

## Enquiry for Major/Minor/Programme Requirements

Minor Title                      Minor in Chemistry

Offered to students            **2022-2023**  
admitted to Year 1 in

**Objectives:**

The Minor in Chemistry aims to provide students with fundamental knowledge and skills of chemistry. The minor curriculum is flexible. Students of different majors in science and other disciplines will be able to select courses that complement their major areas of study as well as enhance their knowledge in chemistry.

**Learning Outcomes:**

By the end of this programme, students should be able to:

- PLO 1 : understand and apply the basic concepts of chemistry (by means of coursework and laboratory-based learning in the curriculum)
- PLO 2 : apply chemistry concepts in other subjects (by means of coursework and laboratory-based learning in the curriculum)
- PLO 3 : transfer the basic concepts to complement their major area of study (by means of coursework and laboratory-based learning in the curriculum)

**Impermissible Combination:**

Major in Chemistry  
Major in Chemistry (Intensive)

**Required courses (42 credits)**

**1. Introductory level courses (24 credits)****Disciplinary Core Courses (12 credits)**

CHEM1042 General chemistry I (6)

CHEM1043 General chemistry II (6)

**Disciplinary Electives (12 credits)***At least 12 credits selected from the following courses:*

CHEM2241 Analytical chemistry I (6)

CHEM2341 Inorganic chemistry I (6)

CHEM2441 Organic chemistry I (6)

CHEM2442 Fundamentals of organic chemistry (6)

CHEM2541 Introductory physical chemistry (6)

CHEM2441 and CHEM2442  
are mutually exclusive.CHEM2441 and CHEM2442  
are mutually exclusive.**2. Advanced level courses (18 credits)****Disciplinary Electives (18 credits)***At least 18 credits of advanced level Chemistry courses (CHEM3XXX or CHEM4XXX level), subject to prerequisite requirements. The current course list includes courses in List A:**List A*

CHEM3141 Environmental chemistry (6)

CHEM3142 Chemical process industries and analysis (6)

CHEM3143 Introduction to materials chemistry (6)

CHEM3146 Principles and applications of spectroscopic and  
analytical techniques (6)

CHEM3241 Analytical chemistry II: chemical instrumentation (6)

CHEM3242 Food and water analysis (6)

CHEM3243 Introductory instrumental chemical analysis (6)

CHEM3341 Inorganic chemistry II (6)

CHEM3342 Bioinorganic chemistry (6)

CHEM3441 Organic chemistry II (6)

CHEM3442 Organic chemistry of biomolecules (6)

CHEM3443 Organic chemistry laboratory (6)

CHEM3445 Integrated laboratory (6)

CHEM3541 Physical chemistry: Introduction to quantum chemistry  
(6)CHEM3542 Physical chemistry: statistical thermodynamics and  
kinetics theory (6)

CHEM3999 Directed studies in chemistry (6)

CHEM4142 Symmetry, group theory and applications (6)

CHEM4143 Interfacial science and technology (6)

CHEM4144 Advanced materials (6)

CHEM4145 Medicinal chemistry (6)

CHEM4147 Supramolecular chemistry (6)

CHEM4148 Frontiers in Modern Chemical Science (6)

CHEM4241 Modern chemical instrumentation and applications (6)

CHEM4242 Analytical chemistry (6)

CHEM4341 Advanced inorganic chemistry (6)

CHEM4342 Organometallic chemistry (6)

CHEM4441 Advanced organic chemistry (6)

CHEM4443 Integrated organic synthesis (6)

CHEM4444 Chemical biology (6)

CHEM4542 Computational chemistry (6)

CHEM4543 Advanced physical chemistry (6)

CHEM4544 Electrochemical science and technology (6)

CHEM4910 Chemistry literacy and research (6)

CHEM4911 Capstone experience for chemistry undergraduates:  
HKUtopia (6)

CHEM4966 Chemistry internship (6)

CHEM4999 Chemistry project (12)

**Notes:**

1. Double counting of credits is not permissible for major-minor or double-minors combinations. For a course appears as a core course ("disciplinary core") in the major-minor or double-minors, students have to make up the credits by taking replacement course in the minor. For details, please refer to "Students taking double Majors, Major-Minor or double Minors with overlapping course requirements" in the BSc syllabuses.

2. Students must have level 3 or above in HKDSE Chemistry or equivalent to take this major. Students who do not fulfill this requirement are advised to take CHEM1041 Foundations of chemistry.

**Remarks:**

Important! Ultimate responsibility rests with students to ensure that the required pre-requisites and co-requisite of selected courses are fulfilled. Students must take and pass all required courses in the selected primary science major in order to satisfy the degree graduation requirements.