香港中文大學
CUHK

Electronic Engineering
電子工程學系

ELECTRONIC ENGINEERING UNDERGRADUATE PROGRAMME

電子工程學本科生課程

中大電子工程學 (CUHK ELEG) **聯招編號：JS4434**

Professional Career Path: Accredited Bachelor of Engineering Programme by the Hong Kong Institution of Engineers (HKIE)

Recognised Research Performance:
One of the CUHK panels with the highest ratio achieving "3 star" and "4 star" in Research Assessment Exercise 2020



CUHK EE programme admits students directly through

- JUPAS channel
- SNDAS channel
- Other admission channels (for applicants with other academic qualifications such as Associate Degree/ Higher Diploma, IB, GCE AL, etc.)

Our mission is to educate future leaders in electronic engineering, to pursue knowledge and advance state-of-the-art electronics, including hardware, software and design with electronics as the core, from materials, devices, circuits to systems, and the applications of such technology to meet societal and individual needs. In both teaching and research, the Department is guided by the highest international standards.

Curriculum Structure 課程結構

Year 4 or 5

Graduation Project + Specialized Courses

Capstone Project

Advanced Electives:
IC Design, Robotic Intelligence Micro-optics, Nano Technology, Photovoltaic Technology, Power Systems, Antenna Design, RF Circuits, Image and Audio Processing, 5G Communication

Other Engineering Electives

Computer Networks
Data Structure
Software Engineering
Engineering Economics
Machine Learning
Cyber Security
Artificial Intelligence
Financial Technology

Free Electives, General Education & Languages

Business Administration
Law
Science
Social Science
Arts, Music
Sports
Linguistics

Year 4

One-Year Work-Study Programme (optional)

Year 3

Advanced Major Courses

Technical Electives:
Photonics, Optical Fibers, Circuit Design, Semiconductor Devices, Digital Signal Processing, Power Electronics, Medical Instrumentations

Professional training:
"Build a Gadget"
"Code an App"
Entrepreneurship
Research Skills

Technology and Society | Applied Electromagnetics | Communication Systems

Year 2

Fundamental Major Courses

Engineering Mathematics | Digital Systems | Microelectronic Devices
Electric Circuits | Electronics System Design | Signals & Systems

Year 1

Foundation Courses

Mathematics | Physics | Computer Programming

Fundamental Major Courses

Digital Systems | Engineering Practium

Student Whole-person Development

Work-study Programme and Internship 工讀計劃及實習





Our work-study programme was first introduced in 1975 in the belief that combining course work and industrial training would narrow the gap between academic education and practical engineering. Students can participate in the work-study programme, as full-time employee and continue his/her final year of study after that. Most of the students appreciated that the work-study experience was a precious opportunity to learn from what a professional engineer actually do before kick-starting their career.

Participating companies include:

- ASMPT Technology Hong Kong Ltd.
- CLP Power Hong Kong Ltd.
- Electrical and Mechanical Services Department, HKSAR Government
- Huawei Tech. Investment Co. Ltd.
- HSBC (The Hongkong and Shanghai Banking Corporation Ltd.)
- MTR Corporation Ltd.
- SmarTone Telecommunications Holdings Ltd.

Overseas Exchange Programme 海外交流計劃

EE students can gain international exposure by going for a short term or year-long overseas exchange. Examples: University of Pennsylvania (USA), Technical University of Denmark (Denmark), Karlsruhe Institute of Technology (Germany), KTH Royal Institute of Technology (Sweden), Nanyang Technological University (Singapore)



EE students having an extraordinary learning experience in visiting technology giants and start-up companies in Silicon Valley, California during July 22 - August 2, 2019.



BANG, Tae Won
Visited Georgia Institute of Technology in USA in 2019-20



Mr. Leung Ho Man
Received the prestigious Innovation and Technology Scholarship to support his one-year exchange programme to the University of Liverpool in the UK in 2019-20.

Comprehensive Learning Environment 全方位學習環境

The Teaching Laboratory II and showroom with the latest equipment were newly opened from 2021.



Undergraduate STEM Ambassador Programme STEM 學生大使計劃

The "50th Anniversary Undergraduate STEM Ambassador Programme" is conducted by our Undergraduate STEM Ambassadors, coaching other CUEE peers or/and secondary students. Students could enrich their electronic engineering background by learning and applying theoretical engineering knowledge to real-life applications.









Innovation and Research 創新與科研

Research Assessment Exercise 2020 (RAE 2020), which is an extensive independent assessment of research performance of the eight UGC-funded universities in research over a period of 6 years from year 2015 to year 2020. Electronic Engineering of the Chinese University of Hong Kong received 87%, the highest proportion of world leading (4*) and internationally excellent (3*) research within the Electrical and Electronic Engineering area in Hong Kong, according to RAE 2020 by the University Grants Committee of Hong Kong.

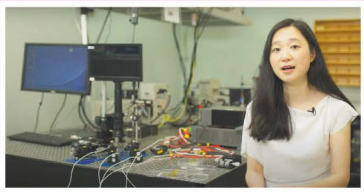


Our Engineering cares neighborhoods 我們的工程關愛社群

We developed wearable blood pressure sensor to provide 24x7 healthcare monitoring services.







View our story

We developed an underground wireless smart drainage system for the Drainage Services Department.



View our story

We developed an A.I. speech recognition APP for speech disorder detection & keeping voices of someone who is losing ability to speak.



View our story

We train you to become a well-rounded engineer

Do you know what "Electronic" meant in Electronic Engineering?

Is it ONLY "Electronic Circuit"? NO

Electronic

- **Signal Processing** - Computer Vision / Voice Recognition
- **Integrated Circuit** - Semi-Conductor Devices/Arduino / Microcontroller
- **Optoelectronics** - Optical Fiber/ Memory/ Communication
- **Wearable Devices** - Sensor / Smart Watch
- **Biomedical** - Medical Diagnosis
- **Artificial Intelligence** - Object Recognition / Deep Learning
- **App Development** - IOS / Android App & AR / VR
- **Robotics** - Machine Learning
- **Solid States** - Solar Cell / Materials / SS
- **Communication** - 5G / Bluetooth / Wifi / RFID / Antenna / Internet of Things

Multimedia Technology 多媒體技術

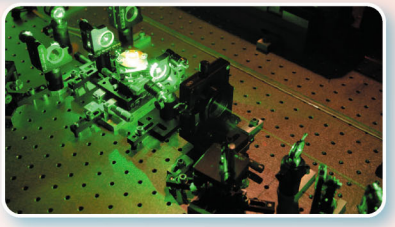


Digital Entertainment: High Definition Digital TV, Computer Animation & Virtual Reality, Computer Generation of Voice & Music
數碼娛樂：高清晰度數碼電視；電腦動畫與虛擬真實；電腦合成人聲與音樂



Health & Medical: Digital Hearing Aids, Medical Image Processing
醫療保健：數碼助聽器；醫療圖像處理

Smart City: Autonomous Driving, Forensic Voice Verification, Intelligent Surveillance Vision
智慧城市：自動駕駛；人聲識別與鑒真；智慧視覺保安監控

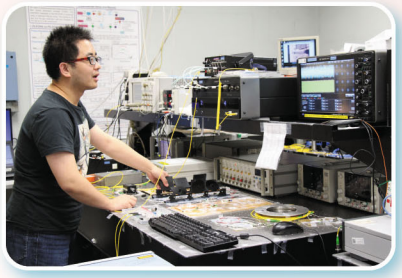


Optoelectronics & Optical Communication 光電子與光通信

Optical Communication: Cable TV, Broadband Internet
光通信技術：有線電視；寬頻網絡

Micro-optics: Optical Memory, LCD Projectors, CCD Camera
微光米學：光記憶體；液晶投影；CCD攝像機

Integrated Optics: High-Speed Fibre Optic Components
集成光學：高速光纖器件

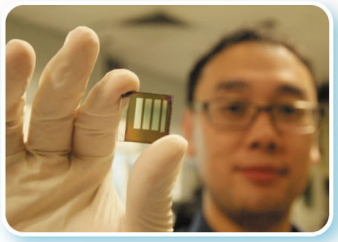


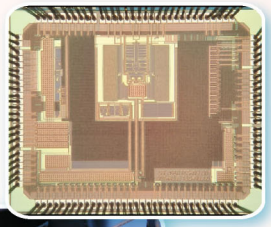
Semiconductor Devices & Integrated Circuits 半導體器件與集成電路

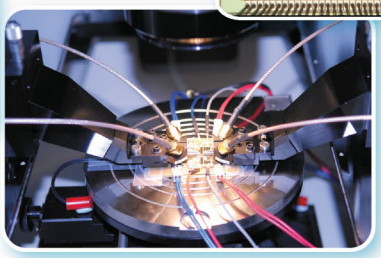
Mixed Signal Integrated-Circuit Design: Mobile Phone
混合信號集成電路：流動電話

Smart Cards: Octopus, HKID Card
智能卡裝置：八達通；身份證

Nano-meter Semiconductor Devices and Materials
納米半導體器件和材料







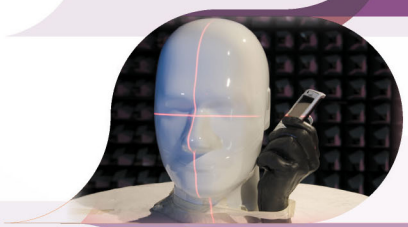
Wireless Technology 無線通信技術

Antenna, Bluetooth, WiFi
天線；藍牙技術；WiFi

Radio Frequency Identification (RFID) for Logistics
應用射頻識別技術的物流系統

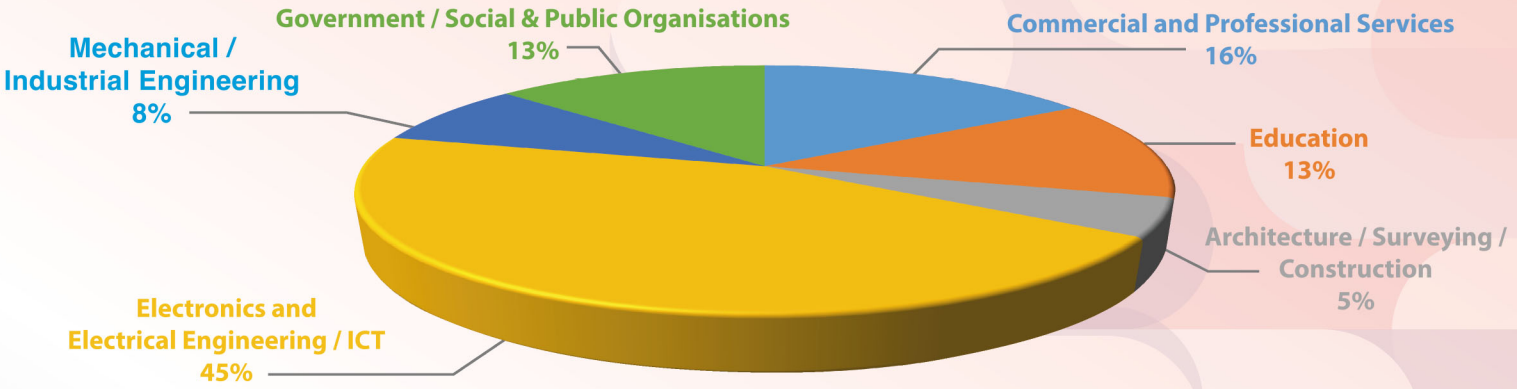
Wireless LAN
無線區域網絡

Radio-frequency Radiation Measurement
無線電波幅射測量



Career Prospect 就業前景

EMPLOYMENT OF ELECTRONIC ENGINEERING GRADUATES 2024



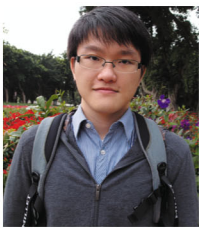
Professional Engineers 專業工程人士



POON Hiu Ching, Peggy

Electronics Engineer

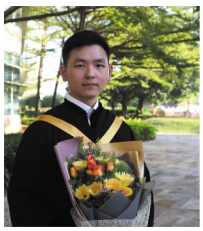
機電工程署 EMSD



MUI Tin Wai

Network Manager (Infrastructure Engineering Control Centre)

MTR港鐵



LEE Ho Tin

Graduate Trainee

港燈 HK Electric



CHENG Foon Lok

Assistant Electronic Engineer

porticos



WONG Chi Wai

Assistant Engineer

wsp

Entrepreneurs 企業家



WONG Wai Kay, Ricky

Founder of Hong Kong Technology Venture Company Limited (HKTV & HKTVmall)

Distinguished Alumnus

HKTV



TSANG Wai Wah, Martin

CEO and Founder of Halo Energy Limited

CHARGING 宜加充電



CHEUNG Ka In, Debi

Founder of DocumentOnReady

DocumentOnReady



LI, Linkai

Co-founder of Orka Inc.

ORKA

Researchers 研究學者



FOK Mei Po, Mable

Professor

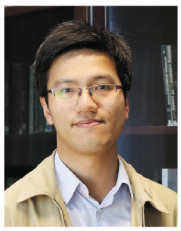
THE UNIVERSITY OF GEORGIA



CHOW Chi Wai

Professor

國立交通大學 National Chiao Tung University



WAI Hoi To

Associate Professor

香港中文大學 The Chinese University of Hong Kong



TSANG Sai Wing

Associate Professor

CityU 香港城市大學 City University of Hong Kong

Programme Entrance Requirements 課程入學要求

The JUPAS code of Beng in Electronic Engineering is JS4434. Admission is based on the Best 5 HKDSE subject results with subject weighting. For details of subject weighting, please refer to the table below.

Minimum Admission Requirement	Subject	Minimum Grade	Subject Weighting
Core Subjects	Chinese Language	3	1
	English Language	3	1
	Mathematics	3	1.5
	Citizenship and Social Development	A (Attained)	/
Two Elective Subjects	Any one science subject from the following: Biology/ Chemistry/ Physics/ Information and Communication Technology/ Mathematics Extended Module I or II	3	1 (1.5 for Physics, M1/M2 if applicable)
	All other Elective Subjects		#

The Programme accepts any one subject as the second elective. The preferred subjects include Physics and Mathematics Extended Module 1 or 2. Subject weighting of 1.5 is given to the preferred subjects; and 1.0 is given to any other subjects. In addition to the requirements above, bonus points will be awarded to the 6th and 7th subjects, it any.

Admission Scholarships 入學獎學金

The Department of Electronic Engineering offers admission scholarships, on top of those from the University and Faculty, to new undergraduate students on the basis of their excellent academic performance.

Category	Quota	Amount (HKD)
for JUPAS students [1] - Achieve 5** in one or more STEM subjects [2] - Achieve 5* in two or more STEM subjects [3] - Achieve 5* in one STEM subject [3]	100 Students	$20,000 /student $10,000 /student $5,000 /student
Non-JUPAS local students	4 students	$15,000 /student
International student	1 student	$100,000

[1] Including the students admitted via the School Nominations Direct Admission Scheme (SNDAS) of that entry year.

[2] Any of the following subjects is considered as a STEM subject: Mathematics (Compulsory Part), Mathematics (Module 1 or Module 2), Physics, Chemistry, Biology, Information and Communication Technology.

[3] Not for students who achieve 5** in at least one STEM subject.

電子工程學課程
Electronic Engineering Programme

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Homepage: http://www.ee.cuhk.edu.hk