

# School of Engineering Master of Science Program

Asia's Foremost Engineering University

- **Biomolecular Engineering and Health Informatics (BEHI)**
- **Chemical and Energy Engineering (CEE)**



## Master of Science Program in

- **Biomolecular Engineering and Health Informatics (BEHI)**
- **Chemical and Energy Engineering (CEE)**

Thinking of preparing yourself for senior positions in the engineering industry? Looking for reliable support to empower you to pursue your academic goals?

Welcome to the School of Engineering of The Hong Kong University of Science and Technology (HKUST), a global engineering powerhouse and one of Asia's top academic faculties.

## International Success

HKUST is a relatively new institution at only 32 years old, but it has consistently been ranked amongst the world's top research universities over the past decade.

**2<sup>nd</sup>**

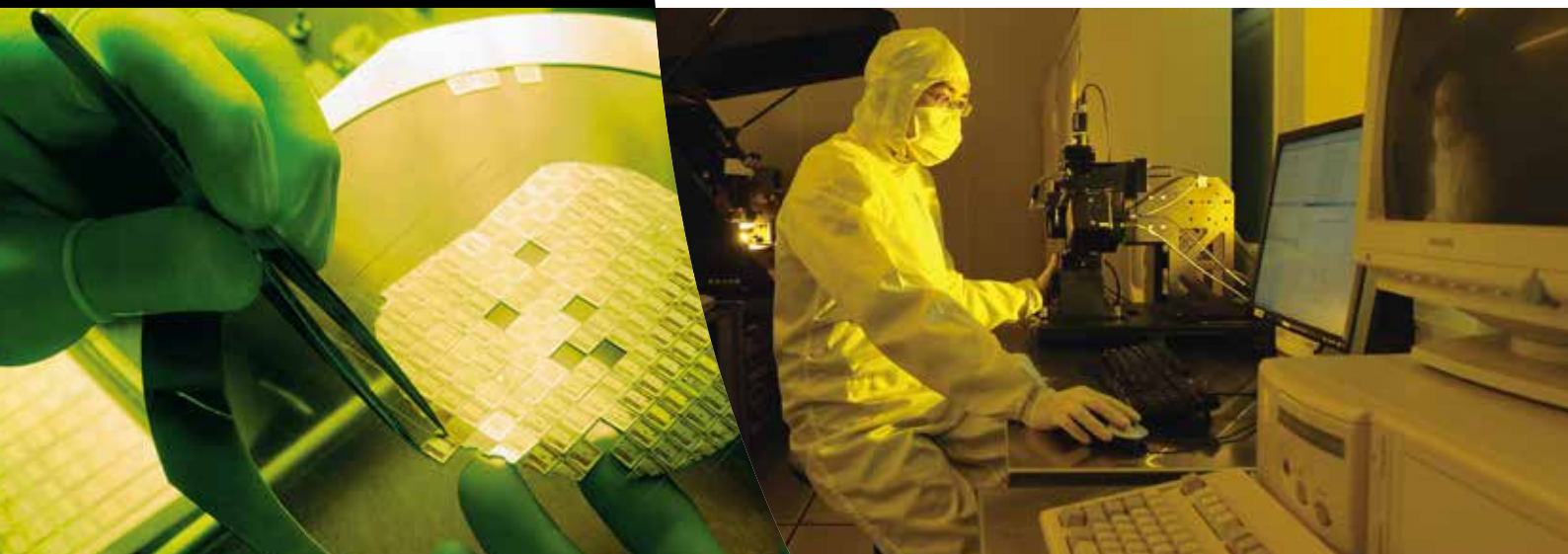
*Times Higher Education Young University Rankings 2023  
– World's Top 600+ Young Universities*

**26<sup>th</sup>**

*Times Higher Education World University Rankings 2023 – Engineering*

**30<sup>th</sup>**

*Global Employability University Ranking 2022*



## Why study at HKUST

- **Located in Hong Kong** – A vibrant cultural and business hub in Asia and a gateway to mainland China.
- **English language instruction** – Enable a broad range of students to access the world-class teaching and facilities.
- **A broad range of specializations available** – Ensure students' academic potential and interests are fulfilled.
- **Affordable tuition** – Between one-third and one-half of a comparable MSc in US and the UK.
- **Guaranteed 24-month visa to work in Hong Kong** – Enable non-local students to explore the myriad of opportunities available to them.
- **International faculty** – Majority originate from the world-class universities.

# MSc (BEHI)

## Program Objective

Biomolecular engineering involves molecular-level design and engineering of nature derived and artificial materials and devices for applications in areas such as drug delivery, therapeutics, biosensing, point-of-care diagnostics, synthetic and systems biology, and omics technology. Health informatics combines skills from mathematics, data sciences, and computer science to acquire, process, and analyze health-related data for optimal decision making. The program integrates biomolecular engineering and health informatics so that students will be uniquely prepared for career opportunities in these fields.

## Curriculum

Students are required to complete a total of 30 credits of coursework, made up of at least 15 credits of core courses and 6 credits of elective courses. All students may also take a maximum of 9 credits of non-BEHI postgraduate courses, subject to the approval of the Program Director.

### A Selection of Core Courses

- Bioimaging and Bio-signal Analysis
- Biomaterials Engineering
- Data Science in Bioengineering
- Fundamentals and Applications of Sensing Technology in Healthcare
- Genomics, Proteomics and Metabolomics
- Molecular and Cellular Bioengineering
- Synthetic Biology

### A Selection of Elective Courses

- Advanced Biochemical Engineering
- Artificial Intelligence and Medical Imaging
- Independent Project
- Integrated Design Project
- Pharmaceutical Engineering
- Protein Engineering
- Regulation, Ethics, Innovation, and Career Development in Biotechnology Industry

## Career Prospect

Upon completion of this program, graduates may find jobs in local and regional industries in pharmaceuticals, biomedical devices, diagnostics, biotechnology, and healthcare in general. Furthermore, the program stimulates curiosity and interest in emerging fields, which provide a foundation to continue with postgraduate programs or entrepreneurship.

Please refer to program website for the most updated course list:

<https://seng.hkust.edu.hk/msc/behI>

## Program Duration and Credit Requirement

| Term   | Full-time                     |
|--------|-------------------------------|
|        | 1 year to complete 30 credits |
| Fall   | 12 - 15 credits               |
| Spring | 12 - 15 credits               |

Subject to availability, classes are normally held on weekday evenings or Saturday afternoons. Each course typically meets once a week for approximately three hours.

# MSc (CEE)

## Program Objective

The backbone of this program is made up of energy, environment and nanotechnology, three of the key areas of chemical engineering for which HKUST has built its global reputation.

Moreover, the program enables students to hone their understanding of and expertise in product development, material sciences, energy conversion and utilization, renewable energies, power generation, carbon neutrality, and sustainable development.

## Curriculum

Students are required to complete a total of 30 credits of coursework, made up of at least 12 credits of foundation courses and 6 credits of elective courses. Students who do not possess a bachelor's degree in Chemical Engineering or Energy Engineering will be required to take at least 15 credits of foundation courses. All students may also take a maximum of 9 credits of non-CEE postgraduate courses, subject to the approval of the Program Director.

### A Selection of Foundation Courses

- Decarbonization Technologies
- Electrochemical Energy Technologies
- Energy, Environment and Sustainable Development
- Power Generation Technologies
- Process Reactor Selection and Design
- Theory and Practice in Heterogeneous Catalysis

### A Selection of Elective Courses

- Advanced Separation Processes
- Chemical Product Engineering
- Energy Integration and Optimization for Process Industry
- Independent Project
- Polymer and Materials Characterization Techniques
- Process Safety Management and Risk Analysis

## Career Prospect

Upon completion of this program, graduates could continue with postgraduate programs or work in chemical firms, electric vehicle manufacturers, renewable energy companies, etc.

Please refer to program website for the most updated course list:

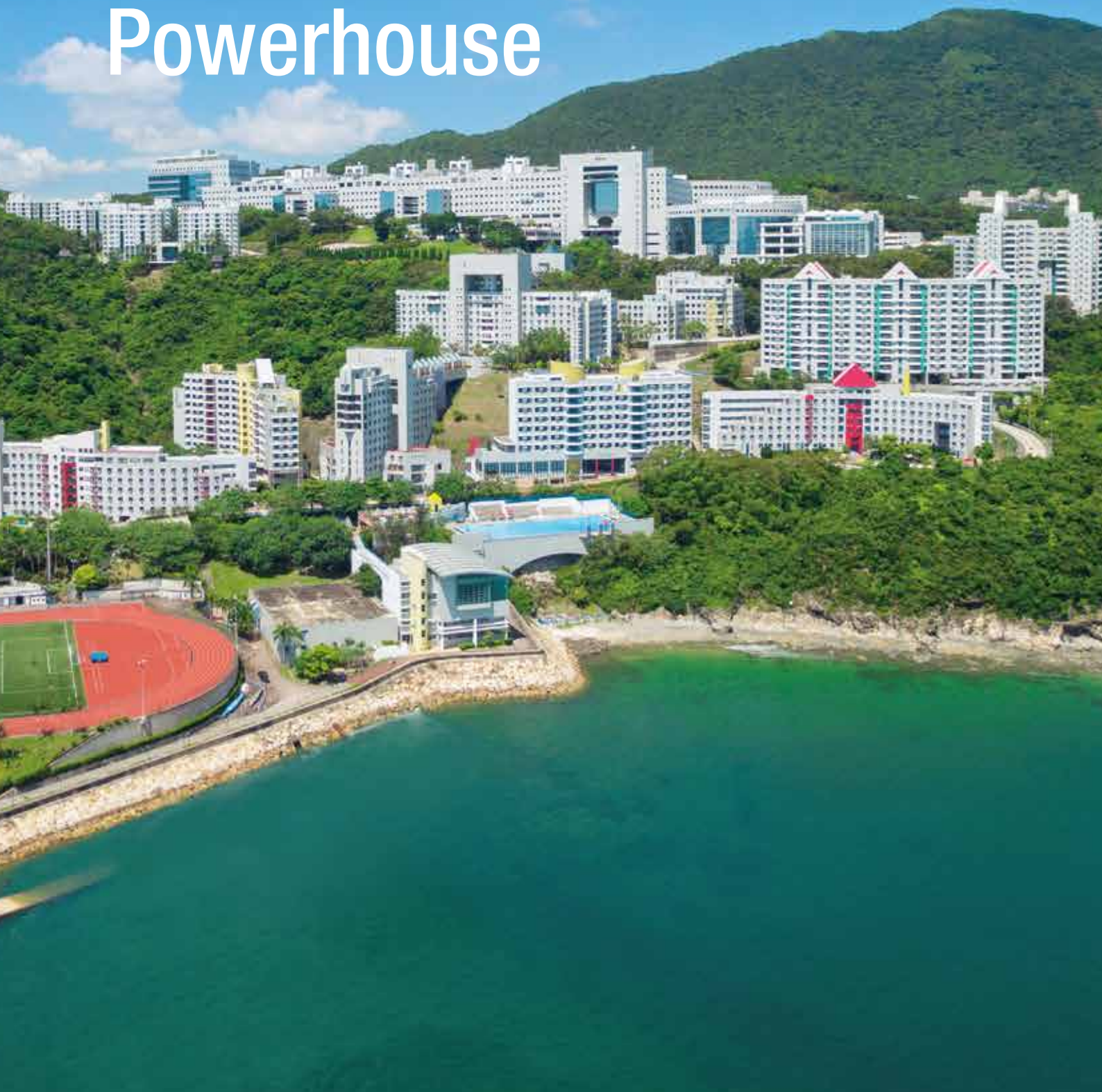
<https://seng.hkust.edu.hk/msc/cee>

## Program Duration and Credit Requirement

| Term   | Full-time                     | Part-time                            |
|--------|-------------------------------|--------------------------------------|
|        | 1 year to complete 30 credits | 2 - 2.5 years to complete 30 credits |
| Fall   | 12 - 15 credits               | 6 - 9 credits                        |
| Spring | 12 - 15 credits               | 6 - 9 credits                        |

Subject to availability, classes are normally held on weekday evenings or Saturday afternoons. Each course typically meets once a week for approximately three hours.

# A Global Engineering Powerhouse



## International Student Body

The MSc students are from all corners of the world. Their culture and academic background bring a unique quality to our engineering programs and allow them to learn from peers with remarkably diverse backgrounds.

### Countries of Origin:



## Program Fee / Scholarship / Financial Support

Please refer to program website <https://seng.hkust.edu.hk/programs> for the most updated program fee, scholarship and financial support.

Various scholarships are available, including:

- Arthur and Louise May Scholarship
- Asian Future Leaders Scholarship Program
- Entrance Scholarship
- Excellent Student Scholarship
- Hong Kong Talent Development Scholarship

Financial support is available to citizens from Brazil, Indonesia, the Republic of Kazakhstan, Norway, Russia, Sweden, and many more.

## Application

For admission details and procedures, please check: <https://fytgs.hkust.edu.hk/> Early application is recommended for non-local applicants for visa processing.

## Contact

✉ CEE: [msccee@ust.hk](mailto:msccee@ust.hk)  
BEHI: [mscbehi@ust.hk](mailto:mscbehi@ust.hk)

☎ (852) 2358 5771

📠 (852) 2719 3027

🌐 CEE: <https://seng.hkust.edu.hk/msc/cee>  
BEHI: <https://seng.hkust.edu.hk/msc/behi>



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