香港城市大學
City University of Hong Kong

SYL

Course Syllabus

offered by Department of Chemistry
with effect from Semester B 2017/18

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:

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Part I Course Overview

Course Title:	Dissertation
Course Code:	BCH6124
Course Duration:	Two semesters (four semesters for students taking the part-time mode of study)
Credit Units:	16
Level:	P6
Proposed Area: *(for GE courses only)*	☐ Arts and Humanities ☐ Study of Societies, Social and Business Organisations ☐ Science and Technology
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Nil
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	Nil
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. Abstract

(A 150-word description about the course)

This course enables students to become competent in applying theory and methodology to a specific problem, to develop their ability to carry out investigative/research work in a selected area of chemical science, and develop their abilities to present findings in a precise and coherent manner. On completing this course, students will be able to:

-carry out research and development work, and to solve practical problems;

-demonstrate specialist skills in a chosen subject area through the application of theory and techniques provided by the course;

-demonstrate their initiative, intellectual achievement and understanding of the chosen subject matter, as well as the principles being applied; and

-manage and present their dissertation in a precise and coherent manner.

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.	Develop, state and justify a testable problem related to chemical science and technology		✓	✓	
2.	Research, assemble, and critically evaluate literature relevant to the problem being analysed			✓	
3.	Design experiments relevant to the problem being analysed, and utilise appropriate skills and/or instrumentation(s) to undertake the experiments			✓	
4.	Analyse and interpret data, and accurately present experimental findings in an appropriate fashion			✓	
5.	Write a dissertation presenting the problem being analysed. The dissertation should be organized in the fashion of a scientific paper, i.e. it should include research background, experimental findings, data interpretations, and conclusions			✓	✓
6.	Make a formal oral presentation of the research project, effectively summarising the project's background, the problem being analysed, the methods involved, the results achieved and the conclusions which result.			✓	✓
	** If weighting is assigned to CILOs, they should add up to 100%.*	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.

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	2	3	4	5	6	
Discussions with supervisor	Discussions with the student's supervisor, and student's reading of the current literature will lead to the development, and refinement, of a testable chemical problem	✓	✓	✓				
Literature search	Library and web-based searching of the literature, reading and interpretation of relevant scientific literature, and assembly of a literature review relating to the testable chemical problem		✓	✓				
Experiments	Undertaking suitable experiments under supervision, and maintaining a log book of data relevant to the experimental process			✓				At least 16 hours/week for 24 weeks; (At least 8 hours/week for 48 weeks for students taking the part-time mode of study)
Data analysis	Data analysis, including the use of appropriate characterization and analytical techniques				✓			
Dissertation writing	Writing, under guidance, a formal scientific report summarising the experimental results in the context of knowledge related to the subject matter					✓		
Oral presentations	Delivery of two formal oral presentations, one in the early stage of project development (week 6 for full-time students and week 10 for part-time students; any necessary change or modification to the project objectives can be made at this stage); the other one at the end of the project. The duration of each presentation is 25 mins (5-min question and answer session included)						✓	

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	2	3	4	5	6		
Continuous Assessment: 100%								
Oral presentations	✓	✓		✓		✓	30%	Total 2 presentations, each of them accounts for 15% of the final marks
Dissertation	✓	✓	✓	✓	✓		70%	
** The weightings should add up to 100%.*							100%	

Starting from Semester A, 2015-16, students must satisfy the following minimum passing requirement for BCH courses:
"A minimum of 40% in both coursework and examination component."

Note: Students can apply for an extension of the deadline for dissertation report submission. However, such application would require approval of the supervisor and the course leader.

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. Oral presentations	Ability to demonstrate or explain the principles, methodologies, problems and limitations of the selected research topic and experimental findings	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Dissertation	-Demonstrate critical thinking ability and problem solving ability in the selected research topic -Novelty of the research project -Ability to provide detailed, critical analysis of the data, clear explanations and fair justifications -Demonstrate ability in integration of various sources of information to explain the impact of the findings via clear written communication	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.)

Nil

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.)

Nil

2.2 Additional Readings

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

Nil

Annex
(for GE courses only)

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