EMBRACE CHANGE
IN THE CENTURY OF
ENGINEERING
掌握變革・擁抱工程世紀

CHEMICAL AND BIOLOGICAL ENGINEERING

What is Chemical & Biological Engineering (CBE)?

Chemical and biological engineers **combine knowledge of physical, material and biological sciences to develop and commercialize new products and processes in a cost-effective, sustainable and safe manner**. Unique among engineers, we understand and can manipulate nature at the molecular level, yet know how to integrate and control city-sized complex systems like oil refineries. Our expertise is greatly sought after to solve all of mankind's most pressing problems, including energy crisis, environmental pollution, climate change, water scarcity, aging population and rising cost of healthcare.

CBE
DEPARTMENT OF CHEMICAL AND BIOLOGICAL ENGINEERING

HEALTH
- Pharmaceuticals
- Medical devices
- Regenerative medicine
- Food and drug safety
- Digital and wearable health

ENERGY
- Renewable energy
- Next-generation fossil fuels
- Batteries and fuel cells
- Carbon capture and storage
- Energy-efficient systems

ENVIRONMENT
- Green materials and processes
- Waste management
- Pollution remediation
- Water and air purification
- Environmental impact assessment

Broad & flexible curriculum for whole-person development

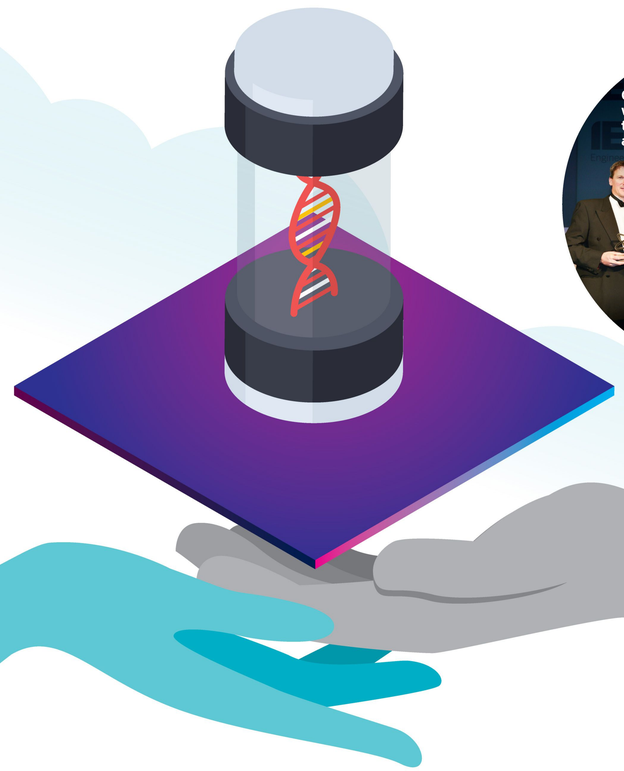
We offer four comprehensive, globally recognized degree programs to cater to students' career aspirations:
- BEng in Chemical Engineering
- BEng in Chemical and Environmental Engineering
- BEng in Sustainable Energy Engineering
- BEng in Bioengineering

Unique features of our programs include:

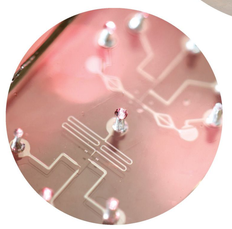
Solid foundation in the math and sciences, particularly the **molecular sciences**	Practical training in **engineering process and product design**	Ample opportunities to pursue research, including **overseas research exchange**	**Internships and co-op opportunities** integrated into the curriculum	Emphasis on **transferable skills** such as communication, teamwork, project management, design thinking, and data analytics

Inter-disciplinary training for innovation

Technological innovations often happen at the boundaries between disciplines and when scientists and engineers work together. Chemical and biological engineers combine an engineer's quantitative skills with the strongest training in the basic sciences among all engineering disciplines. Our students and graduates are active in scientific and industrial research spanning many exciting fields such as nanotechnology, renewable energy, waste management, and regenerative medicine.




CBE alumnus Dr Langston Suen won the Innovation Award from the Institution of Engineering and Technology in 2017




Summer internship at the coal gasification plant owned by Towngas

Did you know that ?

- We are the **only** chemical engineering department in Hong Kong
- We are ranked **34th worldwide** and 2nd in Greater China in 2019 (QS, Chemical Engineering Subject)
- Our student population is the most **gender-balanced** among all engineering departments

Versatility for a 21st Century Career

CBE students won the Silver Award in the HKUST President's Cup 2019 with their Final Year Project on "Fully Conformable Skin Sensors for Sports Fatigue Detection"

Our versatile graduates are employed across a broad spectrum of industries. They build and operate large-scale factories to manufacture chemicals, process food, generate power, and produce medicines. They research and invent new smart materials, new drugs and medical devices, new zero-emission processes. They act as environmental consultants in new projects to reduce their environmental impact. They become policy makers in governments, executives in large corporations, and financial analysts in banks, where they can apply their broad scientific knowledge and engineering skills, important for decision making in a technology-driven world.

GRADUATE SCHOOL DESTINATIONS OF OUR GRADUATES IN PAST 5 YEARS:

MIT, Stanford, Cambridge, ETH Zurich, UC Berkeley, Michigan, Wisconsin, Columbia, U Penn, HKUST

EMPLOYERS OF OUR GRADUATES IN PAST 5 YEARS:

HK & China Gas, China Light & Power, BASF, Arup, Caltex, Atal Engineering, AECOM, Procter and Gamble, Fortune Pharmacal, Green Island Cement, ASB Biodiesel, BNP Paribas, Standard Chartered, Cathay Pacific, HKSAR Government

香港科技大學
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

工學院
SCHOOL OF ENGINEERING

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