

# BSc in Chemistry (CHEM)

HKUST has dynamic, friendly and cooperative faculty members active in all areas of chemical research. Students in the BSc in Chemistry program will study all aspects of chemistry and related disciplines. General areas covered include analytical chemistry, inorganic chemistry, organic chemistry, and physical chemistry. Specialized areas include environmental chemistry, medicinal chemistry, biological chemistry, polymer chemistry, materials chemistry including nanostructures, advanced instrumentation, and advanced computational / theoretical chemistry.



## Program Highlights

This program provides excellent general training in both analytical thinking and problem-solving skill. The curriculum, which includes basic training in analytical, inorganic, organic, physical chemistry and modern laboratory techniques and skills, has been specifically designed to allow students maximum flexibility in determining the extent of their specializations.

The program offers four options for students to specialize in an area:

- Biomolecular Chemistry Option
- Environmental and Analytical Chemistry Option
- Materials Chemistry Option
- Pure Chemistry Option

## Study Pathway

In Year 1, students will enroll in science foundation courses according to their interests and background, as well as courses in other areas to fulfill the University Common Core requirement.

After completed the major pre-requisite courses, students can declare Chemistry (CHEM) as their major program at the end of Year 1. Students who are competent and interested in a research career can also opt for the International Research Enrichment (IRE) Track, which offers outstanding students the additional resources and opportunities to nurture their research abilities.

## Career Prospects

The CHEM graduates have gone on to become chemists or scientific officers in government laboratories or private accredited laboratories, school teachers, environmental consultants, chemical engineers, Chinese medicine researchers, pharmaceutical lab chemists, marketing representatives for lab equipment suppliers and computer companies, scientific patent officers, scriptwriters, reporters for science journals or magazines, as well as postgraduates that pursue higher degrees in both local and overseas universities.

## Research Excellence

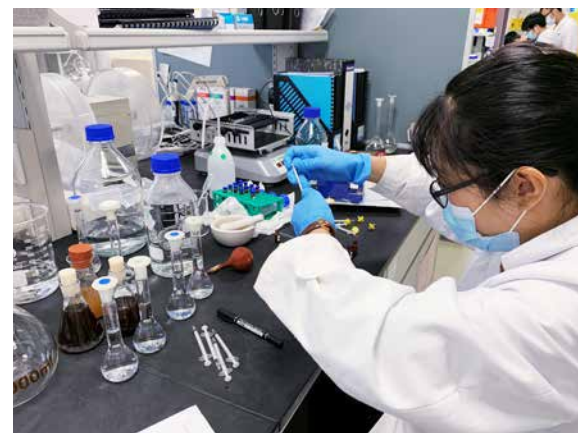
### Research Foci

- Analytical / Environmental Chemistry
- Synthetic Chemistry
- Materials Chemistry
- Physical / Computational Chemistry
- Chemical Biology / Medicinal Chemistry

The Department is well equipped with modern laboratories and state-of-the-art instruments. In addition, the Department has international links with major chemical industries and has played a key role in setting up university-wide collaborations involving universities, research institutions and companies in Hong Kong, Mainland China, Japan, Europe and the US.



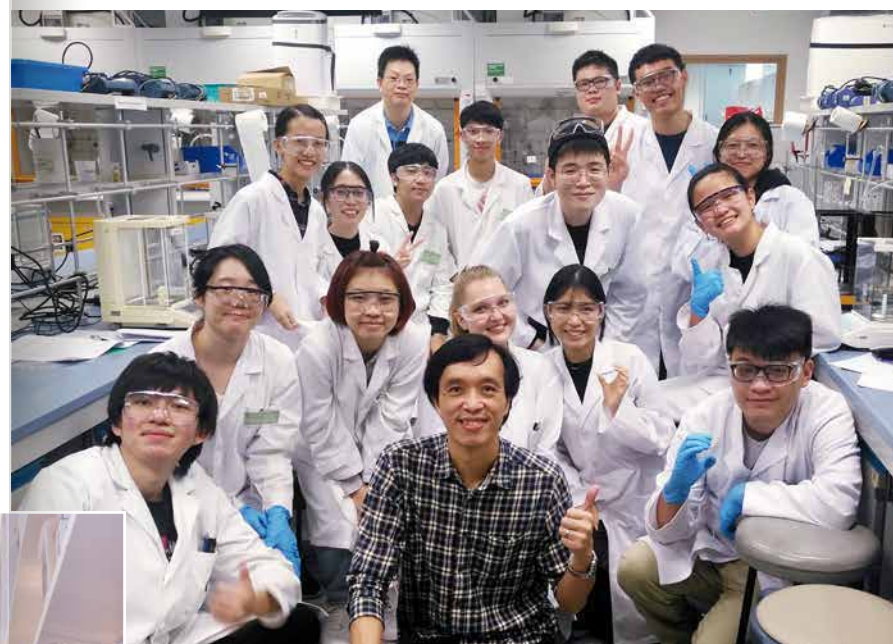
## Internship and Research Opportunities



A CHEM student gained commercial lab experience during an internship at a pharmaceutical company.



Student researchers work in team to design the experiment and draw insights from the data collected.



Hands-on lab experience is a key component of chemistry learning at HKUST.

A CHEM student got over two years of research experience in the research team for Aggregated-Induced Emission (AIE) under the Department of Chemistry.





## Words from CHEM Graduate

My favorite part of HKUST's Chemistry is its study options. Depending on your interest, you may declare an option from four different choices. Having my interest in biosensors and detection device chemistry, I devoted my last year to further studies in biomolecular and materials chemistry. Learning both synthesis and characterization of biomolecules, semiconductors and nanomaterials, I am happy to get skilled in the specific area of my interest.

### **Subin LEE**

BSc in Chemistry, Class of 2022

## Admissions Requirements

Prospective students may apply for the Science (Group B) program (JS5103) through direct choice in the JUPAS / Non-JUPAS admissions scheme.

Upon completion of the major pre-requisite courses at the end of the first year, students can declare major in BSc in Chemistry.

The pre-requisite courses include:

- CHEM 1008 Introductory Chemistry (for those with no chemistry background)
- CHEM 1020 General Chemistry I (for those with chemistry background)
- CHEM 1030 General Chemistry II (for those with CHEM 1020 or Grade C in CHEM 1008 or those with chemistry background)

## JOIN CHEM PROGRAM GO BEYOND YOUR LIMITS FIND TRANSFORMATION HERE

### **School of Science – Undergraduate Admissions**

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### **Department of Chemistry**

Website: [chem.hkust.edu.hk](http://chem.hkust.edu.hk)

CHEM website



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