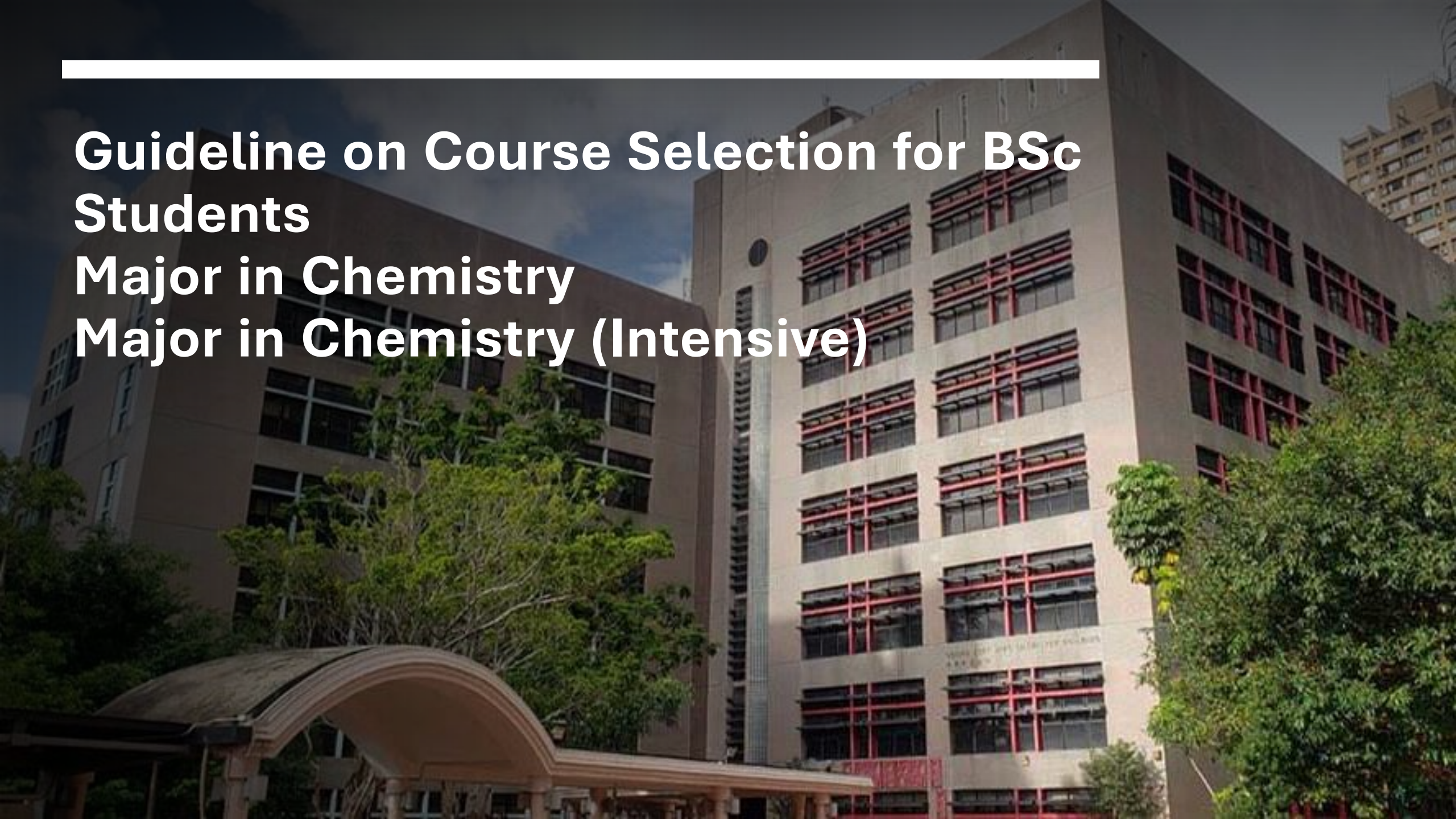


Guideline on Course Selection for BSc Students
Major in Chemistry
Major in Chemistry (Intensive)

Introduction

BSc Degree Requirements

Major Types

Major in Chemistry

Major in Chemistry (Intensive)

Minor in Chemistry

Curriculum Structure

Suggested First-Year Course Plan

BSc Degree Requirements

Credit Requirements

- Minimum of **240 credits** needed to graduate
- Maximum of 288 credits allowed

Planning Your Credits

Carefully plan how to spend your credits over 4 years of study

Example: Spend 30 credits per semester by taking 5 courses

Balance required courses with elective courses

2 Choices for the Chemistry Major Curriculum

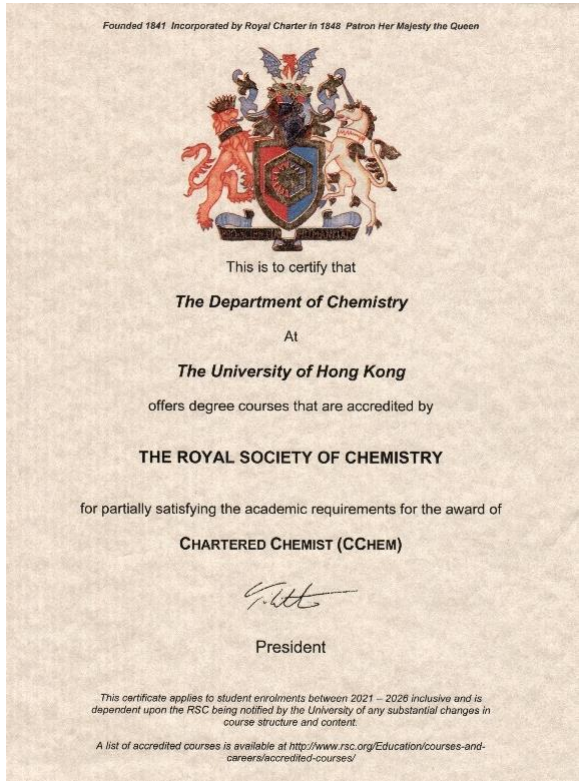
- **Major in Chemistry(96 credits)**
  - **Organic, Inorganic, Physical and Analytical Chemistry**
  - **Interdisciplinary Elective Courses**
- **Major in Chemistry (Intensive)**

  (144 credits)

  First accredited by RSC in 2015;

  Re-accredited in Mar 2021

ROYAL SOCIETY OF CHEMISTRY | ACCREDITED DEGREE



Founded 1841 Incorporated by Royal Charter in 1848 Patron Her Majesty the Queen

This is to certify that

The Department of Chemistry

At

The University of Hong Kong

offers degree courses that are accredited by

THE ROYAL SOCIETY OF CHEMISTRY

for partially satisfying the academic requirements for the award of

CHARTERED CHEMIST (CCHEM)

President

This certificate applies to student enrolments between 2021 – 2026 inclusive and is dependent upon the RSC being notified by the University of any substantial changes in course structure and content.

A list of accredited courses is available at http://www.rsc.org/Education/courses-and-careers/accredited-courses/

Major in Chemistry

Scan me!

Major in Chemistry (Intensive)

Scan me!

2 Choices for the Chemistry Major Curriculum

Major in Chemistry (96 Credits)

Science Foundation Courses	2 Courses, 12 Credits, Taken by all science major students
Disciplinary Core Courses	Includes 4 areas of Chemistry: Organic, Inorganic, Physical and Analytical Chemistry, 66 Credits
Disciplinary Elective Courses	Advanced and interdisciplinary Chemistry Courses, At least 12 Credits
Capstone Experience	Research Opportunity, Internships, Projects or Literacy review, At least 6 Credits

12+66+12+6 = 96 Credits

Major in Chemistry (Intensive)

Science Foundation Courses	2 Courses, 12 Credits, Taken by all science major students
Disciplinary Core Courses	Includes 4 areas of Chemistry: Organic, Inorganic, Physical and Analytical Chemistry, with more training in lab skills and interdisciplinary chemistry subjects, 102 Credits
Disciplinary Elective Courses	Advanced and interdisciplinary Chemistry Courses, At least 12 Credits, and at least 1 course with lab component
Disciplinary Elective in Math	1 Course, 6 Credits, related to mathematical skills
Capstone Experience	Research Opportunity, Internships, Projects or Literacy review, At least 12 Credits

12+102+12+6+12 = 144 Credits

BSc. Major in Chemistry (96 Credits) Core Courses

Science Foundation Courses (For All Science Major)

SCNC1111	Scientific method and reasoning	6 Credits
SCNC1112	Fundamentals of modern science	6 Credits

Chemistry Disciplinary Core Courses

CHEM1042	General chemistry I	6 Credits
CHEM1043	General chemistry II	6 Credits
CHEM2241	Analytical chemistry I	6 Credits
CHEM2341	Inorganic chemistry I	6 Credits
CHEM2441	Organic chemistry I	6 Credits
CHEM2541	Introductory physical chemistry	6 Credits
CHEM3241	Analytical chemistry II: chemical instrumentation	6 Credits
CHEM3341	Inorganic chemistry II	6 Credits
CHEM3441	Organic chemistry II	6 Credits
CHEM3443	Organic chemistry laboratory	6 Credits
CHEM3541	Physical chemistry: Introduction to quantum chemistry	6 Credits

BSc Major in Chemistry

Students are required to take <u>at least TWO</u> Level 4 advanced chemistry courses

CHEM4142	Symmetry, group theory and applications	6 credits
CHEM4143	Interfacial science and technology	6 credits
CHEM4144	Advanced materials	6 credits
CHEM4145	Medicinal chemistry	6 credits
CHEM4147	Supramolecular chemistry	6 credits
CHEM4148	Frontiers in Modern Chemical Science	6 credits
CHEM4241	Modern chemical instrumentation and applications	6 credits
CHEM4242	Advanced analytical chemistry	6 credits
CHEM4341	Advanced inorganic chemistry	6 credits
CHEM4342	Organometallic chemistry	6 credits
CHEM4441	Advanced organic chemistry	6 credits
CHEM4443	Integrated organic synthesis	6 credits
CHEM4444	Chemical biology	6 credits
CHEM4542	Computational chemistry	6 credits
CHEM4543	Advanced physical chemistry	6 credits

BSc. Major in Chemistry (Intensive) (144 Credits) Core Courses

Science Foundation Courses

(For All Science Major)

SCNC1111	Scientific method and reasoning	6 Credits
SCNC1112	Fundamentals of modern science	6 Credits

Chemistry Disciplinary Core Courses (102 Credits)		
CHEM1042	General chemistry I	6 Credits
CHEM1043	General chemistry II	6 Credits
CHEM2241	Analytical chemistry I	6 Credits
CHEM2341	Inorganic chemistry I	6 Credits
CHEM2441	Organic chemistry I	6 Credits
CHEM2541	Introductory physical chemistry	6 Credits
CHEM3143	Introduction to materials chemistry	6 Credits
CHEM3241	Analytical chemistry II: chemical instrumentation	6 Credits
CHEM3341	Inorganic chemistry II	6 Credits
CHEM3441	Organic chemistry II	6 Credits
CHEM3443	Organic chemistry laboratory	6 Credits
CHEM3445	Integrated laboratory	6 Credits
CHEM3541	Physical chemistry: Introduction to quantum chemistry	6 Credits
CHEM3542	Physical chemistry: statistical thermodynamics and kinetics theory	6 Credits
CHEM4142	Symmetry, group theory and applications	6 Credits
CHEM4144	Advanced materials	6 Credits
CHEM4241	Modern chemical instrumentation and applications	6 Credits

BSc Major in Chemistry (Intensive)

Students are required to take at least TWO Level 4 advanced chemistry courses, with at least 1 course with lab component

CHEM4145	Medicinal chemistry	6 credits
CHEM4147	Supramolecular chemistry	6 credits
CHEM4148	Frontiers in modern chemical science	6 credits
CHEM4242	Advanced analytical chemistry (Lab)	6 credits
CHEM4341	Advanced inorganic chemistry	6 credits
CHEM4342	Organometallic chemistry (Lab)	6 credits
CHEM4441	Advanced organic chemistry	6 credits
CHEM4443	Integrated organic synthesis (Lab)	6 credits
CHEM4444	Chemical biology	6 credits
CHEM4542	Computational chemistry (Lab)	6 credits
CHEM4543	Advanced physical chemistry	6 credits

Why should I major in Chemistry (Intensive), an RSC Accredited degree?

Knowledge & Skills

ensuring you have the knowledge and skills you need to succeed

Employability

enhancing your employability and mobility – the RSC accredited Chemistry Intenstive Programme is recognized around the world

Professional

giving you automatic entry to the professional categories of the Royal Society of Chemistry membership and all the benefits it brings

Career Route

providing a route to professional awards, including Chartered Chemist (CChem)

BSc Major in Chemistry & Chemistry (Intensive) Capstone Requirement

The earliest that a student is allowed to take a capstone course (at least 6 credits) is their year 3 study, after the completion of at least 24 credits of advanced level courses (ie Level 3 / Level 4 courses in the Chemistry Major Curriculum)

CHEM3999: Directed studies in chemistry (6 credits) Chem / Chem (Intensive)

CHEM4910: Chemistry literacy and research (6 credits) Chem

CHEM4911: Capstone experience for chemistry undergraduates: HKUtopia (6 credits) Chem

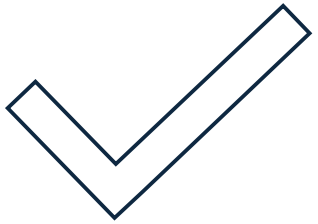
CHEM4966: Chemistry internship (6 credits) Chem / Chem (Intensive)

CHEM4999: Chemistry project (12 credits) Chem / Chem (Intensive)

Minor in Chemistry

Minor in Chemistry

Scan me!



Credit Requirements

42 credits needed

Course Requirements

7 courses from the Department of Chemistry

“UG5” REQUIREMENTS: LANGUAGE REQUIREMENTS AND COMMON CORE

UG5 Requirement = University Graduation Requirements	Successful completion of 12 credits (2 Courses) in English language enhancement
	Successful completion of 6 credits (1 Course) in Chinese language enhancement;
	Successful completion of 36 credits of courses in the Common Core Curriculum, comprising at least one and not more than two courses from each Area of Inquiry
	Successful completion of a capstone experience.
	Successful completion of any other non-credit bearing courses as required.

University Requirements for All BSc Students regarding language

UG5 (Language Course Requirements)	• 2 English courses • 1 Chinese course
Course Required	• CAES1000 (Eng): Open only for Year 1 students • CAES9820 (Eng): Open only for Year 2 students • CSCI9001 (Chin): Open only for Year 3 students

University Requirements for All BSc Students regarding Common Core courses

Science, Technology & Big Data (CCST)

Arts and Humanities (CCHU)

Global Issues (CCGL)

China: Culture, State and Society (CCCH)

6 common core courses from 4 Areas, total 36 credits

BSc Chemistry Major Credit Summary

Total Credits Calculation

- Chemistry Major = 96 credits
- 96 + 36 (CC courses) + 18 (Language Courses) = 150 credits

Students are required to complete at least 240 credits for graduation

Remaining Credits

- 240 - 150 = 90 credits remain

Usage of Remaining Credits

- Complete a second major
- Complete a minor
- Free elective courses

Intensive Chemistry Major: Credit Summary

Total Credits Calculation

- Chemistry (Intensive) Major = 144 credits
- 144 + 36 (CC courses) + 18 (Language Courses) = 198 credits

Students are required to complete at least 240 credits for graduation

Remaining Credits

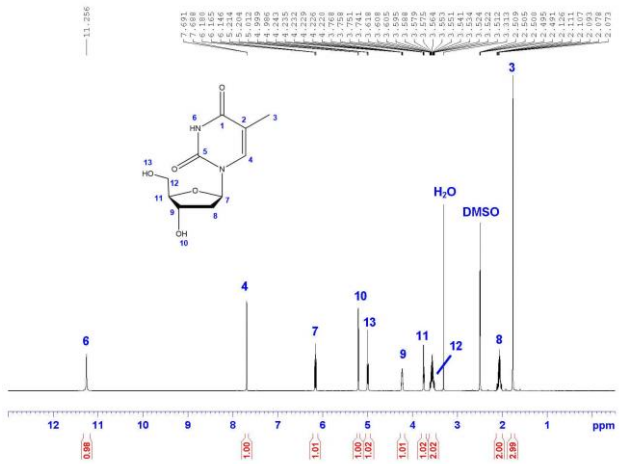
- 240 - 198 = 42 credits remain

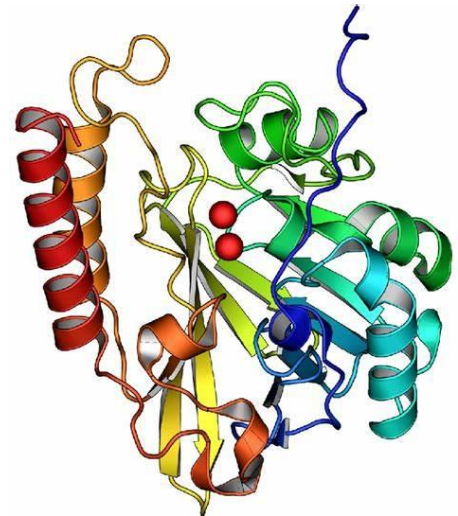
Usage of Remaining Credits

- Complete a minor
- Free elective courses

Free Elective Courses

CHEM3141	Environmental chemistry	6 credits
CHEM3143	Introduction to materials chemistry	6 credits
CHEM3144	Fundamentals of Nuclear Magnetic Resonance	6 credits
CHEM3342	Bioinorganic chemistry	6 credits
CHEM3442	Organic chemistry of biomolecules	6 credits





Recommended Course Load

- Take at least 5 courses (30 credits) per semester
- Up to 6 courses (36 credits) if capable

First Year Benefits

- Complete essential UG5 requirements (18 credits)
- Progress on Disciplinary Core Courses (24-36 credits)
- Explore electives or start minor/second major

Future Flexibility

- Focus on specialized coursework
- Pursue research opportunities
- Take on a second major or minor
- Exchange Opportunity

Academic Advisors' Support

- Meet your academic advisor to discuss your academic plan and progress

Suggested First-Year Course Plan

Year 1 Semester 1 Courses

- Disciplinary Core Courses: CHEM1042 (6 credits)
- Foundation Course in Chemistry!!!!

Year 1 Semester 2 Courses

- Disciplinary Core Courses: CHEM1043 (6 credits), Level 2 Chemistry Courses e.g. CHEM2241, 2341 and 2441
- Disciplinary Elective Course related to math skills for Chemistry: CHEM1044

Additional Notes

- Complete Common core courses and language courses
- Free up time in senior years to focus on major/minor/free electives

Feel free to consult Dr. Angela Yuen (Associate Head of Teaching & Learning) to discuss your study plan.

Email: maiyan@hku.hk
Office: Room 407 Hui Oi Chow Science Building