

# Enquiry for Major/Minor/Programme Requirements

Minor Title	Minor in Chemistry
Offered to students admitted to Year 1 in	2019-2020

## 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 (Intensive) in Chemistry

### 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)

CHEM2441 and CHEM2442 are mutually exclusive. CHEM2441 and CHEM2442 are mutually exclusive.

- CHEM2541 Introductory physical chemistry (6)

#### 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)  
CHEM3244 Analytical techniques for pharmacy students (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.