

Nurturing holistic engineers, impacting lives

Electrical Engineering is about innovation and creation of services and technology to address multifarious engineering issues that society faces today. It is grounded in the principles of science and mathematics. Electrical engineering is the driving force behind most modern inventions, providing the intelligent technology platforms needed to address complex global challenges such as ageing population, healthcare, mobility and energy sustainability. Electrical engineering is a discipline that has plenty to offer in terms of discovery, innovation and creativity.

NUS Electrical Engineering is designed to develop versatile engineers for immediate employment and to prepare them to meet the challenges of modern society. The programme has strong emphasis on scientific and engineering fundamentals and a high degree of flexibility, which can provide a diversity of educational experiences. It provides a mix of education and research opportunities, which are unique in their diversity and richness, allowing students to plan their educational experience in accordance with their career aspirations.

Career Prospects

The NUS Electrical Engineering programme prepares graduates to be versatile, clear thinking individuals, who are well-versed in fundamentals and able to present a good balance of engineering skills and knowledge applicable across many industries.

Career prospects for our electrical engineering graduates are wide and varied:

- Aerospace & Aviation: Rolls-Royce, SIA Engineering
- Automotive: Bosch, Continental, McLaren Applied Technologies
- Chemicals: ExxonMobil, Shell
- Consumer Business: Dyson, Procter & Gamble
- Control & Automation: Hexagon, Seagate Automation, Siemens, Yokogawa
- Electronics & Semiconductors: 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: iHIS, Medtronic, Philips Healthcare
- Online Commerce: Shopee, Amazon Web Services

Electrical Engineering Minor and Specialisations



Minor in Data Engineering

Data engineers build tools, infrastructure, frameworks and services which allow them to tease insights from the myriad of data streams being generated. The main aim of the Minor is to train graduates with the ability to handle and manage the large volume of data generated by industry and glean actionable insights from that data.

Advanced Electronics



Electronic devices and ICs pervade our everyday lives from smart gadgets, flexible screens, IoT sensors, to AI and clean energy. This specialisation introduces students to industry practices related to semiconductor fabrication, chip manufacturing, IC design and prototyping. It is especially relevant to students who aspire for a career in our nation's semiconductor industry, which forms a vital node in global electronics networks and is underpinned by industry leaders.

Industry 4.0



The 4th industrial revolution bridges the digital and physical environments. Internet of Things, Big Data and cloud, along with advanced robotics and AI, enable Industry 4.0 with automation and optimisation. Machine vision is an indispensable component of every automated environment. Collaborative robots can share a workspace with humans, making automation easier. Predictive Maintenance uses Machine Learning to learn from historical data and using live data to analyse failure patterns.

Internet of Things (IoT)



IoT provides the backbone for implementing Smart Nation developments in Singapore and worldwide, pervading the environment, cities and factories of the future. By acquiring skills in computing hardware and software, data analytics, networking and communications and cybersecurity, you will be well-positioned to contribute to these transformations, which has tremendous growth in job opportunities.

Robotics



Artificial Intelligence has taken robots to unprecedented heights to augment humans in handling highly complex activities. Robots are now seeing rapid deployment in industrial automation, transportation, medicine, and elderly care, as well as in entertainment and service sectors. Students who undertake this specialisation will have the opportunity to work on real-world robotics applications in areas such as manufacturing, transportation and healthcare.



Space Technology

Satellite development has progressed rapidly from large and expensive spacecraft to a relatively small and much more affordable spacecraft. The specialisation provides comprehensive learning of this “New Space” technology. Students will learn the various aspects of a small satellite, participate in a final year capstone project in satellite-related areas, and understand the strategies for ensuring the satellite is able to withstand the harsh space environment.



Sustainable Electric Transportation

Electric Vehicles (EVs) are replacing internal combustion engine based vehicles; whilst more and more electricity generation is added from green and renewable sources like solar, wind and geothermal. This specialisation will impart the necessary knowledge and skills for integration of renewable energy resources and EVs through the Smart Grid of the future. With electrification of air-and sea-based transportation systems such as usage of more electric aircrafts (MEA) and full-electric propulsion for marine vessels, there will be many job opportunities in this area.

Admission Requirements

Qualifications	Requirements
Singapore-Cambridge GCE A-Level	Pass in H2 Mathematics or Further Mathematics
International Baccalaureate (IB) Diploma	Pass in High Level Mathematics: Analysis and Approaches
NUS High School Diploma	Good Major Grade Point Average (GPA) in Mathematics

Applicants presenting accredited diplomas from a polytechnic in Singapore may also apply. For polytechnic and NUS High School graduates, as well as other qualifications, scan the QR code for more details.



 cde.nus.edu.sg/ece

 +65 6516 2109

 askECE@nus.edu.sg

