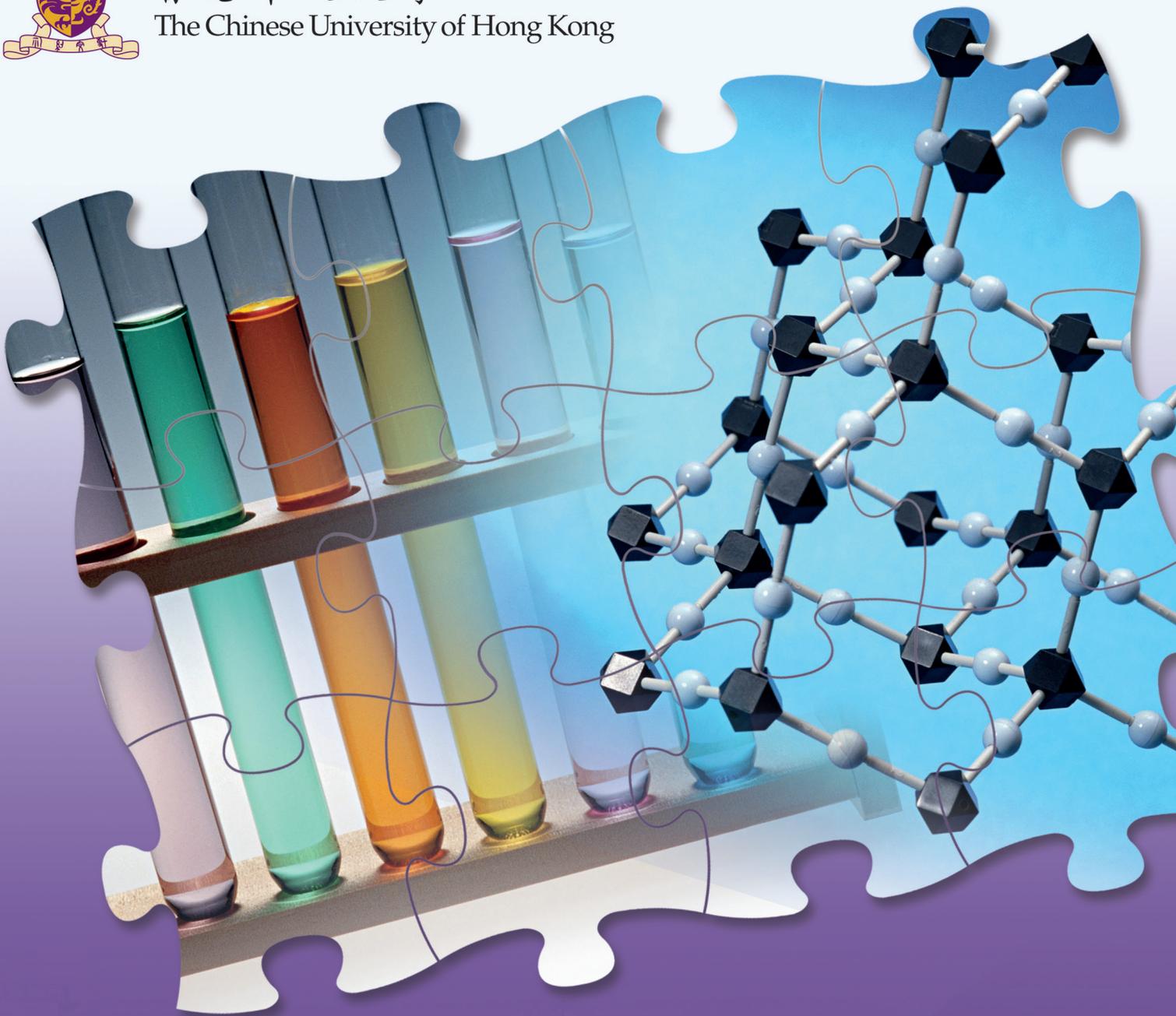




香港中文大學
The Chinese University of Hong Kong



DEPARTMENT OF
CHEMISTRY
化學系



香港中文大學理學院

FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

DEPARTMENT OF CHEMISTRY

CHEMISTRY plays indispensable roles in improving the quality of our life and our understanding of Nature. The development of renewable and sustainable energy sources, the synthesis of selective and potent drugs as well as the discovery of advanced materials all depend on sound knowledge of chemistry.

The Department of Chemistry is one of the largest and best equipped departments in the University. We have about 25 professors actively engaged in teaching and research in virtually all branches of frontier chemistry.

Currently there are about 250 undergraduate and 100 graduate students in the Department. The Department, which is located at the University Science Centre and the Run Run Shaw Science Building, occupies a total floor area of about 4,500 square metres. In recent years, the Department has spent a total amount of HKD 10,000,000 to upgrade facilities for teaching and research.

GRADUATE PROGRAMMES

The Department offers two graduate programmes, namely articulated MPhil-PhD programme and MSc in Accreditation Chemistry. The articulated MPhil-PhD programme involves course work and a thesis embodying the results of original research. Normally financial assistance in the form of postgraduate studentship is provided. The MSc programme is a self-financed programme which aims at giving graduates a thorough understanding of the concepts of quality assurance in laboratory operations and developing technical expertise in various fields of chemical testing.



*Mass Spectrometric
Analysis*



UNDERGRADUATE PROGRAMMES

Our Department offers both major and minor undergraduate programmes for students. The four-year major programme leading to a BSc degree is specifically designed for New Senior Secondary (NSS) entrants. The first two years of the programme focus on basic training in all disciplines of modern chemistry. In the third and fourth years of the programme, the Department offers a wide variety of advanced elective courses for the undergraduate Chemistry Majors. Final year students either take part in the Problem-based Learning projects or undergraduate thesis, in which students have to solve an authentic chemistry problem by conducting lab-based research work under the supervision and guidance of experienced instructors and postgraduate students.



*Undergraduate students
in a laboratory class*



*Exchange to
overseas university*

The Department offers various learning opportunities such as summer research and internship programmes. In each year, there are around 30 undergraduate students participating in summer research projects supervised by our faculty members, thereby gaining valuable practical experience. International exchange programmes to overseas universities, and internship programmes to gain exposure to the chemistry-related industrial and commercial sectors are also available.



Our faculty members are internationally recognised for their contribution in research. Three of our colleagues were elected as members of the Chinese Academy of Sciences, and five were named as Croucher Senior Research Fellows. Many of our professors were invited to be members of editorial boards of international journals, and honorary professors in various universities in China.

CAREER PROSPECTS

The career of our graduates is highly diversified. Besides continuing to pursue higher degrees in chemistry or related disciplines, some of our graduates are engaged in chemistry-related careers such as environmental monitoring, forensic science and quality assurance in government or private laboratories while some serve in primary or secondary schools. Some may choose to develop their careers in commerce and industry sectors based on their sound training in analytical perception and technical knowledge. Many of our former graduates are now taking prominent positions in different sectors, including:

- Secondary school principals
- Professors / lecturers in local and overseas tertiary institutions
- Chemists in the Government Laboratory
- Senior executive officers in chemistry-related businesses and industries
- Researchers in scientific research-and-development sectors



Graduation Photo



The Inauguration of the Chemistry Society

STUDENT ACTIVITIES

Work hard, play hard. Within the Chemistry Department, the chemistry society organises a wide range of social and recreational activities to enhance the benefits and interests of the students and to create a harmonic and desirable environment for studying.



Graduation Dinner



Joint University Soccer Match

COURSE STRUCTURE FOR BSC IN CHEMISTRY

Required Courses:

	Chemistry Major Programme	Enrichment Stream	Testing & Accreditation Stream
1st Year	See Faculty Package for Chemistry Majors		
2nd Year	<ul style="list-style-type: none"> • Student Oriented Teaching • Main Group Chemistry (with separate lab course) • Organic Functional Groups: Structure and Reactivity (with separate lab course) • Chemical Bonding • Thermodynamics and Chemical Equilibrium (with separate lab course) • Fundamentals of Spectroscopic Analysis • Analytical Chemistry (with separate lab course) 		
3rd Year	<ul style="list-style-type: none"> • Transition Metal Chemistry (with separate lab course) • Organic Reactions: Reactivity and Selectivity (with separate lab course) • Chemical Kinetics (with separate lab course) • Instrumental Analysis (with separate lab course) 		
	<ul style="list-style-type: none"> • Physical Organic Chemistry and Aromatics (with separate lab course) OR Molecular Spectroscopy (with separate lab course)	<ul style="list-style-type: none"> • Physical Organic Chemistry and Aromatics (with separate lab course) • Molecular Spectroscopy (with separate lab course) 	<ul style="list-style-type: none"> • One Advanced Chemistry Elective Course
4th Year	<ul style="list-style-type: none"> • Problem-based Learning OR Undergraduate Thesis • Two Advanced Chemistry Elective Courses 	<ul style="list-style-type: none"> • Undergraduate Thesis • Six Advanced Chemistry Elective Courses 	<ul style="list-style-type: none"> • Five Stipulated Advanced Chemistry Courses • Mass Spectrometry OR Bioanalytical Methods • Problem-based Learning OR Undergraduate Thesis
Major Units	58	70	64

Faculty Package for Chemistry Majors

Required:

- Principles of Modern Chemistry (with optional lab course)
- University Mathematics for Applications **OR** University Mathematics **OR** Methods of Matrices and Linear Algebra

Electives (choose at least one course from the below list):

- Essential Physics*
- General Physics*
- University Physics I – Introduction to Mechanics, Fluids and Waves*
- Biochemistry of Health and Disease
- Basic Concepts in Biological Sciences
- Introduction to Biological Sciences
- Introduction to Statistics
- Statistics for Life Sciences

Advanced Chemistry Elective Courses

Examples of the Courses:

- Advanced Inorganic Chemistry
- Organic Chemistry in Life
- Advanced Analytical Chemistry
- Accreditation of Laboratory Tests
- Food Testing and Environmental Analysis
- Asymmetric Organic Synthesis
- Pharmaceutical Chemistry
- Quantum Chemistry
- Molecular Modelling
- Mass Spectrometry
- NMR Spectroscopy
- Bioanalytical Methods
- Industrial Chemistry
- Chemical Applications in Forensic Science

* Chemistry students must pass one of the above physics courses to fulfill the graduate requirement and as a pre-requisite requirement for "Chemical Bonding" course in Year 2.

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