

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, Mahidol University
2. **Course Code** ICEN 331 **Course Title** Soil, Land Use and Degradation
3. **Number of Credits** 4 (Lecture/Lab) (4-0)
4. **Prerequisite** None
5. **Type of Course** Elective
6. **Trimester / Academic Year**
Second / 2004

7. Course Description

A basic introduction to soil science and its relationship to land resource management and the environment. Soil problems and their solutions.

8. Course Objectives

1. To Understand on soil components, soil forming factors and process ;
2. To understand on soil degradation occurring;
3. To understand on how can soil be improved and development for sustainable use

9. Course Outline

Week	Topic			Instructor	
	Lecture/Seminar	Hour	Lab		
1	Introduction, Soil, Land use and degradation	4	-	4	Dr.Charlie
2	Soil forming factor and process	4	-	4	Dr.Charlie
3	Land use and it's environmental factors	4	-	4	Dr.Charlie
4	Why is soil degradation occurring	4	-	4	Dr.Charlie
5	Soil degradation through global pollution: Greenhouse effect, Ozone depletion and acid deposition	4	-	4	Dr.Charlie
6	Soil degradation on wetlands and upland : Peatlands, Soil erosion, Desertification	4	-	4	Dr.Charlie
7	Non – erosive soil degradation	4	-	4	Dr.Charlie
8	Erosive soil degradation	4	-	4	Dr.Charlie&Guest Lec.
9	Soil degradation through mineral extraction, industrial and urban development	4	-	4	Dr.Charlie&Guest Lec.
10	Conservation and preventive strategies	4	-	4	Dr.Charlie
11	Conservation and prevention strategies	4	-	4	Dr.Charlie&Guest Lec.
	Total	44		44	

10. Teaching Method

1. Lecture
2. Practical Exercises
3. Discussion
4. Quiz
5. 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. C.J Barrow.1990. Land degradation development and breakdown of terrestrial environment. Cambridge University press: 295p.
2. Nyle C. Brady,2001.Natural and properties of soils. 10th edition. Prentice – hall of India, Private Limited, New Delhi-11001:621p.
3. Raymond W .Miller and Roy L.Donahue.1997.Soil in our environment .7th Edition. Prentice-hall India, Private Limited, New Delhi-11001:649p.
4. FAO, 1996 ,Assessment of status of human-induced soil degradation in southeast Asia (Assod):Process report in proceeding of the expert consultation of the Asian network on problem soils. Manila Philipines,23-27 October,1975 : 39p
5. FAO,1994.The collection any Analysis of land degradation data ,Report of the expert consultation of the Asian network on problem soils. Bangkok, Thailand ,25-29 October 1993:261p
6. FAO,1994 .Land degradation in South Asia :Its severity, Causes and effect upon the people world soil resources reports No.78.ISSN 0532-0488:102p

15. Instructor

Dr. Charlie Navanugraha

16. Course Coordinator

Dr. Charlie Navanugraha