

Course Syllabus

**offered by Department of Chemistry
with effect from Semester A 2020/21**

This form is for the completion by the Course Leader. The information provided on this form is the official record of the course. It will be used for the City University's database, various City University publications (including websites) and documentation for students and others as required.

Please refer to the Explanatory Notes on the various items of information required.

Prepared / Last Updated by:

Name: Prof. Kenneth Kam-Wing Lo Academic Unit: Department of Chemistry

Phone/email: 3442 7231 /
bhkenlo@cityu.edu.hk Date: 18 November 2019

**City University of Hong Kong
Course Syllabus**

**offered by Department of Chemistry
with effect from Semester A 2020/21**

Part I Course Overview

Course Title:	Directed Studies in Biology/Chemistry/Environmental Sciences
Course Code:	CHEM3042
Course Duration:	Flexible, varying from a few weeks to one semester
Credit Units:	Flexible, in the range 1-4
Level:	B3/B4
Proposed Area: <i>(for GE courses only)</i>	<input type="checkbox"/> Arts and Humanities <input type="checkbox"/> Study of Societies, Social and Business Organisations <input type="checkbox"/> Science and Technology
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: <i>(Course Code and Title)</i>	Nil
Precursors: <i>(Course Code and Title)</i>	Nil
Equivalent Courses: <i>(Course Code and Title)</i>	BCH3042 Directed Studies in Biology/Chemistry/Environmental Sciences
Exclusive Courses: <i>(Course Code and Title)</i>	See Section 2 Below

Part II Course Details

1. Abstract

(A 150-word description about the course)

This course allows students to conduct work under the direction of a faculty member in CHEM or to attend courses/workshops/study tours in relevant areas recommended by the Department. The course encourages students to develop their initiative, interests, individual thinking, from a discovery approach and have a deeper understanding of the science underlining a specific area in Biology, Chemistry or Environmental Sciences.

A student can approach an academic staff member to carry out directed studies. Note that the course **can only be taken once** by students throughout their programme of study.

Students are advised to carefully read the restrictions on this course, as detailed under Course Intended Learning Outcomes (see Section 2 below).

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs [#]	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Conduct specified work under the direction of a faculty member in CHEM or attend courses/workshops/study tours in relevant areas recommended by the Department. An emphasis is placed on the innovative and discovery-based elements of the study.	See note below regarding restrictions on topics and/or areas of study		✓	✓
		100%			

* If weighting is assigned to CILOs, they should add up to 100%.

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

NOTE: If the nature of the Directed Studies is research or seminar-oriented, the research work MUST NOT overlap with the work undertaken for CHEM4036 Project or CHEM4037 Seminar Series, and should not be supervised by the same academic staff.

3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.	Hours/week (if applicable)
		1	
A wide range of learning activities	The course is flexible, and has no specific syllabus. An academic staff member can direct students to attend a particular workshop or course, participate in a study tour, conduct fieldwork, a library search or a small research project, or assist on a bigger project, etc. in Biology, Chemistry or Environmental Sciences. Innovative and discovery-based elements are essential in the teaching and learning activities.	✓	Flexible, depending upon total credit units assigned.

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.	Weighting*	Remarks
	1		
Continuous Assessment: <u>100%</u>			
Varies dependent upon the nature of the studies. Assessment could be a combination of continuous assessment and examination, or could be focused on continuous evaluation of student's learning process and outcomes. Innovative and discovery-based elements will be highlighted in the assessment tasks/activities.	✓	100% See notes in (3) above	For restrictions, see notes in (2) above
Examination: <u>0%</u> (duration: --)			
* The weightings should add up to 100%.		100%	

Starting from Semester A, 2015-16, students must satisfy the following minimum passing requirement for courses offered by CHEM:

"A minimum of 40% in both coursework and examination components."

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Varies dependent upon the nature of the studies. Assessment could be a combination of continuous assessment and examination, or could be focused on continuous evaluation of student's learning process and outcomes. Innovative and discovery-based elements will be highlighted in the assessment tasks/activities.	Varies dependent upon the nature of the studies. General criterion are students' ABILITY to integrate concepts of chemistry/biology/environmental science, and to apply them to solve problems and/or demonstrate scientific advancement in the subject of the studies	High	Significant	Moderate	Basic	Not even reaching marginal levels

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

The course is flexible, and has no specific syllabus. An academic staff member can direct student(s) to attend a particular workshop or course, participate in a study tour, conduct fieldwork, library search or a small research project, or assist on a bigger project, etc. in Biology, Chemistry or Environmental Sciences. A student can also approach an academic staff member to carry out directed studies.

Innovative and discovery-based elements are essential in the study.

The course is to be taken **only once** by students throughout their programme of study.

The number of credits assigned to the directed studies is assigned according to time spent for a particular study, the level of difficulty, and the depth of the studies. The maximum credit units gained should be between 1 and 4.

The nature of the study, number of credit units gained, and evaluation / assessment pattern will be considered by a Directed Studies Committee which will make a recommendation to the Head of the Department for endorsement before initiating the Directed Studies.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	
2.	
3.	
...	

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)

1.	As specified by an individual staff member.
2.	Online Resources: As specified by an individual staff member

A. Please specify the Gateway Education Programme Intended Learning Outcomes (PILOs) that the course is aligned to and relate them to the CILOs stated in Part II, Section 2 of this form:

GE PILO	Please indicate which CILO(s) is/are related to this PILO, if any (can be more than one CILOs in each PILO)
PILO 1: Demonstrate the capacity for self-directed learning	
PILO 2: Explain the basic methodologies and techniques of inquiry of the arts and humanities, social sciences, business, and science and technology	
PILO 3: Demonstrate critical thinking skills	
PILO 4: Interpret information and numerical data	
PILO 5: Produce structured, well-organised and fluent text	
PILO 6: Demonstrate effective oral communication skills	
PILO 7: Demonstrate an ability to work effectively in a team	
PILO 8: Recognise important characteristics of their own culture(s) and at least one other culture, and their impact on global issues	
PILO 9: Value ethical and socially responsible actions	
PILO 10: Demonstrate the attitude and/or ability to accomplish discovery and/or innovation	

GE course leaders should cover the mandatory PILOs for the GE area (Area 1: Arts and Humanities; Area 2: Study of Societies, Social and Business Organisations; Area 3: Science and Technology) for which they have classified their course; for quality assurance purposes, they are advised to carefully consider if it is beneficial to claim any coverage of additional PILOs. General advice would be to restrict PILOs to only the essential ones. (Please refer to the curricular mapping of GE programme: http://www.cityu.edu.hk/edge/ge/faculty/curricular_mapping.htm.)

B. Please select an assessment task for collecting evidence of student achievement for quality assurance purposes. Please retain at least one sample of student achievement across a period of three years.

Selected Assessment Task