD, Espressif, GlobalFoundries, MediaTek, Micron, ST Electronics

Energy, Oil & Gas: ConocoPhillips, Schlumberger, Singapore Power

Finance & Investment: DBS, GIC, Goldman Sachs, VISA

Government Sector: DSO National Laboratories, DSTA, GovTech, LTA

Infocommunications: M1, Singtel, Starhub, Vodafone

Logistics & Supply Chain Management: DHL, FedEx, PSA

Marine & Offshore: Keppel Offshore & Marine, Sembcorp Marine

Media & Digital Entertainment: Mediacorp, Sony Singapore

Medical Technology & Healthcare: Medtronic, Philips Healthcare, Synapxe

Online Commerce: Shopee, Amazon Web Services

Big Tech: Alphabet, Amazon, Apple, Google, Meta, Microsoft

Programme Overview

Build Your Own Degree (BYOD)
The NUS EE programme offers an innovative curriculum allowing students flexibility to tailor their education. Students will complete a total of 160 units (or the equivalent of 40 courses), consisting of 60 units of Common Curriculum courses, 60 units of major requirements, and 40 units of unrestricted electives (UE), all designed with input from industry partners.

Unrestricted Electives (UE): Within and Beyond Electrical Engineering
The 40 units of UE enable students to deepen their knowledge within EE or explore new areas, with options to pursue a second major, minor, specialisation or a combination thereof, fitting seamlessly into their degree without extending graduation time.

Specialisations within EE include:
- Advanced Electronics
- Industry 4.0
- Internet of Things (IoT)
- Robotics
- Space Technology
- Sustainable Electric Transportation

Alternatively, students can broaden their horizons with over 40 majors and 70 minors available at NUS:

Second major in:
- Computing (Design and Engineering)
- Innovation & Design (iDP)
- Management
- Public Health
- Systems Engineering
- Sustainable Urban Development

Minor in:
- Business Analytics
- Computing (Design and Engineering)
- Data Engineering
- Information Security
- Management
- Public Health

Additional learning opportunities:
- **Enhancement Courses:** Experiential learning opportunities for innovation, teaching and research within CDE
- **Design Your Own Course (DYOC):** Offers students the freedom to decide their learning content, method and mentors for up to eight units
- **Career Catalyst:** A foundational course preparing students for internships and careers

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Teoh Xu En

Bachelor of Engineering (Electrical Engineering), Class of 2024

"NUS EE fosters learning through engaging courses that offer interesting hands-on projects. Joining Team Bumblebee, a student robotics team, was a highlight. It provided an environment for like-minded students to develop our own autonomous maritime vehicles. Furthermore, the curriculum's flexibility has empowered me to specialise in Robotics and undertake a minor in Innovation and Design. These experiences have not only honed my skills but also broadened my horizons through international robotics competitions. My journey at NUS EE has truly been enriching and impactful."

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Sowmya Srinivasan

Bachelor of Engineering (Electrical Engineering), Class of 2024

"I have had a very holistic experience in terms of mental well-being, academics, and career advancement as a student at NUS EE. One of the most significant experiences was being the NUS EE student ambassador. Over the past few semesters, I managed to engage with prospective students, sharing with them about the programme and the opportunities that are available on campus. This has enabled me to significantly develop my confidence in social situations."
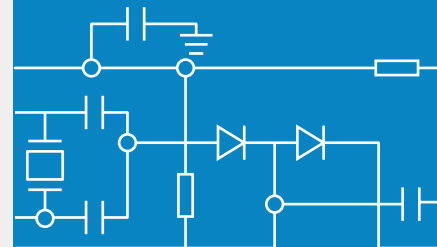
Mohamed Asri

Bachelor of Engineering (Electrical Engineering), Class of 2025

"The NUS EE journey has been a transformative experience, shaping both my academic and personal growth. Engaging in lectures and hands-on projects has fine tuned my problem-solving skills. Beyond the classrooms, active involvement in the NUS Undergraduate Student Council (USC) has broadened my horizons. Collaborating with peers in interdisciplinary projects, I have strengthened my technical acumen and honed my leadership and project management skills. NUS EE provides the platform and ecosystem to help students to be well-rounded contributors to the ever-evolving world."
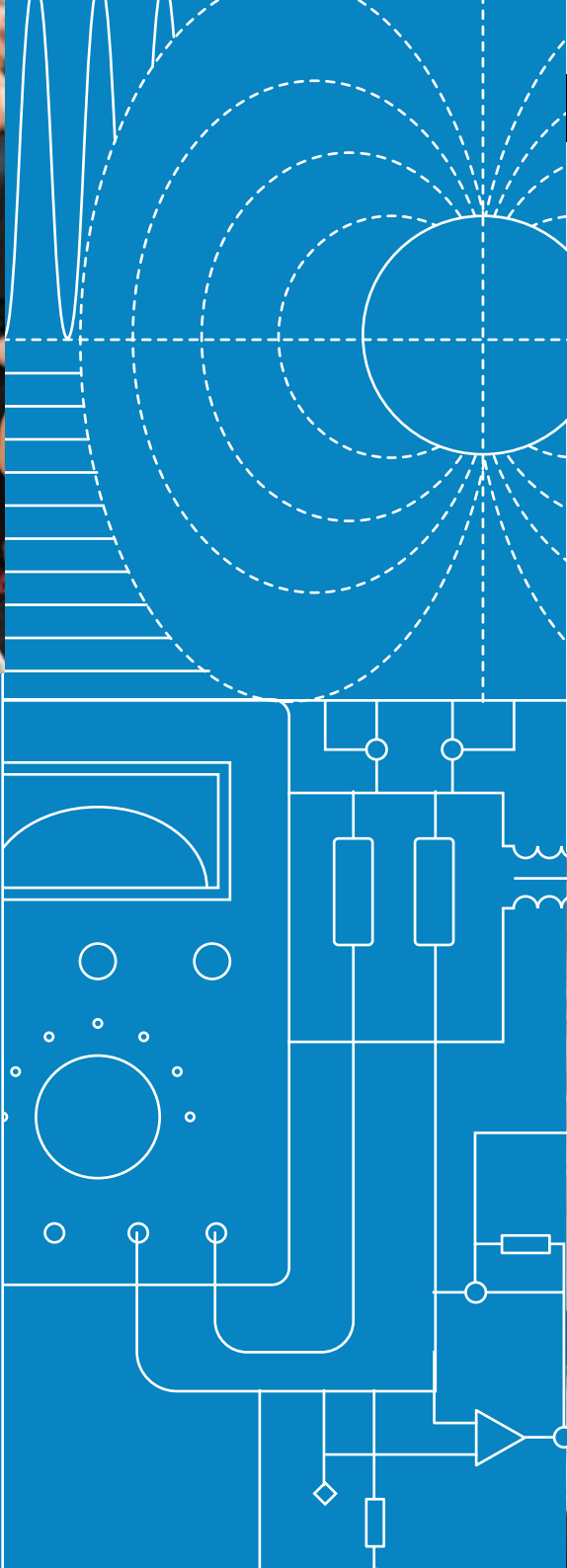
Sandra Tan Shi Yun

Bachelor of Engineering (Electrical Engineering), Class of 2018
Cyber Security Engineer, Centre for Strategic Infocomm Technologies (CSIT)

"I have fond memories of my NUS EE days, especially when working on group projects with my friends. I still remember working through the night for a project due the next day, stopping to nap at 7 AM for a couple of hours before the presentation. There were times when the product we built would inexplicably stop working minutes before submission, putting our engineering debugging skills to the test. Very nerve-wrecking then, but those were good times! I still cherish the experiences and friendships from those times."

Chen Si

Bachelor of Engineering (Electrical Engineering), Class of 2018
Optical Sensing Hardware Engineer, Apple

"My experience at NUS EE was a thrilling journey of discovery and holistic growth. The curriculum integrates well with a wide range of special programs, such as the Innovation & Design Programme that I took up. I was provided with opportunities and guidance to unleash my inner tinkerer (building a component for an actual satellite), which distilled theory into hands-on, workplace-ready problem solving competencies. Serving in the USC, EE-Related Student Clubs and the orientation camp have pushed my boundaries to become more confident in project leadership and communication."

Admission Requirements

Singapore-Cambridge GCE 'A' Level
A pass in H2 Mathematics or Further Mathematics.

Polytechnic Diploma
An accredited diploma.

International Baccalaureate (IB) Diploma
A pass in HL Mathematics: Analysis and Approaches.

NUS High School Diploma
A good major CAP in Mathematics.

International Qualifications
Applicants presenting international qualifications may apply with equivalent high school results.

Contact

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✉ askECE@nus.edu.sg