DEPARTMENT OF Electrical and Electronic Engineering

Bachelor of Engineering (Honours) Scheme in Electrical Engineering (JUPAS code: JS3170)

電機工程學(榮譽)工學士組合課程

- BEng (Hons) in Electrical Engineering
  電機工程學(榮譽)工學士
- BEng (Hons) in Transportation Systems Engineering
  運輸系統工程學(榮譽)工學士

Bachelor of Engineering (Honours) / Bachelor of Science (Honours) Scheme in Information and Artificial Intelligence Engineering

(JUPAS code: JS3180)

資訊及人工智能工程學(榮譽)工學士 / 理學士組合課程

- BEng (Hons) in Electronic Systems and Internet-of-Things
  電子系統及物聯網 (榮譽)工學士
- BSc (Hons) in Artificial Intelligence and Information Engineering
  人工智能及資訊工程學(榮譽)理學士
- BSc (Hons) in Information Security
  資訊安全(榮譽)理學士

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
電機及電子工程學系

Bachelor of Engineering (Honours) Scheme in Electrical Engineering

電機工程學(榮譽)工學士組合課程 JS3170

Programme Aims

BEng (Hons) in Electrical Engineering (124 Credits)

This is one of the premier Electrical Engineering degree programmes in Hong Kong that provides unique and up-to-date education in electrical power and energy. The programme produces engineers who are able to practise their professions in a wide range of areas of electrical engineering, such as electrical power systems, energy conversion and utilisation, transportation systems, environmental protection, control, and computer and fibre-optic applications.

A modern electrical engineer should possess a broad-based education and the specialist knowledge needed to undertake high-level work in design, planning, supervision, and manufacturing. The programme thus emphasises the mastery of both fundamental principles and the application of the latest engineering technology. Of equal importance is training in leadership, entrepreneurship, and communication skills.

We encourage lifelong learning so that graduates can keep abreast of new developments in engineering and technology.

BEng (Hons) in Transportation Systems Engineering (124 Credits)

This undergraduate programme in Hong Kong offers a unique interdisciplinary approach to modern transportation systems, providing a direct pathway into the booming Transportation Industry. Graduates are prepared for frontline roles and progression into senior managerial positions later in their careers.

The curriculum leverages our extensive experience in Electrical and Transportation Engineering and related disciplines, integrating the latest advancements in transportation technology. It focuses on enhancing transportation infrastructure and services' efficiency, reliability, safety, and sustainability. Students engage with topics spanning transportation, electrical and civil engineering, transportation system analysis, operation, and management, as well as transportation economics, and logistics.

Students gain a holistic understanding of transportation system planning, design, operations, and intelligent management, including areas like traffic management, public transportation, railways, electric vehicles, and smart mobility. The programme also emphasizes leadership, entrepreneurship, and communication and learning skills development.

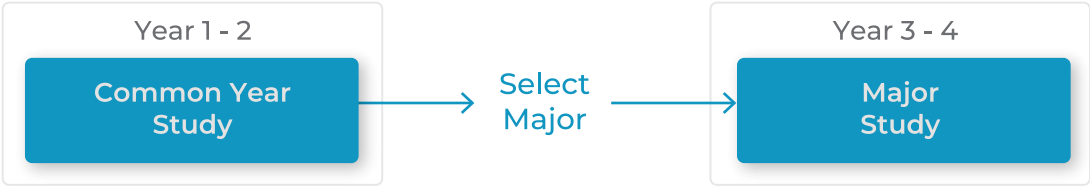
Given the evolving landscape of transportation systems and the integration of technologies such as electrification and artificial intelligence, sustainable, reliable, and efficient transportation infrastructure design and implementation are vital for future societies.

Mode of Study:
Full Time

Type of Applicants:
JUPAS (Local)
Non-JUPAS (Local)
Non-Local

Credits Required for Graduation
124 Credits
(Plus training credits)
Students may be required to take a Physics enhancement subject depending on their entry qualification

Curriculum Structure



Professional Recognition

The BEng (Hons) in Electrical Engineering and BEng (Hons) in Transportation Systems Engineering programmes have been granted full accreditation by the Hong Kong Institution of Engineers (HKIE).

Career Prospects

BEng (Hons) in Electrical Engineering

There is currently a worldwide shortage of power and energy engineers, who are in high demand in various large-scale industries and developments:

- Electric Power Generation
- Electric and Hybrid Vehicles
- Electric Mass Transportation
- Electric Apparatus Development
- Control and Automation
- Renewable Energy
- Environmental Control
- Building Services
- Product Manufacturing
- Lighting and Control
- Energy Auditing
- Intelligent Buildings
- Other Utility Companies (e.g. airports, gas, water, telecommunications)

Graduates of this programme will be able to:

- Develop professional skills in electrical engineering that are applicable worldwide.
- Contribute to the development of a clean, green and sustainable environment through the use of state-of-the-art technologies.
- Help address the global energy shortage and pollution crises.

BEng (Hons) in Transportation Systems Engineering

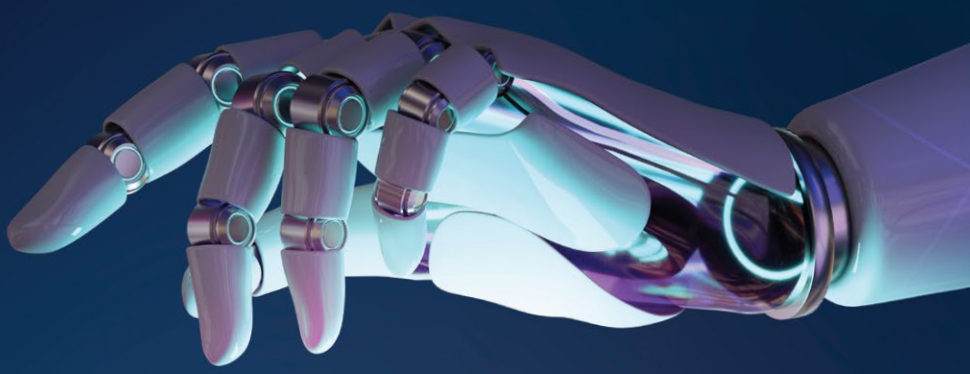
The initiatives of Smart City and Smart Mobility and emerging technologies such as autonomous, connected and electric vehicles, both in Hong Kong and worldwide, provide more job opportunities in the transportation sector. Graduates typically secure employment immediately upon graduation, with some receiving full scholarships for further studies at prestigious international universities.

Graduates of this programme will be equipped to pursue careers in a variety of sectors including:

- Transportation Consultancy
- Public Transportation
- Intelligent Transportation Systems
- Logistics
- Smart City And Smart Mobility Solutions

Additionally, graduates are well-prepared to further their education by pursuing advanced degrees in fields such as:

- Transportation Engineering
- Electric Vehicles
- Smart Mobility
- Transportation Planning
- Transportation Policy



Bachelor of Engineering (Honours) / Bachelor of Science (Honours) Scheme in Information and Artificial Intelligence Engineering

資訊及人工智能工程學(榮譽)工學士 / 理學士組合課程 JS3180

Programme Aims

BEng (Hons) in Electronic Systems and Internet-of-Things (124 Credits)

Electronic Systems and Internet-of-Things (IoT) are among the key technologies that play important roles in modern-day living. Various sectors, including business, commerce, communication, education, entertainment, healthcare and transportation, require Electronic Systems and Internet-of-Things for efficient operation. The programme aims to develop graduates with a wide range of professional knowledge and skills relevant to Electronic Systems and Internet-of-Things. The programme covers leading-edge technologies in electronic engineering, with a focus on IoT and related applications. These include artificial intelligence of things, robotics, sensor technologies, electronic devices and their associated software to sense, measure, interpret, connect and analyse data.

BSc (Hons) in Artificial Intelligence and Information Engineering (124 Credits)

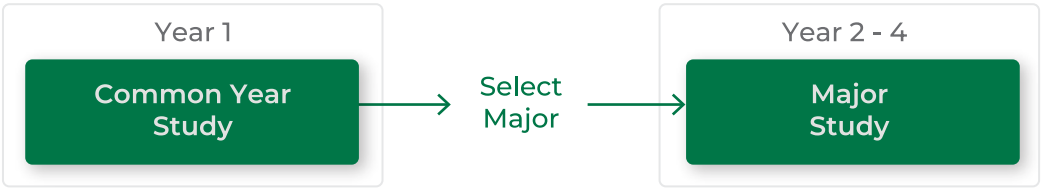
With the rapid expansion and dissemination of information and smart communication technologies in daily life, professionals in the areas of information engineering and artificial intelligence are in great demand. This programme aims at developing graduates into artificial intelligence specialists and professionals in information engineering. The programme covers technological innovations in artificial intelligence and information engineering, focusing on machine perception and data science, as well as applications related to information engineering, such as computer vision, healthcare technology, bioinformatics, natural language processing, and automatics robotics.

BSc (Hons) in Information Security (127 Credits)

The recent advances in information and communication technologies (ICT) has brought people great convenience in their daily life. Information has become one of the most valuable assets to any country and any business which requires careful protection. To protect data security and privacy and to safeguard against the risk of potentially devastating security attacks and misuses have thus become a vital concern to all countries and organisations. This programme aims at producing graduates with a wide range of professional knowledge and skills relevant to information security, including but not limited to computer, network, wireless, mobile, database, web, IoT security, audit and compliance. The programme covers both large-scale and small-scale security issues and provides the necessary training to students.

Mode of Study:	Type of Applicants:	Credits Required for Graduation
Full Time	**JUPAS (Local)** **Non-JUPAS (Local)** **Non-Local**	**124 / 127 Credits** (Plus training credits)

Curriculum Structure



Professional Recognition

The BEng (Hons) in Electronic Systems and Internet-of-Things & The BSc (Hons) in Information Security programmes have been granted full accreditation by the Hong Kong Institution of Engineers (HKIE).

Accreditation will be sought from the Hong Kong Institution of Engineers (HKIE) for the BSc (Hons) in Artificial Intelligence and Information Engineering programme.

Career Prospects

BEng (Hons) in Electronic Systems and Internet-of-Things

Due to the flourishing of internet applications, cloud computing, mobile communications, smart wearable devices, and social networking in recent years, graduates from this programme are expected to be trained as IoT professionals who will meet the pressing manpower needs of Hong Kong in the emerging IoT sector. Students will acquire the necessary professional skills that enable them to contribute to IoT development in Hong Kong and overseas by participating in various IoT projects in both public sectors and private companies.

There are ample career choices in areas such as:

- IoT Solutions Architect
- Mobile Applications Developer
- Embedded Systems Engineer
- Network Engineer
- Software Engineer
- Data Analyst
- Telecommunications Specialist
- Electronic Design Engineer
- Systems Integration Engineer
- UI/UX Designer for IoT Devices
- Cloud Solutions Engineer
- Product Manager for Smart Devices

BSc (Hons) in Artificial Intelligence and Information Engineering

Information engineering encompasses vital technologies that support worldwide economic growth. With the increasing popularity and technological advancement of artificial intelligence, products and services with intelligent features are in great demand, and new models and apps are being developed every day. Upon graduation, students will acquire sufficient knowledge to commence careers in the following areas:

- Smart Mobile Communications Services
- Software / Mobile Apps Developments
- Internet-related Business
- Cloud Technologies and Data Analytics
- Data Centres
- Ai and Machine Learning

BSc (Hons) in Information Security

The field of ICT offers enormous opportunities in Hong Kong and worldwide, particularly in information security. Corporations recruit ICT professionals to support their businesses by deploying new technologies. Further transition toward a knowledge society and the shifting of the ICT sector toward Cloud Computing and mobile communications will require ICT employees to acquire new skills and knowledge, particularly in the area of information security. Graduates of the information security discipline can expect very promising career prospects both locally and globally.

- Information and Communication Technologies (ICT)
- Cloud Computing
- Mobile Communications
- Software/Application Development
- Data/Database Management
- Security Service / Operation
- Security Audit and Penetration Test
- IT Auditors

POLYU & Subject Ranking

57th Quacquarelli Symonds (QS) World University Rankings 2025
PolyU – Ranking Highlights

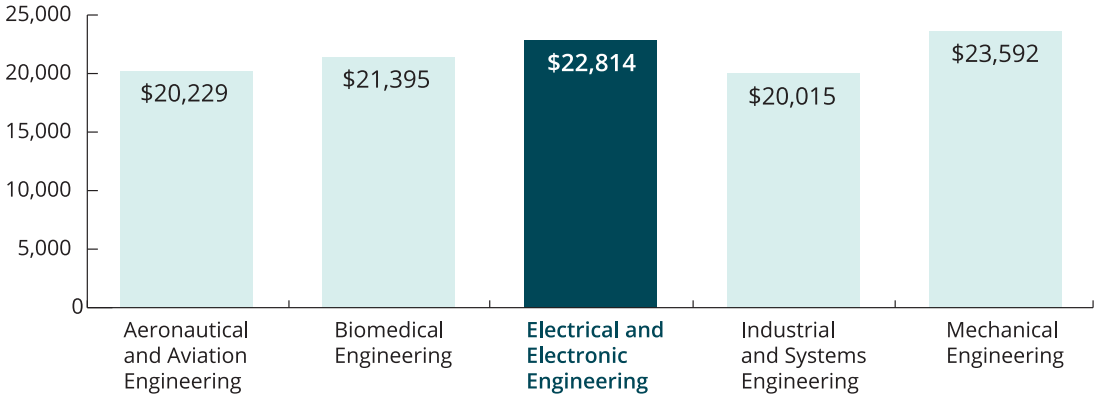
5th 2024-2025 Best Global Universities Rankings by the U.S. News and World Report
in the subject of "Engineering"

74th Quacquarelli Symonds (QS) World University Rankings 2024
in the subject of "Engineering – Electrical and Electronic"

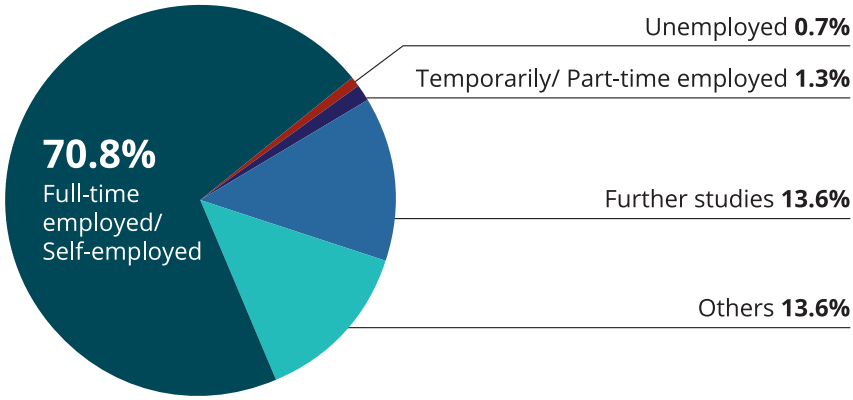
38th Times Higher Education World University Rankings 2024
In the subject of "Engineering"

Graduate Employment Statistics

Average Salary of Graduates under the Faculty of Engineering



Destination of EEE Graduates



**Source: Graduate Employment Survey 2023, Student Affairs Office, The Hong Kong Polytechnic University*

Opportunities for EEE Students

- Scholarships
- Industrial Placements
- Overseas Exchange
- Large-Scale Industrial Projects
- Study Tours
- International Competitions

Engineering Entrepreneurship Club

Each year, students have the opportunity to participate in international underwater robotic competitions to foster critical and creative thinking skills and cultivate an entrepreneurial spirit. They design, build and operate a submarine robot and control system with integrated sensors, cameras and actuators that can perform a variety of tasks at depths of over 5m! In 2024, the team secured 10th place among 43 shortlisted teams at the Singapore Autonomous Underwater Vehicle Challenge (SAUVC). They also achieved the first runner-up position in the Marine Advanced Technology Education (MATE) Hong Kong Regional Competition and placed 7th out of 29 teams at the MATE International Competition. Students also worked with different companies and institutions to provide innovative solutions for enterprises.

Alumni

Studying electrical engineering at PolyU afforded me a position with multidimensional electricity-related knowledge: electronics, signal processing, radio frequency, control theory, telecommunications, photonics and power and energy, which equipped me with the ability to critical thinking and detail-oriented organisational skill to tackle problems innovatively. Practical training in Industrial Centre contributed hugely to the professional readiness of a student's future career development, allowing me to hone my interpersonal skills and inspiring me with the idea of lifelong learning.

WONG Wing Yi

BEng (Hons) in Electrical Engineering graduate

An integrated project in the curriculum had provided us an opportunity to learn electronics. I had a chance to assemble a robotic car and programme it to track a line and complete various tasks. This project had equipped me with solid knowledge in electronic components, embedded system and programming skills.

CHENG Wai Kiu

BEng (Hons) in Electronic and Information Engineering graduate

** former programme title of BEng (Hons) in Electronic Systems and Internet-of-Things*

DEPARTMENT OF
ELECTRICAL AND
ELECTRONIC ENGINEERING
電機及電子工程學系

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