



Faculty of Engineering
THE UNIVERSITY OF HONG KONG

港大工程

HKU Engineering
Innovate the Future

創意展未來



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Faculty
of

Engineering

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Why HKU Engineering?

HKU is one of the best universities in Hong Kong, Asia, and the world

We have a **Long and Glorious History**

Established in 1911, HKU is the first university in Hong Kong. The Faculty of Engineering is one of the three founding faculties of the University.

We have the **Strongest Alumni Base**

We have the **Highest Employment Rate** among any UGC-funded universities throughout a nine-year period. Our graduate employment rate is **99.2%** in 2019. We have graduated the most engineers in Hong Kong with a strong network of **20,000+** alumni.

We stand with the **Top Universities** in the world

HKU ranked **1st** in Hong Kong, **4th** in Asia, **39th** in the world

Source: Times Higher Education (THE) World University Rankings 2021 and Asia University Ranking 2020

HKU ranked **1st** in Hong Kong, **4th** in Asia, **22nd** in the world

Source: Quacquarelli Symonds (QS) World University Rankings 2021



We admit the

Best Students

We excel in

Research

We have

4 Chinese Academy of Engineering (CAE) Academicians
(50% of sector total)

and

13 Chinese Academy of Sciences (CAS) Academicians
(41.9% of sector total)



Source: <https://www.cpao.hku.hk/firstandforemost/research>

We create a campus of diversity and

International Outlook

Largest non-local students headcount

Largest outgoing exchange students headcount

of any UGC-funded institution.

Professional Recognition

Like Law, Medicine and Dentistry, studying for Engineering is leading to a professional degree in Hong Kong. All programmes under the Bachelor of Engineering [JS6963], Bachelor of Engineering in Biomedical Engineering [JS6925] and Bachelor of Engineering/Bachelor of Engineering in Biomedical Engineering and Bachelor of Business Administration [JS6937] now being offered are accredited by The Hong Kong Institution of Engineers (HKIE). With that standing, the professional qualification of our engineering graduates is mutually recognized by most countries, such as the United States, Australia, Canada, Japan, Korea, New Zealand, Singapore and South Africa. Such recognition widens graduates' career opportunities globally.



HKIE THE HONG KONG
INSTITUTION OF ENGINEERS
香港工程師學會



JUPAS Interview December 2020 and June 2021

JUPAS:

By December 9, 2020, choose HKU Engineering
[JS6963/JS6951/JS6925/JS6248/JS6937]
as First Choice

Non-JUPAS:

Application opens on September 30, 2020
Interview for shortlisted candidates starts in
mid-December 2020

Apply to **HKU!**

Comprehensive and Flexible Engineering Programmes

BEng Programmes (Common Code Admissions) [BEng] [JS6963]

Common Year 1

"Programme" Selection¹ at the end of Year 1

Year 2-4

Programmes:

- BEng(CivE) – Civil Engineering
- BEng(CompSc) – Computer Science
- BEng(CE) – Computer Engineering
- BEng(EI) – Electrical Engineering
- BEng(ElecE) – Electronic Engineering
- BEng(IELM) - Industrial Engineering and Logistics Management
- BEng(ME) – Mechanical Engineering

Declare 2nd Major² and/or Minor(s) before Year 4

BEng in Engineering Science [BEng(EngSc)] [JS6951]

Year 1

Selection of major option at the end of Year 1

Year 2-4

Major options:

- Biomedical Engineering
- Energy Engineering
- Environmental Engineering
- Materials Engineering
- Systems Analytics

Declare 2nd Major and/or Minor(s) before Year 4

HD/AD holders may apply to enter Year 3 directly

¹ There is a quota for each department; selection is based on Year 1's academic performance.

² Only Computer Science students have room for a second major.

BEng in Biomedical Engineering [BEng(BME)] [JS6925]

Year 1

Engineering Core Courses

Year 2-4

Advanced Discipline Courses

Declare Minor before Year 4

BASc in Financial Technology [BASc(FinTech)] [JS6248]

Year 1-2

Engineering and Discipline Core Courses

Year 3-4

Advanced Discipline Courses

Declare 2nd Major and/or Minor(s) before Year 4

Global Engineering and Business Programme (which leads to Bachelor of Engineering / Bachelor of Engineering in Biomedical Engineering and Bachelor of Business Administration Double Degree) [GEBP] [JS6937]

Year 1

• BEng

Common Year 1

“Programme” Selection¹ at the end of Year 1

• BEng(BME)

Engineering Core Courses

Year 2-4

BEng Programmes:

- BEng(CivE) – Civil Engineering
- BEng(CompSc) – Computer Science
- BEng(CE) – Computer Engineering

- BEng(EE) – Electrical Engineering
- BEng(ElecE) – Electronic Engineering
- BEng(IELM) – Industrial Engineering and Logistics Management

- BEng(ME) – Mechanical Engineering
- BEng(BME) – Biomedical Engineering

Study 9 business courses from 5 major options
Declare 2nd Major² and/or Minor(s) before Year 4

Year 5

Study BBA on self-financing basis

¹ There is a quota for each department; selection is based on Year 1's academic performance.

² Only Computer Science students have room for a second major.

Flexible Programme Structure

The Bachelor of Engineering [JS6963], Bachelor of Engineering in Engineering Science [JS6951], Bachelor of Engineering in Biomedical Engineering [JS6925] and Bachelor of Arts and Sciences in Financial Technology [JS6248] are four-year broad-based, comprehensive and flexible engineering programmes while the Global Engineering and Business Programme (GEBP) [JS6937] is a five-year double degree programme which leads to a Bachelor of Engineering/Bachelor of Engineering in Biomedical Engineering and Bachelor of Business Administration Double Degree.



BEng/BEng(EngSc)/BEng(BME) (Common First Year)

	No. of course(s)
University Requirements:	
• Language Enhancement Courses	3
• Common Core Courses	6
Engineering Core Courses*	6-7
Discipline Requirements: (including core, elective, capstone experience, internship, engineering training and free electives)	24-25
Total	40

* Engineering Core Courses include:

- Calculus and ordinary differential equations
- Fundamental mechanics
- Engineers in the modern world
- Computer programming II OR Thermofluid mechanics
- Linear algebra, probability and statistics
- Electricity and electronics
- Computer programming I

BASc(FinTech)

	No. of course(s)
University Requirements:	
• Language Enhancement Courses	2
• Common Core Courses	4
BASc Core Courses	3
Discipline Requirements (including core, elective, capstone experience)	16
Free Electives/Second Major/Minor	15
Total	40

GEBP

	BEng or BEng(BME)	BBA
Year 1	University and Engineering core courses	
Year 2-4	University and Engineering discipline courses	Study 9 business courses from 5 major options: • Entrepreneurship, Design And Innovation • Finance • Human Resource Management • Information Systems And Analytics • Marketing
By end of Year 4	Complete Engineering programme requirements and receive BEng degree	
Year 5		Study BBA on self-financing basis and receive BBA degree



Major and Minor Options

Under the flexible structure, high-calibre students are allowed to pursue major/minor options in a variety of disciplines.

Major options

BEng(CompSc), BEng(EngSc) and BAsC(FinTech) students can opt for second major study in either another engineering discipline, or areas of study offered by other faculties, by completion of additional 12 to 16 courses in a second major option.

Year of study	BEng(CompSc) / BEng(EngSc)	BAsC(FinTech)
Year 1	University and Engineering core courses	University and Discipline core courses
Year 2-4	Discipline courses and courses to fulfill second major options	

Minor options

Students can opt for minor study in either another engineering discipline, or areas of study offered by other faculties. In general, students have to complete 6 to 8 courses in a minor in additional to their study in the BEng programme.

Offering Faculties	Examples of Minor Options	
Engineering	<ul style="list-style-type: none"> • Computer Science • Electrical and Electronic Engineering • Environmental Engineering • Geotechnical Engineering 	<ul style="list-style-type: none"> • Industrial Engineering and Logistics Management • Mechanical Engineering • Innovation and Design
Arts	<ul style="list-style-type: none"> • French • German • Global Creative Industries • Japanese Language 	<ul style="list-style-type: none"> • Korean Studies • Music • Spanish
Business and Economics	<ul style="list-style-type: none"> • Accounting • Economics • Finance 	<ul style="list-style-type: none"> • Human Resource Management • Information Systems and Analytics • Marketing
Science	<ul style="list-style-type: none"> • Actuarial Studies • Chemistry • Computational & Financial Mathematics • Environmental Science 	<ul style="list-style-type: none"> • Mathematics • Physics • Risk Management • Statistics
Social Sciences	<ul style="list-style-type: none"> • Cognitive Science • Geography • Journalism & Media Studies • Sociology 	





Dean's Club

First-year students with excellent academic result admitted to the Faculty of Engineering will receive invitation to join the Dean's Club. Members of the Club are personally mentored by the Dean of Engineering, and they will be invited to join various academic and social activities, connecting them with industry leaders and widening their exposure to different aspects of engineering. They



will also receive the Dean's Award for Engineering Students to support their overseas exchange and experiential learning activities, so that they will be nurtured as future leaders with unique experience, outstanding visions and exceptional capabilities.

HKU-Cambridge Joint Recruitment Scheme

The "HKU-Cambridge Joint Recruitment Scheme" (the Scheme) is a competitive scheme for high-calibre students with excellent academic credentials. Under the Scheme, selected BEng students* will study at HKU for the first two years, and continue their studies at the University of Cambridge for their third to fifth year of studies. Upon successful completion of the five years of studies, students will be conferred the Master of Engineering and Bachelor of Arts (Honours) degrees by the University of Cambridge, and the Bachelor of Engineering degree by HKU.

** Only first year students reading for BEng, BEng(BME) and BEng(EngSc) are eligible to apply for the Scheme. BAsc(FinTech) and GEBP students are not eligible for the Scheme.*

◀ The transparent facade of Tam Wing Fan Innovation Wing carries an openness and vibrant atmosphere to foster innovations among teachers and students.



Tam Wing Fan Innovation Wing

FACULTY OF ENGINEERING

A brand new maker space for students: Tam Wing Fan Innovation Wing *One of the largest maker spaces in Asia*

Practical hands-on and experiential learning activities are indispensable in engineering education nowadays. Tam Wing Fan Innovation Wing (Innovation Wing) of the Faculty of Engineering, a new iconic landmark with one of the largest maker spaces in Hong Kong and in Asia, creates an atmosphere of Creativity, Openness, and Vibrancy to foster interdisciplinary innovations among students and teachers in Engineering and Technology. The project is funded by the University Grants Committee and a generous donation from Mr and Mrs Tam Wing Fan.

The two-storeyed Innovation Wing covers 2,400m² of floor area which is located on the G/F and LG/F of the Hui Oi Chow Science Building, a strategic and prominent location at HKU, where the University Street connects the original and the new parts of the HKU Main Campus. Situated next to the HKU MTR Station and the buildings of the Faculty of Engineering at the "heart" of the Main Campus, students and future engineers will have more opportunities to develop and actualise ideas, from the whiteboard to the real world, in this state-of-the-art facility.

Dr. C.K. Chui, Director of Tam Wing Fan Innovation Wing of Faculty of Engineering, said, "The Tam Wing Fan Innovation Wing goes beyond an iconic landmark with world-class facilities, it becomes an enabling platform for Engineering undergraduate students where the seeds of young and creative minds will germinate and thrive."



The two-storeyed Innovation Wing covers 2,400m² of floor area with one of the largest maker spaces in Asia. Facilities such as Assembling Areas, Brainstorming area and event halls, etc., will also be provided.

Turns idea into reality

As one of the largest maker spaces in Asia, Innovation Wing is equipped with comprehensive prototyping facilities and equipment for students to turn ideas into reality. The maker space offers a spacious assembling area that can accommodate more than 100 students to work on their hands-on projects. Surrounding the assembling area is a number of specialised workshops equipped with the state-of-the-art digital controlled facilities such as 3D printing machines, laser cutting and engraving machines, waterjet cutting machine, measuring tools, hand/power toolsets and specialised electronic workbenches, etc. The digital innovation zone offers computer-aid design studio, multimedia and sound-proof studio, AR/VR studio and special project studios for supporting innovation with digital technology.



Inspiring advanced technology workshops

Innovation Wing also houses a number of thematic workshops for advanced technologies and/or research outcomes from pioneer Engineering projects led by Professors/researchers in the Faculty of Engineering. Workshops with the themes related to healthcare technology, artificial intelligence and robotics,



advanced and new materials, smart technology for better living, green energy and sustainability, and VR technology etc. are set up in the Innovation Wing. Students may have the chance to get in touch with the advanced technology and learn from the Professors who are experts in related areas and apply what they have learnt to tackle the grand challenges in the world.

Sparkling environment for disseminating ideas and achievements

Innovation Wing encourages knowledge exchange and peer learning. Poster hallway, project wall and social media sharing platform will be set up for displaying and sharing of inventions, ideas and achievements. A seminar stage with LED wall is located next to a relaxing brainstorming area, and students can exchange ideas by giving technology talks, showcasing their inventive design, and harnessing timely and constructive feedback by peers, teachers, and the public. The grand event hall in Innovation Wing is equipped with wide-area motion capture technology that accommodates robotics and AR/VR technology events from different scales.

Website : <https://innowings.engg.hku.hk>



Innovation Academy

Faculty of Engineering, HKU



**A magnet for talents,
a platform to stimulate.**

HKU Faculty of Engineering is committed to fostering contemporary engineering education for students to contribute to the industry and addressing the changing needs of the community. In keeping with this commitment, the Faculty is launching an "Innovation Academy" to provide every student with the opportunities and intellectual inspiration to innovate and pursue their engineering passion.

The Innovation Academy is a hub for attracting and cultivating new generation of talents, not only scholars and researchers, but also industry leaders and influencers. It works like an accelerator for inspiration and implementation.



Programmes and activities

A series of programmes and activities on campus will be organized to encourage think-out-of-the-box mindset within students. Activities can be designed to capture three goals: Inspire, Equip and Showcase, and will engage teachers, students and stakeholders like industry advisors.

▪ InnoSpark

InnoSpark is a project pitching event for students to present their project ideas and recruit prospective teammates and academic advisors to form student interest groups on a wide range of topics like robotics, artificial intelligence, electric automobiles and healthcare technologies. The learning process helps to improve students' ability to effectively advocate an idea or project to a large group of audience. It also allows flexibility for students to form their own team and grow their community of interest and passion.

▪ Student Initiated Courses

"Learning by teaching" helps to train up students' confidence, organizational and communication skills. The Student Initiated Course is a student-run experiential activity to design, develop and teach a course on a technology-related topic under the supervision of a Faculty Advisor. Student or student teams may propose class(es) of special interest not covered in formal engineering curriculum.

▪ InnoEdge

Innovation Wing will house a number of thematic workshops for advanced technologies and/or research outcomes from pioneering Engineering projects in the Faculty of Engineering. The themes should have global significance like smart technology for better living, advanced and new materials, aviation technology and healthcare technology. The concept is borrowed from writer-in-residence to create opportunities for active exchange and learning.

■ InnoSharing

InnoSharing is a series of forums and dialogues organized to invite guest speakers of diverse backgrounds, such as entrepreneurs, industry partners, researchers or alumni, to share their insights on innovation-related topics and successful stories. The format of the sharing is flexible spanning from talks to one-on-one dialogue to panel discussion.

■ InnoShow

The Engineering InnoShow is a showcase carnival that celebrates and demonstrates the outcome of learning and creation at the end of every semester. The InnoShow offers a vibrant platform for students to create their own work outside classroom. The showcase also paints a concrete picture of what constitutes an exemplary work in Engineering. Participating students will have the opportunity to illustrate their inventive design, demonstrate their research and projects, harness constructive feedbacks from peers, teachers, industry experts and the public through knowledge exchange, and spin ideas into innovative (re)inventions.

■ InnoChallenge

To encourage engineering participation in tackling pressing issues of the time, InnoChallenge will be organized for all HKU Engineering students. Topic and problem set will be identified at the beginning of the year. Professors who are experts in those fields will be invited to provide training workshops.

This problem-based programme develops students' competencies in acquiring and applying knowledge, problem solving, teamwork, communication, and experimental skills. The judging panel will also provide suggestion on areas of improvement for strengthening their soft skills and technical skills.



InnoSupport for Engineering students

The InnoSupport for Engineering students is designed to support student projects with good potential to cover expenses of taking part in external competitions, incubation, entrepreneurship or startup programmes. The Fund will also support students (undergraduates, research postgraduates and taught postgraduates) to take part in prestigious overseas conferences, visits to eminent institutions, and/or attachment to esteemed overseas research laboratories, for the development of their research projects.

Visiting fellows

To further inspire students with new ideas and strengthen their skillsets and knowledge, overseas experts, makers or innovators will be invited to spend a maximum of one month in the Innovation Academy. Apart from sharing their knowledge and experience with the engineering community through workshops and sharing, the visiting fellows will offer coaching and consultation for students and give advice on student projects.

Website : <https://innoacademy.engg.hku.hk>



Enriching your learning experience

Student Exchange Programme



Engineering students can join either the University-level or Faculty-level exchange programme to study in prestigious institutions in the United States, United Kingdom, Australia, Germany, France, Denmark, Japan, Singapore, and so on for one semester or one academic year.

An average of 22% of engineering students are going abroad every year. Some examples of the Universities are:

Canada

McGill University
University of British Columbia
University of Calgary
University of Toronto
University of Waterloo



UK

King's College London
University College London
University of Cambridge
University of Edinburgh
University of Nottingham



France

CentraleSupélec, Graduate Institution of Engineering
Institut National des Sciences Appliquées de Toulouse



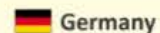
Finland

Aalto University



Denmark

Technical University of Denmark



Germany

Bremen University of Applied Sciences
Technische Universität Darmstadt



Japan

Tohoku University



South Korea

Korea Advanced Institute of Science and Technology (KAIST)



Taiwan

National Chiao Tung University



US

Drexel University
Embry-Riddle Aeronautical University
Princeton University
Tufts University
University of California, Berkeley
University of California, Los Angeles
University of Illinois-Urbana Champaign
University of Wisconsin-Madison



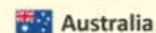
Spain

University of Navarra



Singapore

Nanyang Technological University
National University of Singapore



Australia

Monash University
University of Melbourne
University of New South Wales
University of Queensland
University of Sydney



Molly Rathore

BEng in Electrical Engineering

HKU Worldwide Student Exchange Programme in University of British Columbia, Canada

Professors at the University of British Columbia come from all across the world from different cultures and ethnicities. They paid attention to each and every need of students, from academic studies to students' personal needs. Besides, UBC's academic culture intensely focuses on continuous evaluation and class participation is highly encouraged.



Angel Woo

BEng in Computer Science & BBA (Major in Wealth Management)

University of Tokyo

Taking part in the Airbus Japan Business Project, I worked with Aerospace Engineering students to design business models for airlines. We also had the opportunity to visit the Airbus office and learn more about applications of technology in aviation.

In addition, I am participating in the JAXA Satellite Design Contest and the Nikkei Stock League (a virtual stock market competition). I've been enjoying a fruitful university life much thanks to this program.



Lau Sum

BEng in Engineering Science

The Exeter College Summer Programme in University of Oxford, UK

The summer programme was a fascinating overseas experience where I can study something about engineering or of personal interest. I can also feel the culture in the UK and the study life in Oxford.

Experiential Learning and Internship

Experiential learning is regarded as an integral part of students' learning experience, and internship / industrial training is the most important component of experiential learning, which is compulsory for most of the BEng degree programmes.

Internship

Students normally spend six to eight weeks in summer after their third year of study as internship. Common training partners are:

- Boeing Company
- CLP Power Hong Kong Limited
- Gammon Construction Limited
- HSBC
- J.P. Morgan
- Morgan Stanley

- Civil Engineering and Development Department (CEDD)
- Electrical & Mechanical Services Department (EMSD)
- HK Electric
- IBM



Shek Tsz-chun

BEng in Mechanical Engineering Internship at CLP Power

During my internship, we are required to develop an application to calculate the natural gas consumption rate for their power plant. It is a challenging but fruitful task. I also had the chance to join their Maintenance as well as the Operation Team to conduct daily maintenance work, as well as inspection and checking. As a final year students, it's definitely a nice experience to let me know what is going on in the industry.



Cheng Wai-kin, Arthur

BEng in Biomedical Engineering Summer Internship at Nano and Advanced Materials Institute (NAMI)

During the summer between my Year 3 and Year 4 studies, I had an opportunity to work at Nano and Advanced Materials Institute (NAMI) which is a research company located in Science Park. I worked in their healthcare sector and the focus of my team is nanofibers.

I had experiences with academic research before the internship, but not the market-driven ones. To my surprise, academic research and market-driven research have clear differences in terms of project goals and the development process of the product. It gave me a better understanding of different kinds of research and helped me in deciding my future career path.

Other than obtaining knowledge from discussion and presentation, I also gained practical skills in operating machines such as the scanning electronic microscope (SEM) for visualizing nanofibers. I want to thank the Engineering Faculty and NAMI for providing me such a precious opportunity to participate in such a meaningful research.

Service learning

Apart from internship, engineering students are encouraged to engage in social service and apply their professional knowledge to provide solutions to real world situations. The Department of Civil Engineering has established Project Mingde since 2003 and so far six major projects have been successfully built and completed in the Mainland, namely Mingde Lou, Gewu Lou, Zhengdong Jie Kindergarten, Chao Yang Bridge, Community & Cultural Centre at Dabao Village and JWDA Building at Daping Primary School. Five smaller scale sanitation, swimming and library facilities have also been built in Vietnam. For the 2020-21 academic year, students will continue to work on the service learning project of building a kindergarten at Duling Primary School in the Guangxi Province.



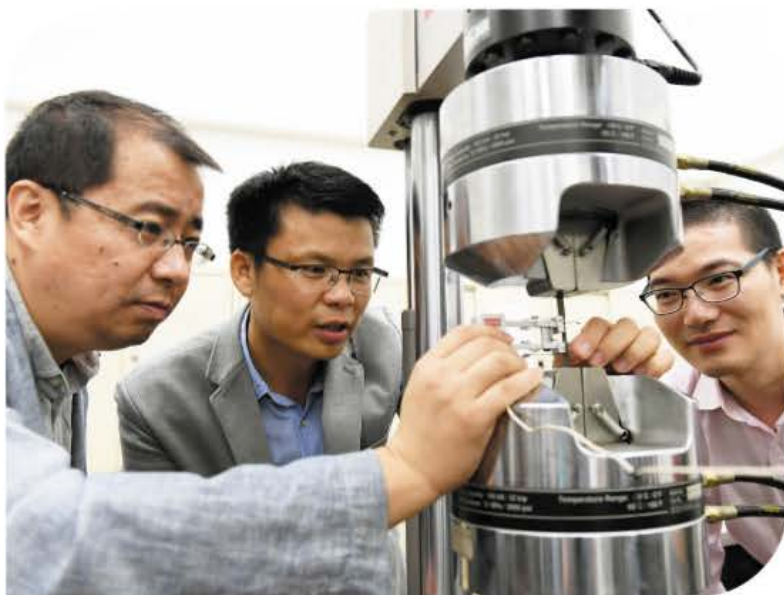
Leung Chun-hei

BEng in Civil Engineering

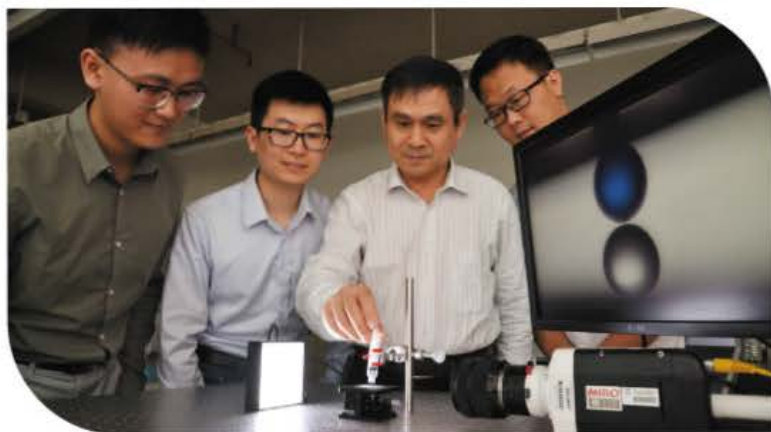
Project Mingde – Vietnamese Secondary School Swimming Pond Construction Project 2019

By participating in Project Mingde, we have a better understanding on the construction process and building techniques, such as mixing cement mortar, plastering, tile-laying and suchlike. These practical skills were essential for engineering students in their future career. Apart from learning how to build, we were given opportunities to communicate with the contractors and clients. Progress meetings were held to discuss the construction progress and problems encountered during the work. It was an adventurous and eye-opening experience for me.

Undergraduate Research Fellowship Programme



Academically strong students can undertake research under the guidance and supervision of academics who have a strong research track record and experience in training research postgraduate students, either in HKU or in prestigious overseas institutions like Stanford University, University of Illinois-Urbana Champaign, Imperial College London, University College London, University of California, Berkeley, University of Sydney, National University of Singapore and Tsinghua University. Students who perform well under the programme will be considered for early admission to research postgraduate programmes of HKU.



Nirmani Nayanathara

BEng in Electronic Engineering

Undergraduate Research Fellowship Programme at Stanford University, US

Joining the Undergraduate Research Fellowship Programme at the Stanford University truly opened my mind into the true impact that research could make and gave me a taste of what it would be like to pursue higher studies.

Integrated Study-Work Programme

Students can take a 6- to 12-month full-time internship in the engineering industry to benefit from the on-the-job training as future professional engineers.



Capstone Experience

Capstone Experience focuses on the integration and application of knowledge and skills that students have acquired throughout their undergraduate studies. The most important capstone experience for engineering students is the final-year-project.



Professional Preparation Programme

The Professional Preparation Programme aims at facilitating students to make informed career choices and broadening their knowledge in the job market, and to enhance students' employability. Students will be equipped with techniques in writing curriculum vitae and attending interviews, as well as nurturing better social networking and communication skills.



Student Achievements

At HKU Engineering, we focus in nurturing students with an all-rounded development. Students are encouraged to acquire hands-on experience and equip themselves with a global outlook. Many of them performed remarkably well in local and international competitions.



Best ever result of Hong Kong teams at the 23rd AIAA Design Build Fly Competition in U.S.A.



First runner-up at Global Grand Challenges Summit 2019 in London



Champion at the Payload Challenge 5 of British Model Flying Association 2019 University and Schools Flight Challenges



Kenny Siu and Jacky Lee

BEng in Civil Engineering

Champion of the Building Information Modelling Competition 2019 organised by the Construction Industry Council

We formed a team with three fellow schoolmates from the Faculty of Architecture. This multi-disciplinary collaborations not only allowed us to work with students from other disciplines, but also provided us opportunities to interact with architects, surveyors and urban planners. It was indeed a valuable experience that could hardly find in the university coursework. It equipped us to become an all-rounded civil engineers in the future.



Champion of the Fifth Louis Vuitton Supply Chain University Contest



A new Guinness World Record for "The Fastest 50m Swim by a Robotic Fish" set by VAYU Project



Champion of Smart Cooling Challenge at Hack Asia 2019 in Singapore



Second runner-up at DuckieTown AI Driving Olympics, ICRA, Montreal, Canada



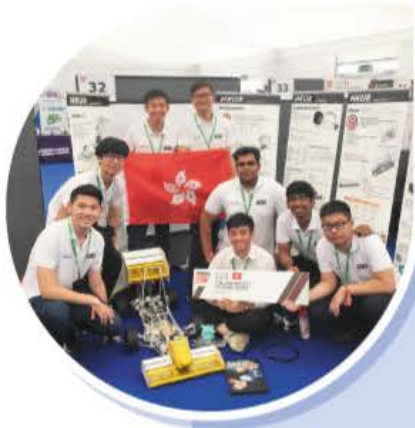
Recipients of Innovation and Technology Scholarship 2019



Most Creative Idea Award at SG:Digital Wonderland



First Prize Award (Innovation - Energy, Environmental and Chemical Engineering) at the 5th Hong Kong University Student Innovation and Entrepreneurship Competition



Luv Khanna

BEng in Mechanical Engineering

Team Leader of the HKU Racing Team

Overall Third Place at Formula Student Competition 2019 in UK

Formula Student provided us a valuable opportunity to get involved in motorsport-related project. It was a wonderful platform to be connected with professionals from the motorsports industry. We would like to thank the faculty advisors and the University in their continuing support in this project. We expect to build the entire vehicle and compete in the Class 1 category in 2020.



JS6963

BEng in Civil Engineering

Civil Engineering is the science and art of utilizing natural resources and power for the beneficial use of mankind. Civil Engineers are responsible for the design, construction and safe-keeping of our infrastructure and built environment. They ensure that our buildings, roads and bridges are safe and effective, our slopes are safe from failures, our stormwater drainage systems are adequate to prevent flooding, our wastewater are collected, and treated properly to protect our environment, and all components of our infrastructure are functioning in a safe, comfortable and sustainable manner.



Career Prospect:

Most of our graduates are employed by:

- Works Departments in the HKSAR Government
- Consultant Firms
- Construction Companies
- Developers

► Highlight of the programme:

The 4-year programme provides students with the academic qualification towards the professional status of a Civil Engineer. The Main Subject Areas of studies included:

1. Construction Management

2. Environmental Engineering

(e.g. wastewater treatment, solid waste treatment)

3. Geotechnical engineering

(e.g. engineering geology, soil mechanics, foundation design)

4. Structural engineering

(e.g. analysis and design of concrete and steel structures)

5. Transportation Engineering



Department of Civil Engineering

Tel: (852) 2859 2286

Email: civdept@hku.hk

Website: <http://www.civil.hku.hk/>

JS6963

BEng in Computer Science

► Highlight of the programme:

- **Flexibility** – Students can select electives from a wide variety of courses and use them as credits for a second major, a minor, double minors or the double-degree programme.
- **Final year project** – Students may choose amongst research-based projects, software development projects, and industry-based projects as their Capstone Experience.
- **Accreditation** – The programme is accredited by the Hong Kong Institution of Engineers (HKIE).
- **Internship** – Students normally spend eight to twelve weeks of paid work experience and professional development in the industry during the summer after the third year, or they can join the Integrated Study-Work programme to get one-year work experience.
- **Go on exchange** – Students may join the Exchange Programme to study in a foreign university for one semester or one year.
- **Research opportunity** – Outstanding students are having the opportunities to undertake research under the University Research Fellowship Programme.

The BEng(CompSc) programme is a programme that offers a solid education in the fundamental and essential areas of computing. It is a timely and practical curriculum that is essential for aspiring students and future IT professionals. On completion of this curriculum, students will be well-equipped with both basic and advanced knowledge in computer science, which aims to better prepare students to launch their career in the IT industry and/or to pursue postgraduate studies in this area.

Computer science is a fast growing discipline. Its importance is evident in the profound impact that the use of computers has on our lives. Computer science education is now as indispensable as any of the traditional programmes in any established university.



Career Prospect:

Computer Science graduates are very employable, not just for IT jobs but for other analytical roles too. The problem solving skills and analytical abilities that our graduates developed during their undergraduate study proved to be very valuable in many areas of endeavour.

Examples include IT professionals in different sectors of the society, say banking & finance, building & construction, the government, education, IT & telecommunication, property, and manufacturing, etc.

Department of Computer Science

Tel: (852) 2859 2180

Email: enquiry@cs.hku.hk

Website: <https://www.cs.hku.hk/programmes/beng-compsc/admission>



A mental health platform, for you and your therapist



JS6963

BEng in

Computer Engineering / Electrical Engineering / Electronic Engineering

Electrical and Electronic Engineering (EEE) is a broad engineering field consisting of a wide range of sub-fields such as microelectronics, computers, power engineering, telecommunication, control systems, and signal processing. The Department of EEE offers 3 bachelor degree programmes focusing on different sub-fields.



Career Prospect:

- Government, Transportation and Public Utilities
- Technology and Finance Companies
- Further Studies

► Highlight of the programme:

Computer Engineering (CE) -
jointly offered by EEE and CS

Data engineering: Big data processing /
Pattern analysis / Machine intelligence

Embedded systems: Reconfigurable
computing / Energy-efficient computer
architecture

Robotics and control: Humanoid robots /
Autonomous machines

Electrical Engineering (EE)

Power and energy: Power systems /
Renewable energy / Smart grids

Power Converters and Drives: Electric
railways / Electric vehicles / Industrial
Applications

Building services: Energy-efficient
lighting / Smart buildings

Electronic Engineering (ElecE)

Communications: WiFi / 5G / Internet of
things/ Cloud networks

Microelectronics and photonics:
Circuits & IC design / Sensing / Fiber
optics / Imaging / Biophotonics

Signal processing: Multimedia signals &
applications / Electronic commerce /
Data analytics



Department of Electrical and Electronic Engineering

Tel: (852) 3917 7093

Email: undergrad-admission@eee.hku.hk

Website: <https://www.eee.hku.hk>



JS6963

BEng in Industrial Engineering and Logistics Management

► Highlight of the programme:

The curriculum emphasises a balanced education that combines a robust scientific knowledge base with critical thinking, problem-solving, and communication skills needed in practice. The main areas of expertise in the curriculum are as follows:

Industrial engineering – Operational research, system simulation and analysis, man-machine interaction, product design and manufacturing, production planning, risk management, enterprise resource management, and system integration and analysis;

Engineering management – Engineering economics, project management, technology management, product design and manufacturing, operations management, and enterprise information management;

Logistics and supply chain management – Market analysis, customer relationship management, sourcing decisions, supplier selection, warehouse management, transportation logistics, inventory control, change management, planning and organisational skills.



BEng(IELM) focuses on the education of the theories and methodologies of industrial and logistics engineering and their applications to the development and management of operating systems. The aims are to improve the systems' effectiveness, efficiency, and safety for the production of quality and innovative products and services. The programme aims to develop the discipline knowledge and problem solving skills for students necessary to manage industrial and logistics engineering operations in the global business environment.

The programme has three specialisations, including industrial engineering, logistics management, and financial engineering. Core subjects involved in the programme include operational research, industrial analytics, simulation and modelling, quality management, global logistics engineering, robotics and automation, and human-systems interaction.



Graduates of the programme are professionals with in-depth knowledge of the major and executive skills for career growth, challenges, and opportunities, and with a strong desire to be future leaders who are achievement-oriented and visionary.

Career Prospect:

- Banking and Finance
- Consultancy
- Logistics and Transport
- Services and Manufacturing



Department of Industrial and Manufacturing Systems Engineering

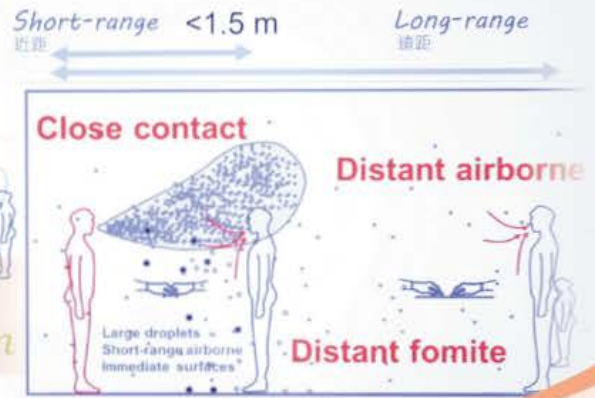
Tel: (852) 3917 2586
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 Website: <https://www.imse.hku.hk>
 Instagram: <https://bit.ly/3cWPPYF>





Major transmission routes of respiratory infection

呼吸道感染的主要傳播途徑



Professor Y. Li conducted research on opportunistic COVID-19 airborne transmission with insufficient ventilation.

Journal of Infection Control, 2016 Sep 2;41(9 Suppl):S102-8.

JS6963

BEng in Mechanical Engineering

Mechanical engineering plays a vital role in all engineering systems that involve moving parts, such as aeroplanes, building ventilation, automobile, medical equipment, power plants, robots, to name just a few. Mechanical engineers invent, design, analyze, operate and develop mechanical systems; they are trained to cope with a variety of challenges and have a very broad career spectrum.

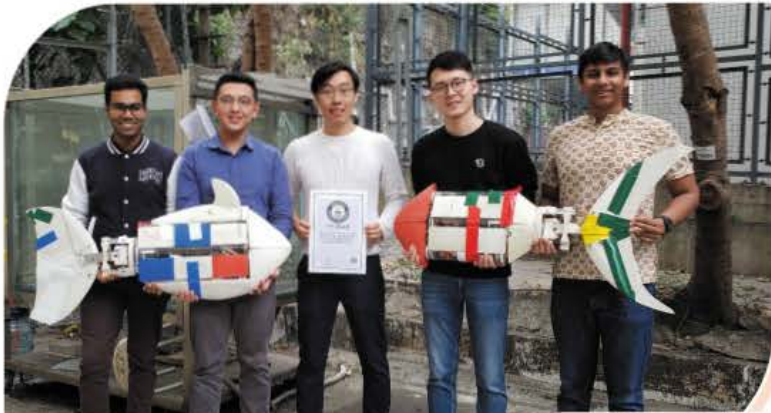


Four ME students won in the Smart Cooling Challenge at HACK ASIA 2019, Singapore.

► Highlight of the programme:

Teaching areas

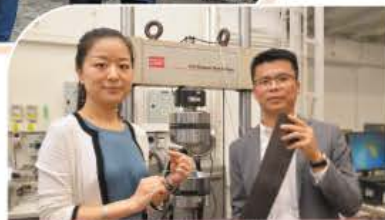
- Aeronautical Engineering
- Applied Mathematics & Computer Programming
- Biomechanical Engineering
- Building Services Engineering
- Control, Automation and Instrumentation
- Design & Manufacturing
- Dynamics, Vibration & Acoustics
- Energy & Environment
- Fluid Mechanics
- Management, Economics & Ethics
- Materials and Nano-technologies
- Mechanics of Solids
- Thermal Engineering



The Guinness World Record for "The Fastest 50 m Swim by a Robotic Fish".

Career Prospect:

- Manufacturing
- Transport & Public Utilities
- Building, Construction & Consulting Firms
- Government
- Finance and Insurance



Professor M.X. Huang made important breakthrough in producing high strength steel at unprecedented levels of fracture resistance.

The programme offers choices of guided electives in biomechanical engineering, building services engineering, energy engineering, environmental engineering, materials science & engineering and of course the other general mechanical engineering subjects.

The Department administers a Minor degree programme in Innovation and Design for students who are interested in product design and fabrication, robotics, 3D printing, drones, unmanned vehicles and computer programming.



Department of Mechanical Engineering

Tel: (852) 3917 2635

Email: mech@hku.hk

Website: <https://www.mech.hku.hk/>



JS6925

BEng in Biomedical Engineering

► Highlight of the programme:

Interdisciplinary and inclusive BME training

It offers foundation courses in electrical / mechanical engineering, biochemistry and life sciences. It also provides inclusive BME training that covers quantitative and design-oriented analysis to tackle biomedical diagnostic / therapeutic problems; hands-on learning (research / internship opportunities); and the exposure to a wide variety of advanced BME topics, ranging from tissue engineering, biomaterial and biotransport, bioinformatics, to biomedical imaging technologies / applications.

Diverse graduation pathways

The programme prepares the BME graduates with a broad career pathways in the biomedical / biotechnology industry in research and development (including co-founding biotechnology-related start-ups), practicing as biomedical engineers in hospital and other public sectors, and further education in graduate (Master or Ph. D. degrees) in Hong Kong or overseas.

The BEng(BME) (6925) degree is offered by the Faculty of Engineering in conjunction with LKS Faculty of Medicine at the University of Hong Kong. The goal of this programme is to cultivate the next generation of engineers who will play an integral role in improving health and quality of life through engineering designs/principles and technological innovations. Built upon a strong interdisciplinary foundation across basic sciences, mathematics, engineering and life sciences, this programme covers a wide scope of modern BME disciplines and a variety of BME-related experiential learning opportunities. Such inclusive training allows students to learn how to apply engineering principles to advance biomedical practices and research; and to establish professional, ethical and social responsibilities on health-related issues.



Career Prospect:

The BEng(BME) graduates will work in hospitals, public sector, start-up, global or local biotechnology/medical technology related companies. They will pursue further studies (Master or PhD degrees) in Hong Kong or overseas.

Biomedical Engineering Programme

Tel: (852) 3917 2803

Email: bmeengg@hku.hk

Website: <https://www.engineering.hku.hk/bmeengg/>



JS6951

BEng in Engineering Science

The BEng in Engineering Science programme is a unique science-based programme that aims at preparing future engineers and leaders of innovation who have the solid engineering skills and in-depth interdisciplinary knowledge needed to take on many of the global challenges that humankind faces.



To achieve the above, the programme features a flexible structure with five areas of concentration (majors)

- Biomedical Engineering
- Environmental Engineering
- Systems Analytics
- Energy Engineering
- Materials Engineering

This programme adopts a major/minor structure in which students select one of the five majors, and then pursue a second major in one of the remaining four majors; or a second major and/or minor(s) offered by the Faculty of Engineering or other faculties, including Arts, Business and Economics, Science, and Social Sciences.

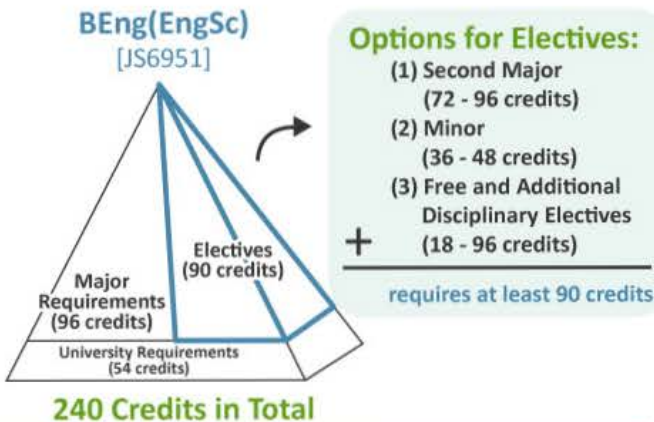
This programme is a special programme of HKU Engineering and it is the most flexible programme in the Faculty of Engineering. This is a multi-disciplinary programme providing wide range of career prospects.

Career Prospect:

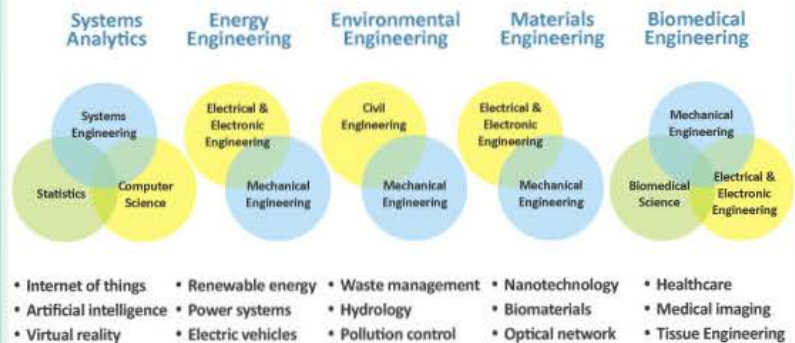
Majors	Possible careers
Biomedical Engineering, Energy Engineering	Biomedical Engineers, Research Engineers, Engineers in Power and Electricity Company, Mass Transportation Corporation, Civil Service
Environmental Engineering	Engineering Consultants, Scientific Officers, Civil Service
Materials Engineering, Systems Analytics	Materials Engineers, Research Engineers, Business Analyst, Data Scientist, Industrial and Systems Engineers

Highlight of the Programme:

Flexible Multi-disciplinary Curriculum



Five Multidisciplinary Majors



Department of Industrial and Manufacturing Systems Engineering

Tel: (852) 3917 2586

Email: engsc@hku.hk

Website: <https://www.imse.hku.hk/beng/beng-engsc>



JS6248

BASc in Financial Technology

► Highlight of the programme:

Interdisciplinary Knowledge and Skills - the programme includes subjects on computing, finance, policies and regulations, and cross-disciplinary courses. Students can take a 2nd major or double minors from other disciplines to broaden their knowledge and skills.

FinTech Focus with Essential Legal Studies - students have to take at least two legal subjects offered by the Law Faculty that are related to finance and technology.

Scholarships in FinTech - the HKU-SCF FinTech Academy will offer six entrance scholarships, each at the value of \$50,000 and renewable up to \$200,000, exclusively for BASc(FinTech) students with outstanding academic performance.

Enrichment and Research Opportunities Offered by HKU-SCF FinTech Academy.

Internship Schemes with Industry - there are ample internship opportunities, e.g. summer internship, 1-year internship, off-cycle internship, offered by various industrial partners, e.g., traditional banks, investment banks, and FinTech companies, etc.

The BASc(FinTech) degree programme, which is hosted by the Department of Computer Science, is one of the six BASc programmes that aim at nurturing future leaders with interdisciplinary knowledge and skills to address the contemporary and future challenges of the ever-changing world.

The main objective of the programme is to nurture financial technologists and entrepreneurs with essential knowledge in finance, technology, and regulations for taking up a leadership role in innovation and applications of Financial Technology. The programme combines subjects on computing, finance, and policies and regulations to give students a thorough grounding in the FinTech discipline. Besides discipline focus courses, students are required to take three cross-disciplinary courses that focus on leadership training, foundation of knowledge, and data analysis. Moreover, there will be internship opportunities for students to put theory into practice.



Career Prospect:

Graduates of this programme are expected to become FinTech professionals, leaders in the FinTech industry, and researchers in the FinTech discipline. They could take up a wide range of positions in FinTech, IT, finance, and regulatory compliance, or even have their own start-ups. The finance and IT industries have a wide range of jobs for this talent group such as blockchain developer, apps developer, compliance expert, cybersecurity analyst, etc.

Some may choose to continue their studies by pursuing a master or doctoral degree in Hong Kong or overseas.

Department of Computer Science

Tel: (852) 2859 2180

Email: enquiry@cs.hku.hk

Website: <https://www.cs.hku.hk/fintech-home>



JS6937

Global Engineering and Business Programme

(which leads to a Bachelor of Engineering/Bachelor of Engineering in Biomedical Engineering and Bachelor of Business Administration Double Degree)



Bachelor of Engineering/ Bachelor of Engineering in Biomedical Engineering

University and Engineering core courses

University and Engineering disciplines courses

- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Electronic Engineering
- Industrial Engineering and Logistics Management
- Mechanical Engineering
- Biomedical Engineering

Complete Engineering programme requirements and receive BEng degree

Year 1

Year 2-4

By end of Year 4

Year 5

Bachelor of Engineering Administration

Study 9 business courses from 5 major options:

- Entrepreneurship, Design and Innovation (*Candidates must undergo a selection process arranged by the Programme Coordinator of EDI*)
- Finance
- Human Resource Management
- Information Systems and Analytics (*Major in ISA is not open to candidates of BEng in Computer Science*)
- Marketing

Study BBA on self-financing basis and receive BBA Degree

The Faculty of Engineering and the Faculty of Business and Economics at The University of Hong Kong (HKU) jointly offer a Global Engineering and Business Programme (JS6937) in which students can receive a dual degree in Bachelor of Engineering and Bachelor of Business Administration after the completion of five years of study at HKU.

Career Prospect:

The majority of BEng graduates will work in the engineering sector, with other students serving the societies in the business, education, social and community sector. Around 15% of the BEng graduates will pursue further studies in Hong Kong or overseas. At the same time, as BBA graduates, students can also pursue a career in fields such as accounting, advertising, banking, brand management, customer relationship management, finance, human resource management, information systems, investment, marketing research and marketing management.



► Highlight of the programme:

- This is an inter-disciplinary programme in which students will acquire professional knowledge in both Engineering and Business in a global perspective.
- Students will undertake the first four years of study focusing in BEng or BEng(BME) curriculum, with a number of courses in Business. After completion, students will obtain a degree of BEng or BEng(BME). The fifth year of study is leading to the degree of BBA with one of the following majors:
 - ♦ Major in Entrepreneurship, Design and Innovation
(Note: Candidates must undergo a selection process arranged by the Programme Coordinator for EDI)
 - ♦ Major in Finance
 - ♦ Major in Human Resource Management
 - ♦ Major in Information Systems and Analytics
(Note: Major in ISA is not open to candidates of BEng in Computer Science)
 - ♦ Major in Marketing



Faculty of Engineering

Tel: (852) 3917 2803

Email: enggugad@hku.hk

Website: <https://www.ugadmissions.engg.hku.hk/gebp>

Admissions Requirements

JUPAS Route

Minimum entrance requirements to HKU Engineering:

BEng Programmes [JS6963], BEng(EngSc) [JS6951], BEng(BME) [JS6925]	
HKDSE Subject	Level
Core Subject	
English	3
Chinese	3
Mathematics	3
Liberal Studies	2
Elective Subject	
Physics/Combined Science with Physics component	3
Another elective subject	3

Level 3 in Extended Module 1 or 2 of Mathematics is preferred but not required.

BASc(FinTech) [JS6248]	
HKDSE Subject	Level
Core Subject	
English	5
Chinese	3
Mathematics	3
Liberal Studies	2
Elective Subject	
Another 2 elective subjects	3

Candidates with level 4 in English Language and good results in other HKDSE subjects will be exceptionally considered on a case by case basis.

GEBP (i.e. BEng/BEng(BME) & BBA Double Degree) [JS6937]	
HKDSE Subject	Level
Core Subject	
English	4
Chinese	3
Mathematics	4
Liberal Studies	2
Elective Subject	
Physics/Combined Science with Physics component	3
Another elective subject	3

Level 3 in Extended Module 1 or 2 of Mathematics is preferred but not required.

Non-JUPAS Route

Applicants with other local / international / national qualifications will be considered on an individual merit basis. Applicants for BEng, BEng(EngSc), BEng(BME) and GEBP are required to have good grades in Mathematics and Physics, while applicants for BASc(FinTech) are required to have good grades in Mathematics. Examples of some common qualifications are:

- GCE A-Level
- International Baccalaureate (IB)
- India Board Examination
- STPM/UEC under the Malaysian examination system
- Indonesian Examination System
- Canada Provincial Examinations
- SAT/Advanced Placement (AP) Test under the US system
- Associate Degree/Higher Diploma

Direct Admissions Scheme (DAS)

Graduates/final-year students of a recognised full-time Associate Degree (AD) or Higher Diploma (HD) programme of at least two years in duration from a community college or Institute of Vocational Education (IVE) under VTC in Hong Kong are welcome to apply for admissions to the third year of BEng programmes in the DAS.



Do I stand a chance?

JUPAS Admissions Scores of the top three local Engineering schools:

Broad-based Programme

Average Score* of Best 5 Subjects in 2020-21

HKU (1st in HK)

BEng [JS6963]
25.19

2nd in HK

Engineering
23.68

3rd in HK

Engineering
22.39

JUPAS Admissions Scores of BEng(BME), BEng(EngSc), GEBP and BAsC(FinTech)

Average Score* of Best 5 Subjects in 2020-21

BEng(BME) [JS6925]
29.00

BEng(EngSc) [JS6951]
26.21

GEBP [JS6937]
32.72

Average Score* of Best 6 Subjects in 2020-21

BAsC(FinTech) [JS6248]
35.91

*Under new HKU scoring system



How many students HKU Engineering admits?

As a reference, the number of intake students in 2020-21 is as follows:

**BEng [JS6963], BEng(EngSc) [JS6951],
BEng(BME) [JS6925], BAsC(FinTech) [JS6248] & GEBP [JS6937]**

JUPAS
403

Non-JUPAS
(Local + International +
Mainland)
218

Total
621



Is there any quota?

BEng programmes under the Common Code Admissions [JS6963]:

The quota of each department is set at 25% of the first year student population. (For reference, the quota of 2019 intake is 132). Students will choose their desired study programme after their first year of studies; if a particular programme has more applicants than the quota, students will be selected based on their academic performance.

BEng in Engineering Science [JS6951], BEng in Biomedical Engineering [JS6925], BAsC in Financial Technology [JS6248] and the Global Engineering and Business Programme [JS6937] directly admits students into their first year, and the quota of each programme is as follows:

 BEng in Engineering Science Quota: 20	 BEng in Biomedical Engineering Quota: 23	 BAsC in Financial Technology Quota: 24	 GEBP Quota: 14
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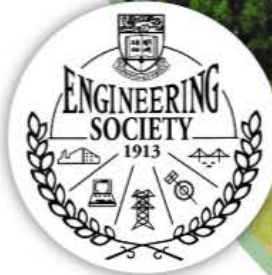
Will I be able to study my desired programme?

For academic year 2019-20 intake, 98% of students could get into their first or second choice of their desired programme with distribution as follows:

Programme	Number of Year 2 students
Civil Engineering	134
Computer Science	132
Mechanical Engineering	87
Computer Engineering	72
Electrical Engineering	42
Other Engineering programmes	43
TOTAL	510

Engineering Society, HKUSU

Engineering Society, HKUSU, which was established in 1913, is the oldest faculty-based society in the University of Hong Kong. Affiliated to the Hong Kong University Students' Union (HKUSU), Engineering Society, HKUSU has always been an important part of the Faculty. Apart from that, every engineering student is a member of the Society.



Engineering students in HKU Centennial Campus.



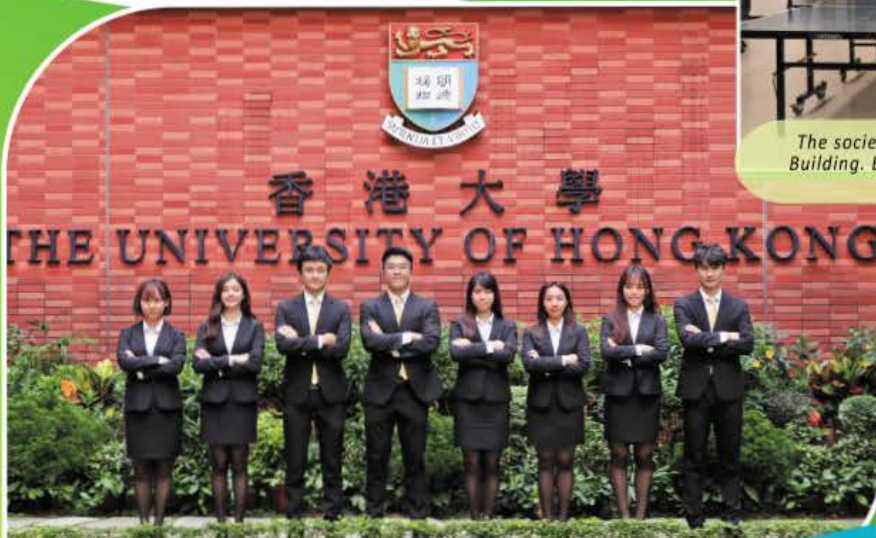
Engineering Society, HKUSU, in 1960.

Engineering Society, HKUSU, acts as a bridge between all engineering students, the Society and the Faculty. The Society also aims at serving all members through diverse activities and comprehensive welfare. From its earliest days, the Society was instrumental in building links with the industry and engineering professionals in Hong Kong.

Inheriting this tradition, Engineering Society, HKUSU organizes regular activities to members both for academic and recreational purposes. The Society also maintains strong links with professional bodies such as the Hong Kong Institution of Engineers.

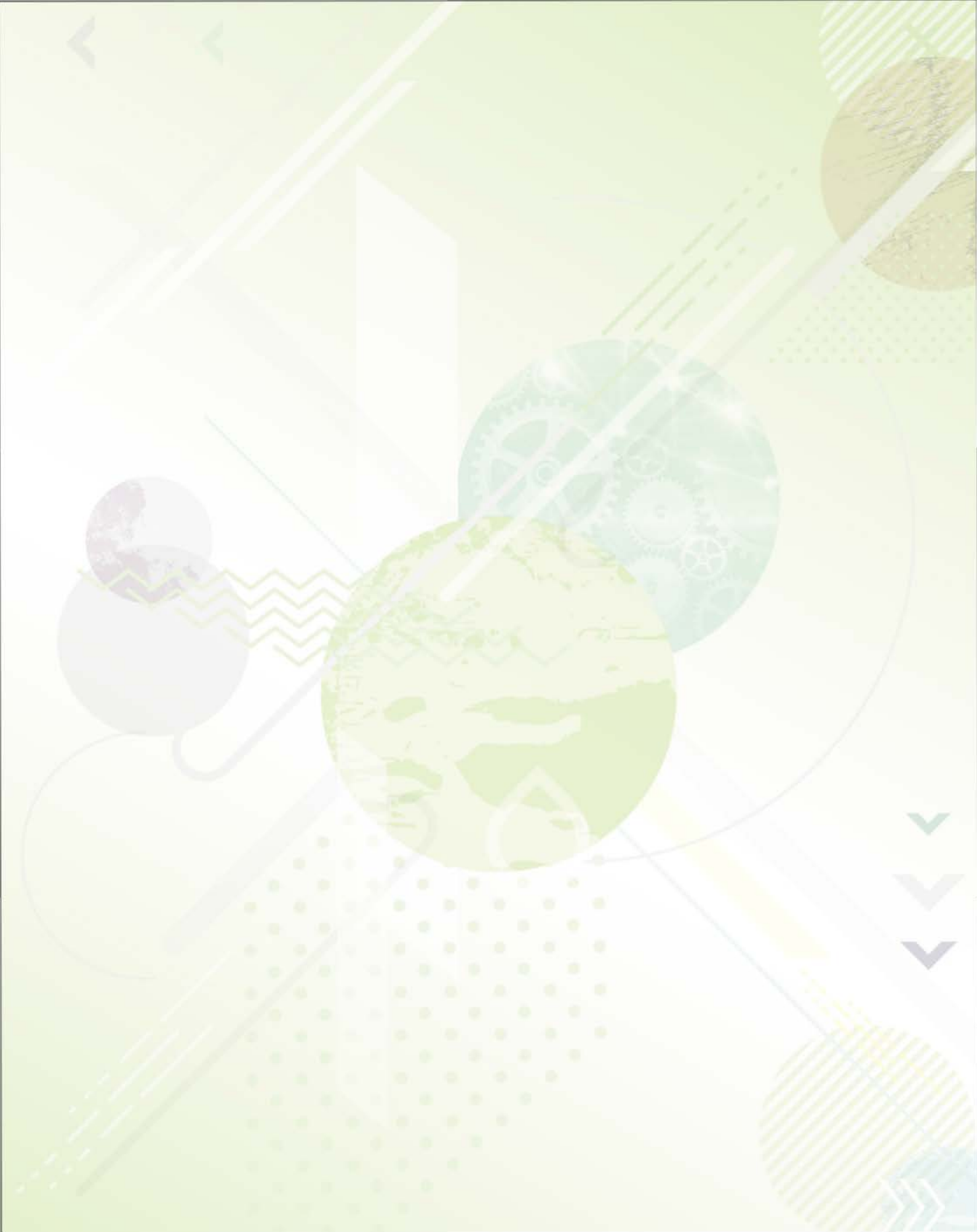


The society room of Engineering Society is in LG101, Composite Building. Engineering students can enjoy their time and purchase society products there.



The 107th Executive Committee of the Engineering Society, HKUSU, in 2020.

Contact:
Facebook Page: <https://www.facebook.com/engineeringsocietyhku>
Society Website: <http://www.enginsoc.hkusu.hku.hk/>
Email: enginsoc@hku.hk





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