

Course Syllabus

1. Program of Study	Bachelor of Science (Biological Science: Biology), Bachelor of Science (Biological Science: Biomedical Science) Natural Science (General Education)
Faculty/Institute/College	Mahidol University International College
2. Course Code	ICBI 442 / ICNS 254
Course Title	Pollution Biology
3. Number of Credits	4(3-2-7) (Lecture/Lab/Self-Study)
4. Prerequisite (s)	ICNS 112
5. Type of Course	General Education Course
6. Session	2 nd trimester/ 2004
7. Conditions	-

8. Course Description

Causes and problems of pollution in the environment, including water, soil and air; analysis of the problems of pollution in Thailand.

9. Course Objective (s)

After successful completion of this course, students should be able to

- 9.1 Sources of major pollutants and their effects
- 9.2 Interactions of pollutants with soil, water, and air
- 9.3 Methods to minimize or correct pollution
- 9.4 Remediation

10. Course Outline

Week	Topic	Hour			Instructor
		Lecture	Lab	Self-Study	
1	Environmental Science and pollution	3	2	7	Pornsawan
2	Regulations	3	2	7	Pornsawan
3	Soil pollution	3	2	7	Pornsawan
4	Water pollution	3	2	7	Pornsawan
5	Air pollution	3	2	7	Pornsawan
6	Midterm exam	3	2	7	Pornsawan
7	Monitoring	3	2	7	Pornsawan
8	Environmental qualities	3	2	7	
9	Environmental qualities	3	2	7	Pornsawan
10	Remediation	3	2	7	Pornsawan
11	Remediation	3	2	7	
Total		33	22	77	Pornsawan
Final examination					

11.. Teaching Method (s)

The lecture portion is presented in a lecture/ discussion format. Laboratory and lectures are arranged such a way as to reinforce the topics covered in the course. Both lecture and laboratory are taught by the same instructor. Field trips will be taken when appropriate.

12. Teaching Media

- 12.1 Text
- 12.2 Laboratory modules
- 12.3 Handouts, laboratory and demonstration equipment.

13. Measurement and evaluation of student achievement

Student achievement is measured and evaluated by

- 13.1 the ability to describe major pollutants and their effects
- 13.2 the ability to describe interactions of pollutants with soil, water, and air
- 13.3 the ability to describe methods to minimize or correct pollution
- 13.4 the ability to describe mediation

Student's achievement will be graded according to the faculty and university standard using the symbols: A, B+, B, C+,C,D+, D, and F.

Students must have attended at least 80% of the total class hours of this course.

MUIC standard grading criteria: 90% and above is grade A

Ratio of mark

- 1. Both examinations 70%

2. Lab reports and discussion	20%
3. Lecture and Lab participation	10%
Total	100%

Assessment made from the set – forward criteria: student who gets 85% up will have grade A.

14. Course evaluation

14.1 Students' achievement as indicated in number 13 above.

14.2 Students' satisfaction toward teaching and learning of the course using questionnaires.

15. Reference (s)

Pepper, I.L., C.P. Gerba, M.L. Brusseau. Pollution Science. Academic Press, Inc., San Diego, C.A. 397 pp. : 1996.

Any texts in Pollution Biology

16. Instructor (s)

16.1 Professor Dr. Pornsawan Visoottiviseth

17. Course Coordinator

Professor Dr. Pornsawan Visoottiviseth