

BSc in Chemistry (CHEM)

HKUST has dynamic, friendly and cooperative faculty members active in all areas of chemical research. Students of 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, instrumentation, forensic science, food safety, and computational / theoretical chemistry.



Program Highlights

This program provides excellent training in both analytical thinking and problem-solving skills. 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 completing the major pre-requisite courses, students can declare Chemistry 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 Chemistry 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 has established 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.

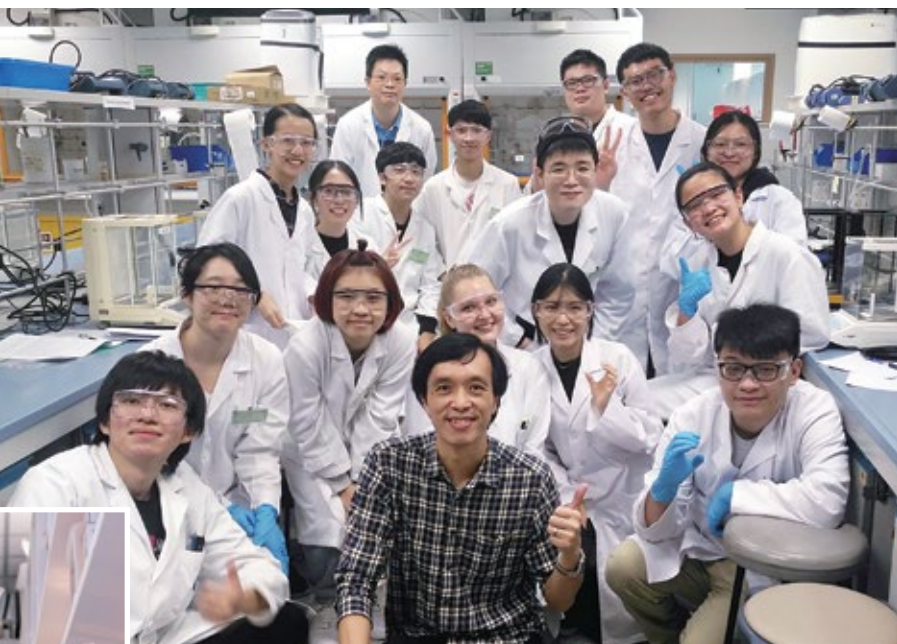


Internship and Research Opportunities



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

Student researchers work in a 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

I believe the best part about HKUST's Chemistry program is the abundance of opportunities for undergraduates to gain hands-on lab experience and engage in cutting-edge research projects. During my time at HKUST, I worked with three different professors in various fields, including computational chemistry, nanocrystal synthesis, and photocatalytic reactions. Through these experiences, I was able to explore my research interest and build a strong foundation for pursuing my PhD at a prestigious overseas university. The faculty members are incredibly welcoming and supportive, which is crucial for launching a successful research career. Additionally, the program offers excellent support for career developments, including teaching opportunities, education-focused courses, and internships in various chemistry-related jobs. In short, HKUST is an excellent place for you to explore and develop your interest in Chemistry.

Boyu OUYANG

BSc in Chemistry, Class of 2024

PhD Candidate, École Polytechnique Fédérale de Lausanne

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 Chemistry.

The pre-requisite courses include:

- CHEM 1011 General Chemistry A: Reactions, Thermodynamics, and Reaction Kinetics, and
- CHEM 1012 General Chemistry B: Atomic Orbitals, Molecules, and Bonding Theories

* Students without Chemistry background is required to complete CHEM 1008 Introductory Chemistry before taking CHEM 1011 and CHEM 1012

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CHEM website



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