

Course Syllabus

- 1. Name of Curriculum** Bachelor of Science Program in Environment
Faculty / Institute/ College Mahidol University International College, Faculty of Science, Faculty of Environment and Resource Studies (FERS), Mahidol University
- 2. Course Code** ICEN 312 **Course Title** Environmental Toxicology
- 3. Number of Credits** 4 (Lecture/Lab) (4-0)
- 4. Prerequisite** ICEN 311
- 5. Type of Course** Required
- 6. Trimester/ Academic Year** Second/ 2004

7. Course Description

Introduction course concerns principals of environmental toxicology. The course covers concepts underlying absorption, distribution, metabolism and excretion of toxic agents in living organisms; Nature, sources and fate of conyaminants in the environment; Potential for harmful exposure, especially to the environment; and applied aspects, including ecological test methods, regulation and similar consideration.

8. Course Objectives

The objectives of this course are to introduce the students to the nature and effects of toxic substances occurring in both natural and manmade environment. Thus, the risks resulting from the presence of such substances can objectively be assessed. Consequently, measures to prevent the substances reaching harmful levels or to minimize damage could be set.

9. Course Outline

Week	Topic			Instructor
	Lecture/ Seminar	Hour	Lab	
1	Introduction to environmental toxicology	4	-	Dr. Patana Thavipoke
2	Sources and forms of toxic materials	4	-	Dr. Patana Thavipoke
3	Radioactivity and the environment	4	-	Dr. Patana Thavipoke
4	Exposure, transformation, elimination, and dispersion processes of toxic materials	4	-	Dr. Patana Thavipoke
5	Fate and behavior of chemicals in the environment	4	-	Dr. Patana Thavipoke
6	Effects of pollutants on ecosystems	4	-	Dr. Patana Thavipoke
7	Human toxicology	4	-	Dr. Patana Thavipoke
8	Legislation	4	-	Dr. Patana Thavipoke
9	Environmental toxicity testing and ecological risk assessment	4	-	Dr. Patana Thavipoke

10	Animals and alternatives in toxicology	4	-		Dr. Patana Thavipoke
11	Sediment toxicity	4	-		Dr. Patana Thavipoke
	Total	44	-		

10. Teaching Method

1. Lecture
2. Discussion
3. Self-Study

11. Teaching Media

1. Texts and Teaching Materials
2. Transparencies
3. Power Point Presentation

12. Course Achievement

Assessment made from the set-forward criteria. Student who gets 85 % up, will have Grade A

13. Course Evaluation

1. Exercises 10 %
2. Oral Presentation 10 %
3. Midterm Examination 40 %
4. Final Examination 40 %

14. References

1. A Primer of Environmental Toxicology. Smith, 1992.
2. Animals and Alternatives in Toxicology: Present Status and Future Prospects. Balls, Southee and Southee, 1991.
3. Aquatic Ecotoxicology: Fundamental Concepts and Methodologies, vol. II. Boudou and Ribeyre, 1989.
4. Advances in Modern Environmental Toxicology vol. XV: Risk Assessment and Risk Management of Industrial and Environmental Chemicals. Cothorn, 1988.
5. Bioavailability in Environmental Risk Assessment. Hrudey, Chen and Rousseaux, 1996.
6. Environmental Toxicology, Duffus, 1980.
7. Ecotoxicology, 2nd ed. Moriarty, F., 1988.

15. Instructor

Asst. Prof. Dr. Patana Thavipoke

16. Course Coordinator

Asst. Prof. Dr. Patana Thavipoke