

ECOTOXICOLOGY

Course Description: To introduce the scopes, concepts, and methods of the study of ecotoxicology.

Course Intended Learning Outcomes

- 1) Analyse the scope of ecotoxicology study and identify major classes of pollutants;
- 2) Assess the major concepts in ecotoxicology study, such as the entry and fate, bioaccumulation and bioavailability;
- 3) Evaluate the ecological and biological responses of pollutants at different levels;
- 4) Apply the principle and knowledge of ecotoxicology in conducting ecotoxicology research, such as the kinetic modelling, biomonitoring, toxicity testing, biomarkers and toxicity mechanisms study.

Student Learning Resources and References:

Newman MC, Clements WH (2008) *Ecotoxicology: A Comprehensive Treatment*. CRC Press
Luoma SN, Rainbow PS (2008) *Metal Contamination in Aquatic Environments*. Cambridge Univ Press.

Students: BSc, MPhil/PhD students.

Course Format: Lectures, 3 hours per week + paper assignment

Grades: The assessment of all the four course learning outcomes will be achieved by midterm (50%) and final exams (50%). Papers will be assigned for reading each week. Examination duration: 3 hours.

Course Calendar & Schedule:

Week	Date	Topic	Instructor
1	7 Feb	Introduction	Wang
2	14	Major classes of pollutants	Wang
3	21	Entry and fate	Wang
4	28	Bioaccumulation	Wang
5	7 March	Bioavailability	Wang
6	14	Kinetic modelling	Wang
7	21	Midterm	Wang
8	28	Biomonitoring	Cheng
9	4 April	Public Holiday	NA
10	11	Toxicity testing	Cheng
11	18	Physiological/biochemical responses	Cheng
11	25	Biomarkers	Cheng
12	2 May	Ecosystem responses	Cheng
13	9	Environmental samples and laboratory models	Cheng
14		Break	
15-16		Final Exam	Cheng

Instructors: Prof. W.-X. Wang Email: wwang@ust.hk (50%), CYT Room 5002
Dr. Jinping Cheng Email: jincheng@ust.hk (50%), Room 5436