CUHK

CUHK is the only university in Hong Kong that offers a collegiate system and experience uniquely integrated into a modern university education. It is a comprehensive research university which offers programmes of studies leading to the award of Bachelor’s degrees, Master’s degrees and Doctoral degrees under its eight Faculties: Arts, Business Administration, Education, Engineering, Law, Medicine, Science and Social Science.

Located in the suburb north of Shatin in the New Territories, the University occupies a hillside campus of approximately 134 hectares overlooking the scenic Tolo Harbor. The nine Colleges of CUHK offer a plethora of non-formal learning opportunities to complement the formal curricula: Chung Chi, New Asia, United, Shaw, Morningside, S.H. Ho, C. W. Chu, Wu Yee Sun and Lee Woo Sing. Each Faculty Member and each undergraduate student is assigned to one of the Colleges. Colleges deliver whole-person education, both academic and cultural, to promote interaction among students from different disciplines. The University and its constituent Colleges manage a number of student hostels and provide excellent supports and recreational facilities to enrich students’ university life.
Dean’s Words

Engineering: Shaping the future, Creating endless possibilities

Living in the 21st century, advancement in technology has undoubtedly enhanced the quality of life of mankind. However, human beings will face a myriad of new challenges in the future. The US National Academy of Engineering identifies fourteen grand challenges facing humanity in the twenty-first century, with the support and collaboration from the Royal Academy of Engineering and the Chinese Academy of Engineering. The grand challenges involve four major themes: Sustainability, Health, Reducing vulnerability and Joy of living. Are you ready to take up these challenges with us towards a new milestone?

Development of smart city requires multi-expertise, in which major part of support comes from Engineering. Our rigorous programmes provide students with a strong foundation in mathematics and science; and at the same time cultivate their creativity, analytical and critical thinking skills. One of our missions is to nurture scientific research professionals who could contribute to society with their engineering skills. Engineering students can develop their specializations in different fields according to their interests, and enjoy the fun and satisfaction of engineering by expanding the list of inventions.

Our Faculty of Engineering strives to evolve and improve itself to take up these new challenges and meet the changing societal needs. Besides our core competencies in information communication technologies, mechanical automation, microelectronics and photonics, we will also strengthen the following strategic areas in the years ahead:

1. Biomedical Engineering
2. Environment and Energy Technology
3. Cyber Security and Big Data Analytics/Artificial Intelligence
4. Robotics
5. Financial Technology/Financial Engineering & Service Engineering
6. Nanotechnology
7. Design and Advanced Manufacturing

With the enhanced training in these areas, we hope to train more excellent professionals that our society are in need of. Engineering education equips us with the foundation of scientific knowledge, enables us to apply our creativity and intellect to solve problems in new ways. We hope our students will work hard to become an engineer with deep and broad knowledge, and also prepare themselves to commit to the advancement of society.

Faculty of Engineering

Faculty Mission

The Faculty is committed to the education of future leaders in engineering, the pursuit of knowledge at the frontier of modern technology, and the application of technology to meet societal and human needs. In both teaching and research, the Faculty is guided by the highest international academic standards.

There are six departments in the Faculty of Engineering:

- Biomedical Engineering
- Computer Science and Engineering
- Electronic Engineering
- Information Engineering
- Mechanical and Automation Engineering
- Systems Engineering and Engineering Management

Degree Programmes

The Faculty currently offers the following bachelor, master, and doctoral degree programmes:

- Bachelor of Engineering
- Biomedical Engineering
- Computer Engineering
- Electronic Engineering
- Energy and Environmental Engineering
- Financial Engineering
- Information Engineering
- Mechanical and Automation Engineering
- Systems Engineering and Engineering Management

- Bachelor of Science
- Computer Science
- Mathematics and Information Engineering
- Double Degree Programme
- Engineering and Business Administration

- Master of Science
- Biomedical Engineering (full-time/part-time)
- Computer Science (full-time/part-time)
- E-Commerce and Logistics Technologies (full-time/part-time)
- Electronic Engineering (full-time/part-time)
- Information Engineering (full-time/part-time)
- Mechanical and Automation Engineering (full-time/part-time)
- Systems Engineering and Engineering Management (full-time/part-time)

- Master of Philosophy & Doctor of Philosophy
- Biomedical Engineering
- Computer Science and Engineering
- Electronic Engineering
- Information Engineering
- Mechanical and Automation Engineering
- Systems Engineering and Engineering Management

1. The Engineering and Business Administration Double Degree Programme is jointly offered by the Faculty of Engineering and Faculty of Business Administration. Please refer to PUG for programme details.
Over a hundred of the professoriate staff possesses extensive teaching and research experience. Not only do they educate the youngsters with passion, but they also develop forefront technologies that benefit to society. The extensive research areas include mechanics, electronics, information processing, internet, digital entertainment, etc. Some of the research also involves multi-disciplinary or cross departmental knowledge such as biomedical, energy, logistics and financial engineering. Our professors have widely published their research findings in world-class journals and conferences, and at the same time applied their R&D results into practical usage. Their efforts were well recognized by the public, and many of them were awarded national and international prizes, and received prestigious honours.

Excellence in Teaching and Research

A research team led by Prof. Hong Phong Ann has developed an automated image processing technology that, through deep learning, is able to offer efficient and accurate diagnosis using CT scan and histological images. The technology has been tested on two of Hong Kong’s most prevalent cancers — lung cancer and breast cancer, achieving diagnostic accuracies of 91% and 99 percent respectively in durations of between 30 seconds and ten minutes.

Father of Fibre Optics

The former Vice-Chancellor Prof. Charles Kao founded the Department of Electronic Engineering. He innovated the groundbreaking optical fibre communication that changed the world, and built a long-term research strategy focusing on information and communications technologies at CUHK.

Hailed as the Father of the Modern Semiconductor Packaging, the Dean of Engineering Prof. C. P. Wong was named 2012 Winner of International Dresden Bankenhaus Award, in recognition of his remarkable contributions in applied research and development at frontier areas between physics, materials science, and electrical engineering. He is leading the Hong Kong’s first and the largest theme-based project “Smart Solar Energy Harvesting, Storage, and Utilization”, which received funding of over HK$40 million, to strengthen the competitive edge of Hong Kong in solar energy technologies.

A research team led by Prof. Lu Yishun and her research team has developed a high-energy-density zinc/cadmium–bromide redox flow battery and achieved the highest reported energy density for aqueous redox flow batteries to-date. The breakthrough was published in the renowned Journal Energy & Environmental Science in early 2017.

A research team led by Prof. Chung Chun Hung has successfully developed a Real-Time Trolley Supply Monitoring System at the Hong Kong International Airport (HKIA) with the use of artificial intelligence techniques for analysing video content. The system has reached an accuracy of 93%, enhancing service quality of the Hong Kong International Airport.
A research team led by Prof. Zhao Xi and Prof. Zhang Yuan Ting has developed an ultra-thin wearable blood pressure sensor that can be worn as a wristband or woven into clothing to prevent acute health problems. The team believes that in the future, such a sensor should come with artificial intelligence, so that it can learn and improve on its own, with the human body as its teacher, constantly showing how the body functions and works.

CUHK is one of the pioneers in the research on artificial intelligence and deep learning. In the GPU Technology Conference 2016 held in Silicon Valley, CUHK was the only institution in Asia to receive this recognition, alongside the University of California, Berkeley, Massachusetts Institute of Technology, Stanford University and the University of Oxford.

CUHK was named by Thomson Reuters as one of the 10 research institutions in the world with the most impact on telecommunication, the only Asian institution on the list in 2015. The BATChed Sparse Code put forward by Prof. Yung Wei-lo Raymond’s research team overcame the problem of data loss during wireless transmission and offered higher speed, reliability and stability. Prof. Liew Sount-chang’s research team has developed the Physical-layer Network Coding as a promising technique that significantly improved the capacity and energy efficiency of wireless networks by tackling the wireless interference problem.

A team led by Prof. Ren Wei has developed a small, portable, low-cost gas sensing system. The use of quartz-enhanced photoacoustic spectroscopy significantly lowers operational costs. The system enables quick and accurate measurements of various pollutants, such as nitric oxide, carbon monoxide, and formaldehyde. It can also be used as an assistive tool to facilitate diagnosis by analyzing air exhaled by patients.

Prof. Du Ruxun and Prof. Meng Qing Hu have been elected Fellows of the Canadian Academy of Engineering (CAE) for their notable achievements in Engineering in 2017. This year, a total of 83 new international fellows were inducted, and they were the only two fellows from Hong Kong.

A research team led by Prof. Wong Kam Fai has developed a system called Automatic Callousness and Typo Detection System for Chinese Languages. It is the first of its kind in Hong Kong and targets local students. The pilot system has been tested among language teachers and local primary and secondary school students, and proven effective in enhancing Chinese language teaching and learning.

Prof. Huang Jianwei’s team has proposed two innovative business models to explore the economic benefits of a Wi-Fi sharing community. These models not only benefit consumers but also create new business opportunities for network operators, leading to a situation of mutual advantage.

Prof. Jonathan Choi Chung-hang received a Croucher Innovation Award 2014 in the amount of HK$ 5 million, the first ever recipient from CUHK since the inauguration of this award by the Croucher Foundation in 2012. He specializes in the interactions of nanoparticles with the body across the length scales of organ, tissue, cell, and organelle. His mechanistic research will inform useful “design rules” for building more potent therapeutic nanoparticles.

Prof. Raymond Tong and his research team won the Hong Kong ICT Awards 2017: Best Lifestyle (Green, Healthy & Creative Living) Silver Award with their invented AR rehabilitation training system. This is an AR rehabilitation system that allows the elderly or patients to do professional physiotherapy at home on daily basis. Using the system, therapists can prescribe a personalized training schedule for their patients to exercise at home.
The Faculty has been nurturing countless engineering professionals with excellent academic performance, since its inception in 1991. Apart from academic knowledge acquisition, they have very active participation in various local and international activities, and a number of them have also represented Hong Kong to participate in overseas contests and returned with great success.

Student Achievements

Nine teams from CUHK won top awards at the “Challenge Cup” National Competition Hong Kong Regional Final — Hong Kong University Student Innovation and Entrepreneurship Competition 2017.


Engineering students have been sweeping top awards in iMooHE Greater China Design Competition 2013-15 and 2017, including the Championships, First Runner-up and the Most Innovative Award.

The CUHK Engineering team’s “Power Shuttle” won the champion, the Best Team Spirit Award, and the Best Engineering Award in Robocon 2016 Hong Kong Contest which was held by the Hong Kong Science and Technology Parks, Hong Kong Computer Society and the Hong Kong Institute of Engineers at the Hong Kong Science Park. They represented Hong Kong at the ABU Asia-Pacific Robot Contest 2016 in Bangkok.

The Gold Award of “Engineering Medical Innovation Global Competition”, the world’s first medical innovation challenge goes to a team formed by students from CUHK Mechanical and Automation Engineering, and Department of Surgery for their project on “Surgical Robotic System for Endoscopic Submucosal Dissection”. They also won the Technical Challenge Award and the Best Hong Kong Team.

CUHK won Silver medal in the 36th Annual World Finals of the Association for Computing Machinery International Collegiate Programming Contest, the best result by a Hong Kong Institution in 20 years.

A team of BME students won the JEC Outstanding Engineering Project Awards (Golden Award) in 2017 with their development of Biomimetic Soft Crawling Robot for Gastrointestinal Inspection and Therapy.

Two BME students together with their partners won the HKSTPC Technopreneur Golden Award with their innovative post-stroke rehabilitation product “Give Me Flow” to help stroke survivors to regain their hand movements. The YDC Dare to Change Competition is an annual event organized by Young Entrepreneurs Development Council.
Diverse Learning Experiences

Engineering Leadership, Innovation, Technology and Entrepreneurship Stream (ELITE Stream)

The ELITE Stream is offered by the Faculty to students with excellent academic performance. It aims to nurture outstanding engineering students and to develop their potential through challenging courses and invaluable extra-curricular activities. The award of the ELITE Stream to qualified students will be officially recorded on academic transcript. A series of stimulating and inspiring courses will be offered exclusively for ELITE students. There are exclusive scholarships, special exchange opportunities, social and scholarly events specially organized for ELITE students.

Details of the entrance, coursework requirements and declaration procedures for the Stream can be viewed at: www.erg.cuhk.edu.hk/elite

European Innovation Academy

ELITE students were nominated to participate in European Innovation Academy in Nice, France, a three-week programme where participants from various universities around the world worked in multidisciplinary teams to start up new IT innovations, mentored and educated by industry leaders and professors.

Summer Experiential Programme in Beijing

Led by the Director of ELITE Stream, students visited Microsoft Research Asia and Nasa Space, Institute for Interdisciplinary Information Sciences of Tsinghua University and also explored the city of Beijing.

Choi Chi Kit Jason

Computer Science student under ELITE Stream (Year 4)

There are no shortcuts in engineering. From computer science to mechanical engineering, all engineering disciplines require both rigorous theoretical knowledge and in-depth practical skills. Having realised this, I am extremely glad to have chosen CUHK Engineering programmes. Not only does the extensive theoretical training in maths and physics, but we could also acquire necessary knowledge through project-based learning. The foundation year, in the meantime, has reinforced my interest in computer science, and certainly has inspired many others to find their true calling. I am also grateful for the special care given to high-achieving students through the ELITE Stream, through which top students are challenged to broaden and deepen their learning scopes. I have met like-minded friends and study partners.

International Exchange

The University has exchange agreements with over 230 higher education institutions in 30 countries/regions covering Asia, Australia, Europe, and the Americas. To broaden students' international exposure, the Faculty offers numerous summer study programmes and internship opportunities.

Duo Linqi
2016 BSc (Mathematics and Information Engineering) graduate
Recipient of Professor Charles K. Kao Research Exchange Scholarship 2016

With the scholarship support, I was able to study a completely new field of compressed sensing from scratch at California Institute of Technology. It was challenging to pick up a brand new subject, but the host was so friendly and encouraging to help me get it through. As a happy result, I grasped not only many state-of-the-art research techniques in just several months, but also developed excellent friendships with other smart researchers. It means more to me especially when I decided to pursue my PhD study at Caltech after my graduation. My exchange experience reminded me how many smart minds would be able to interact with in this coming years.

Professor Charles K. Kao Research Exchange Scholarship

To pay tribute to Prof. Charles K. Kao for his achievements in science and technologies and to commemorate his being awarded the Nobel Prize in Physics 2009, the University has set up the Charles K. Kao Scholarship Endowment Fund to support outstanding students of Engineering and Physics to go on research exchange at prestigious institutions overseas.

Professor Sir Charles K. Kao and Lady Kao met the scholars at the inaugural ceremony of the CUREK Professor Charles K. Kao Scholars Association.
GLOBEX Summer Programme@PKU

The Faculty collaborated with Peking University (PKU) to support engineering students to study both engineering and cultural courses in the College of Engineering, PKU.

Leong Samantha Antonio
Biomedical Engineering student (Year 4)

It was in class that I met amazing and brilliant minds. There were students who were not afraid to speak up, challenge new ideas and question unclarified concepts. There were students who could combine knowledge from other GLOBEX courses and use it in their own design in presentations. There were friends I made that were brilliant not only in engineering, but also in other fields that shared an interest in. This month-long exchange was a never-ending stream of constant self-improvement. Needless to say, this exchange was very beneficial.

Placement and Internship Programme

To assist students in fostering their future career development, the Faculty has initiated the Placement and Internship Programme (PIP) since 1975. Many students take the option of a one-year industrial full-time placement before they continue their final year of study. They will be engaged in a supervised training in an organization normally for a period of twelve months, during which they will be exposed to a real working environment and will take part in projects working together with experienced engineering professionals. The comprehensive and intensive training provides students with valuable working experience.

The Faculty also collaborates with companies to hold recruitment talks, technology seminars and workshops periodically such that students can keep abreast of the industrial trend.

For more information, please visit the website of Centre for Innovation and Technology, Faculty of Engineering: http://pip.citc.hk

List of selected companies participating in the PIP

AsiaSatellite Telecommunications Co. Limited
ASM Pacific Technology Limited
CLP Holdings Limited
Fujitsu PC Asia Pacific Limited
Hewlett Packard HK SAR Limited
Hong Kong CSL Limited
Hong Kong Deposit Protection Board
Hong Kong Monetary Authority
Hong Kong Science and Technology Parks Corporation
Google
IBM
ITE Smartcard Solutions Limited
LinkPOWER Technology Co. Limited
Octopus Holdings Limited

Chief Information Office, Office of the HKSAR Government
CKIA Optical Co. Limited
Microsoft
MTK
Securities and Futures Commission
Smartsone Telecommunications Holdings Limited
Sun Hung Kai Real Estate Agency Limited
The Hong Kong Jockey Club
The Hong Kong and Shanghai Banking Corporation
The Hong Kong Mortgages Corporation Limited
The Hong Kong Stock Exchange Limited
Thomson Reuters Hong Kong Limited
TNS
VHQ Telecommunications Limited

General Education

General Education plays a vital role in the University’s mission to provide a balanced undergraduate education for students. It equips students with the intellectual capacity for understanding critical issues, ideas, and values of humanity and of modern society. Engineering students, other than professional knowledge, should also equip themselves with broad knowledge to be successful. The University offers a wide range of general education courses that nurture students to be educated persons capable of making informed judgment, serving the community and taking up the challenges of this ever-changing world.

Double Majors and Minor Programmes

Engineering students can flexibly pursue second major or minor subjects according to their orientation and interest in other disciplines such as Business Administration, Economics, Journalism and Music, etc. Students developing multiple talents in combination of the Engineering major and minor programmes, would certainly gain advantages after graduation.
Admission and Curriculum

To offer greater flexibility for students, the Faculty broad-based admission and programme-based admission would run in parallel.

A wide choices of 10 engineering programmes

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<thead>
<tr>
<th>Computer Engineering</th>
<th>Broad-based admission</th>
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<td>Computer Science</td>
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<tr>
<td>Information Engineering</td>
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<tr>
<td>Mathematics and Information Engineering</td>
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<td>Mechanical and Automation Engineering</td>
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<td>Systems Engineering and Engineering Management</td>
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<tr>
<th>Biomedical Engineering</th>
<th>Programme-based admission</th>
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<td>Electronic Engineering</td>
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<td>Energy and Environmental Engineering</td>
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<td>Financial Engineering</td>
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Under the broad-based admission line, the Faculty admits applicants with HKDSE qualifications for its six undergraduate programmes, i.e. Computer Engineering, Computer Science, Information Engineering, Mathematics and Information Engineering, Mechanical and Automation Engineering, and Systems Engineering and Engineering Management. Applicants can simply put down (JUPAS code: JS601) for application for the six programmes.

Students in the first year of study will not have a specific major. They will study common Faculty Foundation Courses, and at the same time, explore their interests in different disciplines of engineering. The first-year experience is particularly important for new students to transit smoothly from high school to university as well as from pupil to self-directed learners, therefore each new student will be assigned an Academic Advisor who plays a crucial role not only as a professor to provide individualized advice on study planning but also help students tackle and mature from such developmental changes and challenges.

Students will be asked to prioritize their preferred majors after completing their first year of study. Their preferences will be given due consideration in the major allocation process. The Faculty aims to assign as many students as possible to their most preferred programmes, as long as the programmes have sufficient resources and facilities (e.g., laboratory spaces and equipment) to ensure quality teaching and learning. In the academic year 2014-17, almost 80% of students were allocated to their top prioritized programme.


## Requirements

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<th>University Common Core</th>
<th>39 units</th>
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<td>+ English</td>
<td>9</td>
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<tr>
<td>+ Chinese</td>
<td>6</td>
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<tr>
<td>+ Physical Education</td>
<td>2</td>
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<tr>
<td>+ IT*</td>
<td>1</td>
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<tr>
<td>+ General Education</td>
<td>21</td>
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**Major Programme**

- Faculty Package: 9 units
- Foundation Science Courses: 9 units
- Foundation Mathematics Courses: 12 units
- Major Required and Elective Courses: 45 units

**Free Electives**

Total units for graduation: At least 123 units (except MIEG programme)*

* The 1-unit course will be exempted for Engineering students who have successfully completed their engineering major.

## Total units of requirement

**123 units**

**Year 4**
- Capstone Project
- Major Depth Electives
- University Common Core (39 units)
- Languages, IT*, Physical Education and General Education

**Year 3**
- Major Breadth Electives
- Faculty Package
- Free Electives

**Year 2**
- Major Foundation Courses

**Year 1**
- Faculty Foundation: Mathematics Courses
- Science Courses
- Engineering Programme* (75 units)
- University Common Core (39 units)
- Remaining units

**Other Learning Opportunities**
- Exchange, Summer Research, Internship, Placement and Internship Programme, Competitions
Biomedical engineering is an interdisciplinary field in which engineering and technology are innovatively applied to solve biological and medical problems for the benefit of mankind. The Biomedical Engineering programme is offered by the Faculty of Engineering in deep collaboration with Faculty of Medicine. Students not only benefit from learning at the forefront of the engineering and medical fields through the programme’s core courses, but also enjoy the flexibility to choose from a wide variety of electives that allow them to focus on areas critical to their chosen careers.

The field is responsible for the development of medical engineering technology such as MRIs, brain-computer interface cardiac pacemakers, orthopaedic implants, rehabilitative devices, medical robotics, minimally-invasive endoscopes, etc. Biomedical devices are being developed at the micro- and nano-scale to enable diagnosis and therapeutics at the molecular and cellular levels. Students can take advantage of the breadth of cutting-edge biomedical engineering research available on campus through collaborative research in the Faculties of Engineering and Medicine.

Programme Features
The programme’s speciality areas are:
- Medical Instrumentation and Biosensors
- Biomedical Imaging, Informatics and Modeling
- Molecular, Cell and Tissue Engineering

Career Prospects
BME graduates work in hospitals, universities, government departments, other public organizations as well as industries. The careers available to programme graduates cover the entire value chain of BME, namely research and development, manufacturing, quality assurance, consultancy, distribution and sale, clinical engineering, regulatory affairs and entrepreneurship in technology. Graduates are also well equipped to pursue advanced study in engineering and biomedical sciences. Some graduates are also pursuing their careers in business, law and medicine.

SIN Ka Man, Carmen
2017 BEng (Biomedical Engineering) graduate, Electrical and Mechanical Services Department, HKSAF Government

In this day and age, there is an increased awareness of the safety, efficacy, and quality of medical devices in Hong Kong’s market. This in turn has given rise to a need for new legislation concerning medical devices, and therefore more opportunities for the likes of me and others studying BME. The BME programme educates students on a variety of theories concerning engineering, biology and medical science. This, coupled with the practical skills gained in courses such as Global Regulatory Affairs and exposure to a clinical environment, has led me to a career as a biomedical engineer, acting as a middle man between medical and engineering experts.

Au Chun KL, Franklin
Biomedical Engineering Student (Year 3)

I am honour to be part of BME family of CUHK. BME, as an inter-disciplinary subject, offers us abundant scientific research opportunities and a wonderful learning platform. We not only benefit from receiving forefront knowledge in the engineering and medical world through the undergraduate study, but also broaden our horizon on the cutting-edge world biomedical technology. Biomedical Engineering of CUHK has also enlightened my creativity on various medical devices and technologies since I met those passionate professors. With their unreserved assistance, I invented my first medical device on the area of stroke rehabilitation recently. Such device also leads me to win the Golden Entrepreneur Award 2017 of Hong Kong Science & Technology Park Corporation (HKSTP). Biomedical engineering of CUHK prepares me to be a highly-qualified professional in this booming sector and I look forward to contributing myself into this challenging industry in the future.
The Computer Engineering (CE) programme was formally established when the Faculty of Engineering was inaugurated in 1991. The CE programme is a balanced programme with emphasis on both computer hardware and software. Our programme distinguishes itself from others by offering specialized training for students in computer design, mobile embedded systems, microprocessors and very large-scale integrated circuit (VLSI) design.

With the advances in VLSI and microprocessors, innovative products such as smart phones, 3D TVs, digital cameras, supercomputers, computer games etc. are invented continuously. Given the new challenges and opportunities ahead, our CE programme is designed to equip graduates to meet these demands.

Programme Features

The CE curriculum consists of courses in the following areas:

- Application: mobile embedded devices, computer graphics, multimedia processing;
- Computer hardware: circuitry theory, logic system design, computer architecture and interfacing, computer arithmetic;
- Computer software: programming, data structure, operating systems, algorithm, software engineering;
- Very large-scale integrated circuit (VLSI) design; Computer-aided design and applications;
- System connectivity, computer network.

Other advanced topics include:

- Hardware-accelerated bio-related processing;
- Hardware-aided security;
- Multi-core systems and architecture;
- Reconfigurable computing;
- Super-computing.

The Computer Engineering/Integrated Business Administration double-degree option is open to students who are qualified for admission to both programmes. Following the successful completion of a BEng degree in Computer Engineering, the students can continue their studies for an additional year to gain a BBA degree.

Career Prospects

Many of our CE graduates have successfully pursued their careers in local and international companies such as The Hong Kong and Shanghai Banking Corporation (HSBC), Intel, Microsoft, IBM and Google. Others have chosen to further their studies in our postgraduate programme or programmes in internationally renowned universities overseas.

Ha Ngo Lam, Ivan
2015 BEng (Computer Engineering) graduate

Three years of study at CSE have been intellectually stimulating and demanding. I enjoyed much in all the project-based courses, especially the Final Year Project, which offered great chances to polish my engineering skills and stimulate my creativity. Apart from the comprehensive education, the environment fostered at CSE was indeed a good platform for students to craft critical thought and argument. The support and care from teachers were simply superb. All those learning experiences at CSE would shine one’s future.
The Computer Science Programme (CS) was launched by The Department of Computer Science and Engineering more than 30 years ago. It is accredited by the Hong Kong Institution of Engineers (HKIE) and has gained international reputation for excellent research and teaching.

**Computer Science**

Programme Features

The Computer Science programme covers the following areas:

- Artificial Intelligence
- Computer and Network Security
- Computer Networking
- Computer-aided Design
- Databases
- Digital Hardware Technologies
- Information Systems
- Internet
- Multimedia Technology
- Programming Languages
- Software Engineering
- Theoretical Computer Science

The double-degree Computer Science/Integrated Business Administration option is open to students who are qualified for admission to both programmes. Following the successful completion of a BSc degree in Computer Science, students can continue their studies for one additional year to gain a BBA degree.

Career Prospects

Over the years, the Department of Computer Science and Engineering has built up a large alumni network in the computer industry of Hong Kong. Many of our graduates have taken up important positions in various organizations and companies, such as the Hong Kong and Shanghai Banking Corporation Limited (HSBC), Intel, Microsoft, IBM and Google. Through this network, our graduates can enjoy comparative advantage in professional career development. Apart from choosing to work in this industry, some graduates have entered our Master and Doctoral programmes or similar programmes in world-renowned universities overseas for postgraduate education.

Hung Ka Wai
2015 BSc in Computer Science

I am pleased to have completed the bachelor degree from the Computer Science Department of CUHK. During my time in the department I have gained versatile knowledge of computer science, ranging from basic skills such as algorithms, to practical applications such as programming. Apart from regular courses, I also joined a research program held by the engineering faculty, where I learned how to carry out research, and gained some insight on post-graduate life in academia. Other than academics, CUHK offers many different student clubs and activities. I have participated in dance society, and have also been responsible for holding orientation camp for two years. Through these activities, I have met a lot of friends from other departments. Moreover, I have lived in the New Asia College’s dormitory for three years, where I have also had a great experience. During my final year, I decided to travel to Japan for a year-long exchange. The exchange has broadened my horizon and helped me become more open-minded to different cultures. It has truly been an important and life-changing experience, and was an exceptional way to end my last year of undergraduate study. Thank you to the Chinese University of Hong Kong and Computer Science department for the amazing education and opportunities that I have had the privilege to enjoy for the past four years.
The Department of Electronic Engineering was established in 1970 by Prof. Charles Kao, former Vice-Chancellor of CUHK and a 2009 Nobel Laureate who pioneered the use of optical fibres in communications. The Electronic Engineering programme (JUPAS code: JS4436) features a dynamic and adaptive curriculum that covers a wide range of topics, including integrated circuits and electronic devices, opto-electronics and optical communication, microprocessors and computer architecture, telecommunication and wireless systems, multimedia and signal processing, medical instruments and telemedicine, electronic materials, and nanotechnology. The courses offered are designed to convey both theoretical and practical knowledge and provide balanced training in both hardware and software skills. The department was ranked number 1 in Hong Kong by QS World University Rankings by Subject 2016 and by ShanghaiRanking’s Global Ranking of Academic Subjects 2017.

**Programme Features**

The Electronic Engineering (EEE) Programme provides the broadest and most foundational engineering training for modern society and generates rewarding career opportunities. The courses EEE offer are designed to convey both theoretical and practical knowledge and to provide balanced training in both hardware and software skills. The major topics of study include:

- Integrated circuits
- Wireless and microwave engineering
- Digital signal processing and communications
- Multi-media technology
- Semiconductor devices and nanotechnology
- Photonics
- Medical devices and systems

The work-study scheme in the Electronic Engineering programme allows students to spend one year working full-time in selected electronics or IT companies. Under the Personal Tutor scheme, professors meet regularly with students to provide advice on their academic and personal development. Thanks to the generous support and patronage of professional societies, local industry and distinguished alumni, the department is able to offer a large number of scholarships to our undergraduates.

**Career Prospects**

Programme graduates pursue successful careers in a wide range of hi-tech industries and business sectors including telecommunications, computer hardware, information technology, e-commerce, technology services, industrial manufacturing, and product design and development. Some of the graduates also choose to pursue postgraduate studies in local or overseas institutions.

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**Wong Hiu Tung**  
2014 BEng (Electronic Engineering) graduate  
Graduate Engineer, MTR Corporation Limited

After graduated from the Chinese University of Hong Kong, I joined the MTR Corporation Limited as a Graduate Engineer. To public, MTR mainly operates and maintains the railway lines and the light rail network. To me, MTR provides an excellent platform for me to enhance my technical capability, enhance my soft skills through rotations in operations engineering departments, take ownership in action learning projects, organize various events and participate in various trainings. On satisfactory completion of the well-organized 2-year training, I will be assigned to different departments such as Rolling Stock Maintenance Department, Infrastructure Maintenance Department or Technical and Engineering Services Department among others. I am extremely grateful to MTR and my supervisors for their support throughout my training. Since joining MTR, I am so grateful for the great support and valuable mentoring from my supervisors, through which I could expand my network and boost my confidence in facing the challenges ahead.
The Energy and Environmental Engineering Programme at CUHK provides students with the engineering knowledge and training needed to tackle a broad spectrum of energy issues pertaining to renewable, environmental, and building technologies. The Programme provides a strong platform and broad-based perspective for learning and understanding the relations and trade-offs between energy and environment, and the ensuing engineering challenges in attaining viable solutions.

Programme Features

Interdisciplinary by design, the Programme strongly leverages the relevant expertise and capabilities offered by CUHK as a comprehensive university. In addition to the fundamental knowledge of energy principles, technologies and systems, the Programme features a number of required and core elective courses co-designed with the Earth System Science Programme and the School of Architecture, and a host of elective courses from the Environmental Science Programme and the Department of Geography and Resource Management, for a broader and in-depth education on the environmental impact of pollution in urban settings. Students are able to pursue any one of the three streams of study according to their personal and career interests: the Sustainable Energy Technology stream for enhanced coverage of renewable energy generation, system design, storage, distribution and management, the Green Building Technology stream for fundamental knowledge of environmental performance assessment and energy management of urban buildings, and the Environmental Engineering stream for principles of natural and built environments, and air pollution monitoring and control challenges.

Energy is invisible, but you can find it everywhere. Upon the rapid growth of population and urban development, from the energy source to the process of generating and using energy effectively, all these become essential topics to me. That’s the reason why I study Energy Engineering which covers all the critical energy and environmental-related issues, such as renewable energies, battery storage, green building design and energy efficiency of electrical transmission.

Career Prospects

The knowledge and skills gained by students of the Programme will afford them strong career prospects. They will be employable in current and emerging areas of energy systems, environmental monitoring and control, sensor instrumentation, and smart and green building technologies, among other areas. They can land jobs in government, electric companies and power grid enterprises, building and construction industries, consulting firms and green groups, renewable technology companies and vehicle industries, to cite just some of the possibilities. They can also pursue postgraduate studies in their specialized areas of interest in Hong Kong or overseas.
Financial Technology (FinTech) is an emerging engineering discipline that focuses on employing technological innovations in financial practices. Leveraging on the cutting-edge developments of engineering, in particular information technology and data sciences, it demonstrates an unprecedented potential to revolutionise the nature of traditional financial service industry in a fundamental way.

The advents of digital currencies, crowdfunding platforms, robot investment advisors, big data analytics, and algorithm-driven trading strategies profoundly impact the means and behaviors of how people make payments online and offline, store and manage their wealth, and finance their businesses. On the one hand, FinTech significantly improves end-users’ service experience, making the financial industry more inclusive and productive. On the other hand, it also poses a crucial challenge to understanding and analysing its social benefits and risks economically, technologically, and legally, so as to foster its healthy development.

Programme Features

The mission of the FinTech programme is to educate and equip students with the essential knowledge and capabilities to apply technological innovations to financial services, and to nurture leadership and entrepreneurship for the next generation of financial talents in support of Hong Kong’s endeavor to grow into an international FinTech hub. After four years of all-round education, students are expected to be able to:

- derive and develop financial and managerial insights from big data;
- design and engineer innovative solutions to meet financial service needs;
- optimise financial decisions in complex business environments; and
- understand and analyse the social, economic, security, and legal impacts of their solutions.

This new programme is built upon a strong collaboration between CUHK Faculty of Engineering and the Faculties of Business Administration, Law, and Social Sciences. It offers multi-disciplinary training, which will equip students with both solid technological education in engineering innovations and insightful understanding of the business and legal environment for FinTech. New course offerings, including Financial Infrastructures, E-Payment Systems and Cryptocurrency Technologies, Internet Finance, Financial Informatics, bring to our undergraduate education state-of-the-art developments in the field for the first time. Closely collaborating with the Hong Kong Monetary Authority (HKMA) and Hong Kong Applied Science and Technology Research Institute (ASTRI), the programme also organises internships and overseas exchange to encourage students to apply theories to practices.

Career Prospects

Programme graduates will be ideally suited for positions that require strong quantitative and technological skills in the financial service industry. Prospective career opportunities include investment and commercial banking, insurance, asset management, Internet finance, government regulatory agencies, FinTech startups, and so on. Graduates can also pursue further advanced studies in finance, management sciences and engineering, computer sciences, information engineering and related fields.
The Information Engineering Programme (IE) is designed to nurture and educate engineering leaders for the Information World of today and tomorrow. We offer all-round training in the areas of communications systems and networks, Internet engineering, cybersecurity, mobile and cloud computing, multimedia processing, big data, as well as software engineering. Our professors are dedicated educators and world-class researchers. Many of them have extensive experience with leading research institutions world-wide before joining the department.

Information Engineering

Programme Features

Information Engineering encompasses the generation, distribution, analysis and application of information in engineering systems. Key areas of study include:

- Telecommunications: Optical Networks, Wireless Communications, Switching Systems, Teletraffic Theory, Network Coding, Information Theory;
- Big Data and Multimedia: Image and Video Processing, Multimedia Coding, Web-scale Information Analytics, Programming Big Data Systems, Building Scalable Internet Services, Social Media and Human Information Interaction;

Students may choose to specialize in one or more of the 3 streams — Big Data, Communications, Cyber Security, Internet Engineering and Enrichment Streams. The programme is accredited by the Hong Kong Institution of Engineers (HKIE).

Career Prospects

IE graduates are equipped with solid engineering knowledge and analytical problem solving skills to innovate creative solutions for important practical problems. Our graduates have embarked on successful careers in various sectors of industry like Morgan Stanley, HSBC, Smartone, IBM, MTR, Google, etc., or start up their own business. Around 10% of our graduates further their studies. Graduate school destinations include top schools like CMU, MIT, Stanford, Berkeley, Caltech, Cambridge, etc.

Wong Wai Nga, Krista
2017 BEng Information Engineering graduate
Currently an Assistant Project Manager at AppTech

The years studying in CUHK have been fruitful. I have met a lot of friends coming from many places around the world. The professors here are enthusiastic in teaching and they are patient while guiding us to think. Most importantly, the variety of courses offered in the Information Engineering programme are very well-structured. I have focused a lot on algorithms, object-oriented programming, web security and the course “Web Programming and Security” was my favorite one. The content was very comprehensive, covering different aspects of web security including frontend, backend and physical.

The assignment was about building our own e-commerce website and securing it. This experience was so important to my current job, as it has helped me to understand some real-world problems, and I am able to put the knowledge learnt into use. In my final year project, I had the opportunities to contribute my knowledge to implement an app to help people with communication disorder to improve their social participation. CUHK IE for me is a truly monumental experience. I am sure all these valuable experiences will contribute to my personal growth and future career development.
This programme is offered jointly by the departments of Mathematics and Information Engineering to provide students with diversified and advanced knowledge in the interdisciplinary study of mathematics and engineering. It covers a broad range of subjects to provide solid training in both fields. This programme aims at educating a new generation of information scientists. It enables students to develop in-depth mathematical thinking and solid engineering skills at the interface of mathematics and information science.

**Mathematics and Information Engineering**

**Programme Features**

This programme places strong emphasis on research and encourages independent studies under the supervision of professors from both Departments. Students who excel in their studies will have opportunities to take up research work at their later years of study.

A first-year student in this programme follows the general Engineering study scheme or the MENG option of the "Enrichment" study scheme under the Mathematics Department.

**Career Prospects**

The career prospects of graduates are very promising because of the unique combination of abstract mathematical thinking abilities and solid engineering know-how in tackling problems. Career opportunities cover a diversity of disciplines including:

2. Information Analysis — To analyze and process information in quantifiable forms for the finance and banking industries.
3. Engineering — Engineering careers related to networking, security, and system management.
4. Education — To teach subjects related to mathematics and information science and technology in secondary schools and also to make contribution to the IT development in schools.
5. General — To pursue a broad spectrum of professional careers that require the combination of logical thinking, analytical power, problem solving, and technology understanding.

**Dai Ya Xu**

2017 BSc (Mathematics and Information Engineering) graduate
Currently a M.S. (CS) student at the University of California, San Diego

MIE is a challenging programme, since it requires students to think both abstractly (for Mathematics) and concretely (for Engineering). Fortunately, these two disciplines go hand in hand. On the one hand, the comprehensive range of mathematics courses not only trains students with critical thinking and problem solving skills, but also helps their studies and research in engineering, especially in analyzing and developing algorithms and models. On the other hand, the engineering courses develop students’ practical knowledge and engineering skills, which can also enhance their understanding of mathematics.

I participated in the Faculty Summer Research Internship and obtained hands-on experience in research. Moreover, I spent one year for internship at HSBC under the Placement and Internship Programme. Equipped with a solid background in mathematics and engineering, I am looking forward to acquiring and applying more knowledge, together with skills, to realize my career dream.

**Liu Zihan**

2016 BSc (Mathematics and Information Engineering) graduate
Currently a PhD (EECS) student at the University of California, Berkeley

The MIE programme has equipped me with solid knowledge and skills in communications, networks, signal processing, computer programming etc. I am also trained to gain strong mathematical background to conduct advanced research. The faculty provided me with a variety of overseas exchange and research opportunities. After my graduation at CUHK, I pursued my doctor’s degree at University of California at Berkeley, further exploring the area of information theory, coding theory and other interesting topics. Thanks to the undergraduate education at CUHK, I am able to work with many world-class researchers.
The Mechanical and Automation Engineering Programme emphasizes the impact of modern automation technologies on current and future developments in the field of mechanical engineering. The Programme stresses a balanced curriculum in both basic theory and hands-on practice, and covering subject areas such as mechanics and materials, thermodynamics, mechanical design, manufacturing processes, mechatronics, and robotics.

Programme Features

The curriculum covers the fundamental knowledge in the areas of mechanical and automation engineering, including mechanics and materials, thermodynamics, control, manufacturing, and electronics. Students can pursue more in-depth knowledge in the subjects of their choices, such as computer-aided design and graphics, robotics, mechatronics, intelligence system, engineering optimization and MEMS. Students may choose to specialize in one of the following three streams or not to specialize in any stream:

- Design and Manufacturing
- Mechatronics
- Robotics and Automation

Courses in business, technical communications, engineering ethics, design application and final year projects are included in the programme to enhance students’ training as professional practitioners. The Department also provides summer internships, work-study programmes and international exchange opportunities for its undergraduate students.

Career Prospects

Upon graduation, MAE students find career opportunities as mechanical engineers, production engineers, control engineers and design engineers and other professions. They can also pursue graduate studies in their specialised areas of interest in Hong Kong or overseas.

Lam Miu Ling, Cherry
2000 BEng, 2002 MPhil, and 2008 PhD (Mechanical and Automation Engineering) graduate
Assistant Professor, City University of Hong Kong

I am a media artist and assistant professor in School of Creative Media at City University of Hong Kong. I received my BEng, MPhil and PhD degrees all from the Department of Mechanical and Automation Engineering with a focus on robotics and wireless sensor network research. I was an engineer in Hong Kong Aero Engine Services Limited before the PhD Programme. Upon PhD graduation, I was awarded a prestigious fellowship by the Crocker Foundation to support my postdoctoral research at the California Nanosystems Institute at UCLA. My current research projects focus on bioinformatics and physical intelligence.

As a media artist, I create artworks on the cutting-edge technologies and at the intersection of art, technology and science. The training in computer science, engineering design, and electronics obtained from MAE Department equipped me to explore new art dimensions by introducing novel ingredients to media arts. The MAEng Programme is not only practical for the development of engineering perspectives and researches, but also offering the possibilities to bridge across multiple disciplines.

HO Chung Yan
2016 BEng (Mechanical and Automation Engineering) and 2017 BBA (Integrated BBA) graduate
Graduate Engineer, Airport Authority Hong Kong

It is my passion in the aviation industry that motivated me to become an engineer. During my five-year study, I have learnt much practical knowledge in engineering field including robotics and material engineering. I have participated in the Robocup-IFC competition 2014 which utilized much of what I have learnt and resulted us in championship. Also, I could further apply them in my internship in the air cargo terminal. My energy management skills were applied on the cooling fan installation project and the theory of electronics was important when handling with the conveyor system.

Besides, I seized the opportunities provided by MAE to explore more beyond our study in CUHK. In 2015, I went on an exchange program in the Engineering Department in University College London to learn more engineering management skills. Furthermore, I joined the double degree program majoring in Marketing. IRBA as well to train our mindset to be more innovative which is essential for an engineer. After graduated, I am now working in the Airport Authority Hong Kong as a graduate engineer which fulfilled my passion. In my current career, the tasks I need to handle are more complicated and are not only related to the engineering discipline. Thanks for the department, I can know more about other engineering related fields and be able to reach more opportunities on my career path.
The Department of Systems Engineering and Engineering Management utilizes information technologies and mathematical tools to tackle problems that arise in the study of complex man-made systems, such as supply chains, financial markets, logistics management, transportation networks, and business operations. Our undergraduate programme offers students a well-rounded education that equips them with the knowledge and skill sets to compete not only in Hong Kong – which has a predominant service industry and is a major financial and logistics centre – but also in the knowledge and technology-based global economy.

Programme Features

Our undergraduate programme offers intensive training in the fundamentals of information systems, decision sciences, technology management and entrepreneurship. In addition, the programme offers the following four specialization streams:

- Business Information Systems — focuses on the design, analysis and management of effective systems for storing, communicating and extracting information, which form the backbone of modern-day business and industrial operations.
- Financial Engineering — emphasizes on the design and analysis of innovative financial instruments and strategies, as well as the use of advanced quantitative techniques and information technologies to manage and execute those strategies.
- Logistics and Supply Chain Management — concerns with the coordination and management of material, financial and information flows of an enterprise’s operations.
- Service Engineering and Management — a newly introduced specialization, which combines interdisciplinary knowledge, such as information technologies, cognitive science, economics, marketing, etc., to support operations and create value in the ever-growing service industry.

Career Prospects

Training in Systems Engineering and Engineering Management provides exposure to interdisciplinary knowledge and a solid understanding of both technical and economic aspects of complex systems. Our graduates typically take up positions in logistics management, financial analysis, consulting, information technologies and related fields. Many are currently enjoying very successful careers in organizations such as HSBC, Deloitte, IBM, P&G and Kelly Logistics.

Yu Hao Kai
2015 BEEng (Systems Engineering and Engineering Management) graduate
Business Analyst, JPMorgan

The SEEM curriculum provides broad exposure to business subjects and engineering fundamentals. Graduates from SEEM can work in various industries, such as financial services, technology and logistics, where they can work in technofunctional roles in collecting client’s requirements and designing software. Apart from academic studies, the department also partners with prestigious firms to shape a more practical and multi-facet mind-set, you will have the chance to work in real life projects during your coursework and Final Year Project.
Double Degree Programme

Engineering and Business Administration Double Degree Programme

Hong Kong has transformed into a technology-enabled service economy, and the demand for engineers has changed. There are growing desires for many enterprises from small scale to large corporates like banking and finance to recruit professionals with IT and related expert knowledge. Students graduated from this double degree programme will be equipped with both strong technical and business knowledge, making them extremely competitive in the job market.

Programme Structure

Eligible students could pursue their first bachelor degree at the Faculty of Engineering with a selected major (BME, CE, CS, EE, EEEN, FTEC, IE, MAC, or SEEM), and after completing the first degree, pursue the second bachelor degree at the Faculty of Business Administration for one year. Students would be awarded a Bachelor of Engineering and a Bachelor of Business Administration (BBBA) in Integrated Business Administration (IBBA) upon completion of both programme requirements.

Features

- No admission quota.
- Students will complete the Engineering degree before completing their second degree in one extra year on self-financed basis. Students will need to take some Business Administration courses during the study period of the first degree.
- Students who eventually do not join the second degree in Integrated Business Administration will be awarded a Minor in Integrated Business Administration in recognition of the credit units earned from the BBBA courses if they have fulfilled the relevant academic requirements of the IBBA Minor programme.

Website: www.eng.cuhk.edu.hk/erg/ergbbba

Career Prospects

Graduates of the Faculty of Engineering of the Chinese University of Hong Kong have always been put on the top priority by employers. The multi-disciplinary and multi-talent training offered by the Faculty prepares its students best for a wide magnitude of career choices both in the business and government sectors. Quite a number of engineering graduates started their own business and become successful entrepreneurs. Apart from this, many of our graduates have pursued their postgraduate studies and taken up the teaching and research work in local and overseas prestigious institutions.

Job Statistics of Engineering Graduates 2016

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Percentage</th>
<th>Sectors of Employing Organizations</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time Employment</td>
<td>79.1%</td>
<td>Commerce &amp; Industry</td>
<td>85.5%</td>
</tr>
<tr>
<td>Temporary/Part-time Employment</td>
<td>14%</td>
<td>Education</td>
<td>2.5%</td>
</tr>
<tr>
<td>Further Studies</td>
<td>4.6%</td>
<td>Government</td>
<td>2.5%</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>Social &amp; Public Organizations</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

Career Fields

- System Solution & Services
- Data Communications & Network/Internet Engineering
- Telecommunications
- Engineering Consultancy
- Information Systems Administration & Management
- Mechanical Engineering
- Medical Devices & Instrumentation
- Electronic/Electrical Engineering
- Logistics/Shipping
- Computer Hardware & Engineering
- Architecture/Surveying/Construction
- Industrial Engineering & Product Design/Manufacture
- eBusiness
- Financial & Quantitative Analysis/Engineering
- Multimedia & Digital Entertainment
- Software Design & Development
- Scientific/Research/Teaching
- Administration/Management/Property Management
- Sales/Marketing/Trading/Retail Management
- Banking/Finance/Accounting/Public Relations
- Human Resources Management/Training

Successful entrepreneurs’ story —
Pushing the frontier of electric vehicle development

Electric vehicles (EVs) are getting more popular among Hong Kong drivers. From the figures provided by the HKGAT government, the quantity of EVs has soared from less than 100 in 2010 to approximately 2,300 in April 2016. Since many countries are promoting reduction of greenhouse gases for fresher air, the development of EVs has a promising future. The Hong Kong government introduced EVs in 2009. Laurence Chan and Martin Tsang, graduates of the Department of Electronic Engineering, CUHK, seized the opportunity and founded EV Power Group in 2010 to tap into the EV charging business. Currently, EV Power is the sole charging service provider in Hong Kong.
Admissions

JUPAS Admission

Secondary school students taking the Hong Kong Diploma of Secondary Education (HKDSE) Examination should apply for admission through the Joint University Programmes Admissions System (JUPAS). The JUPAS code of CUHK Broad-based Engineering Programme is JS4401.

HKDSE applicants should satisfy the following entrance requirements:

Admission is based on the Best 5 HKDSE subject results with subject weighting. For details of subject weighting, please refer to the table below:

<table>
<thead>
<tr>
<th>Minimum Admission Requirement</th>
<th>Subject</th>
<th>Level</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Subjects</td>
<td>Chinese Language</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>English Language</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>3</td>
<td>1.75</td>
</tr>
<tr>
<td></td>
<td>Liberal Studies</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td>Two Elective Subjects</td>
<td>Any one Science subject from the following: Biology / Chemistry / Combined Science / Physics / Mathematics Extended Module 1 or 2</td>
<td>3</td>
<td>1.5 [1.75 for M1/M2, if applicable]</td>
</tr>
<tr>
<td></td>
<td>Preferred subjects: Biology / Chemistry / Combined Science / Physics / Information and Communication Technology / Design and Applied Technology / Mathematics Extended Module 1 or 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Any other subjects</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

In addition to the requirements above, bonus points will be awarded to the 4th and 7th subjects, if any.

2017 Admission Grades of HKDSE Examination (for reference only)

<table>
<thead>
<tr>
<th>Subjects</th>
<th>CHIN</th>
<th>ENGL</th>
<th>MATH</th>
<th>LBST</th>
<th>SCI Elective</th>
<th>Elective 2 (applicable to M1/M2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Quartile</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Non-JUPAS (Local) Admission

Local applicants holding other qualifications can apply through the non-JUPAS admission scheme. These qualifications include Associate Degree/Honours Diploma, GCE AL, IB, SAT/AP and other overseas qualifications for university admission. Applications will be assessed on a case-by-case basis. Please refer to the website of Office of Admissions and Financial Aid for further information. [http://admission.cuhk.edu.hk/non-jupas-yr-1/requirements.html]

International Students Admission

Applicants who require a student visa to study in Hong Kong can apply through this scheme. The applicants must possess relevant high-school or post-secondary qualifications, which include GCE AL, IB, SAT/AP, SSAT (Taiwan), OSSD (Canada), ATAR (Australia), and other relevant qualifications. Applications will be considered on a case-by-case basis. Please refer to the website of Office of Admissions and Financial Aid for details. [http://admission.cuhk.edu.hk/international/requirements.html]

Admission with Advanced Standing

A non-JUPAS (local) or international applicant may apply for "Admission with Advanced Standing" if he/she meets specific requirements with relevant qualifications (including GCE AL, IB, HKALE, Associate Degree/Honours Diploma). For students admitted with Advanced Standing, the minimum number of units for graduation may be reduced by up to 24 units (normative period of study may be shortened by up to one year).

Senior-Year Admission for Sub-degree Holders

Applicants holding the qualification of associate degree or higher diploma could apply for direct admission to senior year places. Applicants admitted to the senior year places are generally expected to complete their undergraduate studies in two years. For 2018-19 entry, seven engineering programmes offer senior year places. They are namely, Computer Engineering, Computer Science, Electronic Engineering, Energy and Environmental Engineering, Information Engineering, Mechanical and Automation Engineering, Systems Engineering and Engineering Management.

Admission through National Colleges and Universities Enrolment System

Mainland students, who are current Dao Kao candidates, are welcome to apply through the National Colleges and Universities Enrolment System. Applicants may refer to the website of Recruitment of Mainland Students for details. [http://admission.cuhk.edu.hk/mainland/requirements.html]
**Admission Scholarships**

The Office of Admissions and Financial Aid, Colleges, Academic and Administrative Departments altogether offer plenty of scholarships each year. These scholarships provide not only recognition and encouragement to outstanding students, but also some financial support to needy students. The Faculty offers various entrance scholarships to newly admitted students with excellent entrance results in public exams. For the 2017 entry, about 80 students were awarded the Faculty Admission Scholarships.

**Award Criteria for Admission Scholarships**

**For JUPAS students**

<table>
<thead>
<tr>
<th>Achievements (Marks in any best 5 subjects)</th>
<th>Scholarships by the Faculty</th>
<th>Scholarships by the University</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 marks</td>
<td>(i) Cash award of $8,000 (renewable), AND (ii) Faculty Exchange Scholarship: $50,000</td>
<td>Level 5** in 6 or more subjects</td>
</tr>
<tr>
<td></td>
<td>i) Full Tuition (renewable); ii) Annual Allowance of $20,000 (renewable); AND (iii) One-off Exchange Scholarship of $30,000</td>
<td></td>
</tr>
<tr>
<td>33-34 marks</td>
<td>(i) Half Tuition (renewable); AND (ii) Cash award of $30,000 (renewable), AND (iii) Faculty Exchange Scholarship: $50,000</td>
<td>Level 5** in 5 subjects</td>
</tr>
<tr>
<td></td>
<td>(i) Half Tuition (renewable); AND (ii) One-off Exchange Scholarship of $10,000</td>
<td></td>
</tr>
<tr>
<td>30-32 marks</td>
<td>(i) Half Tuition (one-off); AND (ii) Cash award of $30,000 (one-off); AND (iii) Faculty Exchange Scholarship: $50,000</td>
<td>Level 5** in 4 subjects</td>
</tr>
<tr>
<td></td>
<td>(i) Half Tuition (one-off); (ii) One-off Exchange Scholarship of $10,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 5** in 3 subjects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(i) Half Tuition (one-off); (ii) One-off Exchange Scholarship of $10,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 5** in 2 subjects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scholarship: $5,000 (one-off)</td>
<td></td>
</tr>
</tbody>
</table>

**Encouragement Award (Remarks)**

<table>
<thead>
<tr>
<th>Achievements (Marks in any best 5 subjects)</th>
<th>Scholarships by the Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 marks or above</td>
<td>$1,000 for each subject attained Level 5</td>
</tr>
<tr>
<td></td>
<td>$5,000 for each subject attained Level 5*</td>
</tr>
<tr>
<td></td>
<td>$10,000 for each subject attained Level 5**</td>
</tr>
</tbody>
</table>

**Calculation of Marks**

**Conversion Table**

<table>
<thead>
<tr>
<th>HKDSE Level</th>
<th>5**</th>
<th>5*</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Remarks: Dean’s Award and Encouragement Award are mutually exclusive. Scholarships will be awarded to students who attained the required results in a single sitting of the examination.

**For Non-JUPAS (local), International and Mainland JEE students**

Admission Scholarships will be provided to non-JUPAS (local) and non-local applicants admitted with outstanding entrance grades in public examinations such as GCE-AI, IAL, IB diploma, etc.

**For Sub-degree holders**

$10,000 scholarship for top 20% of students admitted to the Faculty from each of the institutions and with the qualification of “Distinction”.

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Students eligible for scholarships have the opportunity to be awarded for both scholarships by the University and the Faculty. The exact amount is subject to the University regulations.