Form 2B

City University of Hong Kong

Information on a Course
offered by Department of Biology and Chemistry
with effect from Semester B in 2012 / 2013

Part I

Course Title: Pollution Control

Course Code: BCH6108

Course Duration: One Semester

No. of Credit Units: Three

Level: P6

Prerequisites: Nil

Precursors: Nil

Equivalent Courses: BCH7132 Pollution Control

Exclusive Courses: Nil

Part II

Course Aims:

In this course, students will:

- Explore the major issues related to pollution control, including pollution types and sources, technological aspects of pollution control, and pollution-related legislation and regulations;
- Develop an understanding of the environmental consequences of air, aquatic and terrestrial pollution;
- Develop an appreciation of the interplay between the production, physical control and legislative control of pollution in Hong Kong, China and globally;
- Evaluate pollution control case studies from Hong Kong, China and globally.

Course Intended Learning Outcomes (CILOs)

Upon successful completion of this course, students should be able to:

No.	CILOs	Weighting (if applicable)*
1.	Explain the importance and principles of pollution control, including the interplay of production, technology and regulation/legislation.	
2.	Apply relevant ecological and toxicological principles to problems related to pollution control.	
3.	Analyse the application of pollution control principles and strategies in terms of water, air and terrestrial pollution.	
4.	Critically evaluate the application of pollution control methods in specific case studies in Hong Kong, China and overseas.	

* See table of assessment weighting under Assessment Tasks/Activities

Teaching and learning Activities (TLAs)

(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)

ILO No	TLAs	Hours/week (if applicable)
CILO 1	Students will learn in lectures and in-class discussions about the ways in which technology and regulation define pollution control both locally and globally.	See below
CILO 2	In lectures, tutorials and laboratory sessions, students will identify and apply the relevant toxicological and ecological principles to pollution control.	See below
CILO 3	Lectures and laboratory experiments will teach students about pollution and pollution control related to air, water and the terrestrial environment.	See below
CILO 4	Through lectures and discussions, students will understand and critically analyse case studies related to pollution control both locally and in a global context. Complementary presentations by invited speakers will engage students in discussion of real-world situations.	See below

The TLAs provided above are indicative of the likely activities that students will undertake in this course. Final details of the individual course components, including large and small group teaching sessions, case studies, discussions and oral presentations/debates, will be provided in the student course documents distributed at the commencement of the course.

Assessment Tasks/Activities

(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)

ILO No	Type of assessment tasks/activities	Weighting (if applicable)	Remarks
CILO 1	A quiz, class discussions, and the end-of-course examination will test the students' knowledge of the importance of technology and regulation in pollution control both locally and globally.	See following table	See below
CILO 2	Laboratory reports, lectures and the end-of-course examination will test students' ability to identify and apply relevant toxicological and ecological principles to pollution control.	See following table	

CILO 3	Lecture, laboratory reports, a quiz and the end-of-course examination will test students' ability to explain the importance of pollution control in terms of air, water and the terrestrial environment.	See following table	
CILO 4	Lecture, discussion and the end-of-course examination will require students to critically analyse and evaluate cases related to pollution control both locally and in a global context.	See following table	

The table below is indicative of the assessment weighting for each CILO.

ILO No.	Quiz	Laboratory Reports	Examination	Total
CILO 1	10%		70%	27.5%
CILO 2		10%		27.5%
CILO 3		10%		27.5%
CILO 4				17.5%

The Assessment Tasks and Activities provided above are indicative of those that students will undertake in this course. Final details of the individual assessment, including the quiz, laboratory reports, and the end-of-course examination, will be provided in the student course documents distributed at the commencement of the course.

Grading of Student Achievement: Refer to Grading of Courses in the Academic Regulations for Taught Postgraduate Degrees.

Grading will be based on students' performance in assessment tasks/activities. Allocation of marks will be as follows: Coursework (quiz and lab reports), 30%; Examination, 70% (see above table under Assessment Tasks/Activities).

The following description is indicative of the grading criteria adopted for assessment purposes:

A. Student completes all assessment tasks/activities and can demonstrate excellent synthesis of the principles, processes, methodologies, problems and limitations related to various aspects of pollution control. The student provides a comprehensive analysis of real-life environmental problems in a complex situation in Hong Kong or elsewhere, with clear and logical explanation of the role of pollution control. The student also provides creative and/or personal viewpoints in assessment tasks/activities. The student demonstrates critical thinking and originality in thought, argument or application, with effective oral and written communication.

B. Student completes all assessment tasks/activities and can describe and explain the principles, processes, methodologies, problems and limitations related to various aspects of pollution control. The student provides a detailed, critical analysis of real-life problems related to pollution control in the Hong Kong environment or elsewhere using appropriate techniques, and gives accurate and clear explanations and appropriate justifications. The student shows the ability to communicate clearly in writing and orally.

C. Student completes all assessment tasks/activities and can describe and explain some key principles, processes and methodologies related to various aspects of pollution control. The student provides simple but accurate explanations and basic justifications for the application of pollution control techniques are applied to real-life environmental problems in Hong Kong or elsewhere. The student shows evidence of clear oral and written communication.

D. Student completes all assessment tasks/activities but only can briefly describe isolated principles, processes, methodologies, problems and limitations related to various aspects of pollution control. The student demonstrates limited ability in analysing and justifying the application of pollution control methods and approaches to real-life environmental problems in Hong Kong or elsewhere, and shows a lack of integrated understanding of pollution control techniques. The student can communicate simple ideas accurately in writing and orally.

F. Student fails to complete all assessment tasks/activities and/or cannot accurately describe and explain relevant principles, processes, methodologies, problems and limitations related to various aspects of pollution control. The student cannot provide appropriate analysis and satisfactory justification of the application of pollution control methods and approaches to real-life environmental problems in Hong Kong or elsewhere, and may show evidence of plagiarism or inability to communicate ideas.

Part III

Keyword Syllabus:

- Types and sources of pollution with special reference to Hong Kong and China.
- Environmental policy-making in relation to pollution control in Hong Kong, China and overseas.
- Legal aspects of environmental protection policies and legislation in Hong Kong, China and overseas; environmental standards and regulations; Pollution Control Ordinances.
- Economic and social implications of environmental protection policies and legislation.
- Process chemistry for pollution control.
- Modern control technologies for land, water, air and noise pollution.
- Application of microbiology and biotechnology in pollution control.
- Case studies in Hong Kong, China and overseas.

Recommended Reading:
Text(s):

Cooper, C.D., Alley, F.C. Air pollution control: a design approach. 2011. Waveland Press, Prospect Heights, IL.

Hocking, M.B. Handbook of chemical technology and pollution control. 2005. Elsevier/Academic Press, San Diego, CA.

Velasquez, H.R. (Ed) Pollution control: management, technology and regulations. 2011. Nova Science Publishers, New York.

Online Resources:

To be provided, as required, in lectures and tutorials.