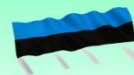




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Urban Resilience and Adaptation for India and Mongolia:
curricula, capacity, ICT and stakeholder collaboration to support green & blue infrastructure and nature-based solutions
619050-EPP-1-2020-1-DE-EPPKA2-CBHE-JP

ENVIRONMENTAL MANAGEMENT

Introduction to the course ENVI...



Senior lecturer Bat-Erdene Ariunsanaa
National University of Mongolia

<https://online.num.edu.mn/courses/course-v1:NUM+ENVI402+2022/course/>

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SYLLABUS:

Environmental management

Course name: Environmental management

Number of credits: 3 ECTS/6 MCTS

Period: Fall/Spring semester

Host institution	National University of Mongolia, School of Engineering and Applied Sciences
Lecturer	Bat-Erdene Ariunsanaa
Level	PhD and MSc course
Course type	Major course
Course duration	16 weeks
New/Revised	A newly developed
E-course link	https://online.num.edu.mn/dashboard

Target student audiences

~ Graduate students who are majoring in environmental science, environmental management.

Summary

Environmental Management is concerned not only with the impact of humans on the planet but also with the patterns of human behaviour necessary to preserve and manage the environment in a self-sustaining way. Study is linked to the areas of new thinking in environmental management, environmental economics and the quest for alternative technologies. Case studies allow candidates to obtain a local as well as a global perspective. Environmental Management recognises that human behaviour towards the environment is guided by the survival needs, perceptions and values of people. Underlying the syllabus there is a recognition that cultural, social and political attitudes directly influence the economy of nature. A core principle of the syllabus is that sustainability will only be achieved by changes in the ways in which people think and make decisions. A course in Environmental Management therefore calls upon learners to be participants in defining the future of their world.

Aims and objectives

The main course objective is to acquire:

- knowledge of natural systems which make life possible on Earth
- an understanding that humans are part of these systems and depend on them
- an appreciation of the diverse influences of human activity on natural systems
- an awareness of the need to manage natural systems
- an understanding of sustainable development to meet the needs of the present, without compromising the ability of future generations to meet their own needs
- a sense of responsibility and concern for the welfare of the environment and all organisms
- an awareness of their own values concerning environmental issues
- an awareness of the values of others
- a willingness to review their own attitudes in the light of new knowledge and experiences
- a sound basis for further study, personal development and participation in local and global environmental concerns.

Prerequisites

Required courses (or equivalents):

- | | |
|---|---------|
| 1. Environmental Study | ENVI200 |
| 2. Environmental Monitoring | ENVI301 |
| 3. Sustainable Development and green development policy | ENVI312 |

General learning outcomes: By the end of the course, successful students will:

Knowledge	<ul style="list-style-type: none"> ~ phenomena, facts, definitions, concepts and theories ~ vocabulary, terminology and conventions ~ technological applications with their social, economic and environmental implications
Comprehensive	<ul style="list-style-type: none"> ~ Evaluate the direction and consequences of the impact of a particular type of economic activity on nature, linking the solution of production problems with compliance with relevant environmental requirements
Application	<ul style="list-style-type: none"> ~ Practical use of theoretical knowledge, conservation and planning tools
Analysis	<ul style="list-style-type: none"> ~ locate, select, organise and present information from a variety of sources ~ translate information and evidence from one form to another ~ manipulate numerical data • interpret and evaluate data, report trends and draw inferences.
Synthesis	<ul style="list-style-type: none"> ~ plan investigations ~ identify limitations of methods and suggest possible improvements ~ present reasoned explanations for phenomena, patterns and relationships ~ make reasoned judgements and reach conclusions based on qualitative and quantitative information.

The authentic tasks

At the end of each lecture, students will be asked key questions to reinforce their understanding of the topic covered in the lectures. Students will independently acquainted with the actual environmental management works implemented in Mongolia and other countries; and learn to plan solutions to environmental problems, to develop methods and tools of environmental management.

The students' performance will be based on the following:

Assessment	Progress assessment (40%):				
	<ul style="list-style-type: none"> ~ Attendance and academic activity (10%) ~ Progress test (30%) 				
Assessment	Final assessment (60%):				
	<ul style="list-style-type: none"> ~ Information handling and analysis (30%) ~ Investigation skills and making judgements (30%) 				
Evaluation EU system	A (8,5 – 10) B (7,0 – 8,4) C (5,5 - 6,9) D (4,0 – 5,4)	Evaluation MN system	95-100	A	4.0
			90-94	A-	3.6
			85-89	B	3.1
			80-84	B-	2.7
			75-79	C	2.3
			70-74	C-	1.9
			65-69	D	1.4
			60-64	D-	1.0
0-59	F	0.0			

Week	In-class hours	Topic	Type
1	2	~ Introduction to Environmental Management	Lecture
	2	~ Environmental management projects implemented in Mongolia	Seminar
2	2	~ Rocks and minerals and their exploitation: Formation of rocks; Extraction of rocks and minerals from the Earth; Impact of rock and mineral extraction; Managing the impact of rock and mineral extraction; Sustainable use of rocks and minerals;	Lecture
	2	~ Good and worse management case	Seminar
3	2	~ Energy and the environment: Fossil fuel formation; Energy resources and the generation of electricity; Energy demand; Conservation and management of energy resources; Impact of oil pollution; Management of oil pollution;	Lecture
	2	~ Good and worse management case	Seminar
4	2	~ Agriculture and the environment-I: Soil composition; Soils for plant growth; Agriculture types; Increasing agricultural yields; Impact of agriculture; Causes and impacts of soil erosion; Managing soil erosion; Sustainable agriculture;	Lecture
	2	~ Good and worse management case	Seminar
5	2	~ Water and its management-I: Global water distribution; The water cycle; Water supply; Water usage; Water quality and availability; Multipurpose dam projects; Water pollution and its sources; Impact of water pollution; Managing pollution of fresh water; Managing water-related disease;	Lecture
	2	~ Good and worse management case	Seminar
6	2	~ Oceans and fisheries: Oceans as a resource; World fisheries; Impact of exploitation of the oceans; Management of the harvesting of marine species;	Lecture
	2	~ Good and worse management case	Seminar

Week	In-class hours	Topic	Type
7	2	~ Managing natural hazards: Earthquakes and volcanoes; Tropical cyclones; Flooding; Drought; The impacts of natural hazards; Managing the impacts of natural hazard; Opportunities presented by natural hazards;	Lecture
	2	~ Good and worse management case	Seminar
8	2	~ The atmosphere and human activities: The atmosphere; Atmospheric pollution and its causes; Impact of atmospheric pollution; Managing atmospheric pollution;	Lecture
	2	~ Good and worse management case	Seminar
9	2	~ Human population and environment: Human population distribution and density; Changes in population size; Population structure; Managing human population size;	Lecture
	2	~ Good and worse management case	Seminar
10	2	~ Natural ecosystems and human activities: Ecosystems; Ecosystems under threat; Deforestation; Managing forests; Measuring and managing biodiversity;	Lecture
	2	~ Good and worse management case	Seminar
11	2	~ Environmental management for sustainability: Environmental social impact assessment, its contribution to environmental management and sustainable development; Environmental management for sustainability - II: Environmental audit, its forms, contribution to environmental management and sustainable development	Lecture
	2	~ Good and worse management case	Seminar
12	2	~ Environmental health: An introduction to the indoor environment, its hygiene and toxicology; Waste and hazardous waste management	Lecture
	2	~ Good and worse management case	Seminar
Lecture 32			
Seminar 32			

1. ENVIRONMENTAL ECOLOGY AND MANAGEMENT ISSUES. Ariunjargal J. Batsaikhan N. Galbadrakh D. – Ulaanbaatar 2003 - 254.
2. Environmental and Health Risk Assessment and Management /Principles and Practices/. Paolo F. Ricci. Dordrecht, The Netherlands 2006-477
3. Environmental Management /Problems and Solutions/. R.Ryan Dupont, Terry E Baxter, Louis Theodore. CRC Press – 1998.
4. ENVIRONMENTAL MANAGEMENT /Science and Engineering for Industry/. Iyyanki V Muralikrishna, Valli Manickam. BSPublications. India – 2017.
5. ENVIRONMENTAL MANAGEMENT /A Core Text for O Level and IGCSE/. Second edition. John Pallister. OXPORD UNIVERSITY PRESS-80

Gary Skinner, Ken Crafer, Melissa Turner, Ann Skinner and John Stacey

Cambridge IGCSE® and O Level
Environmental Management
Coursebook

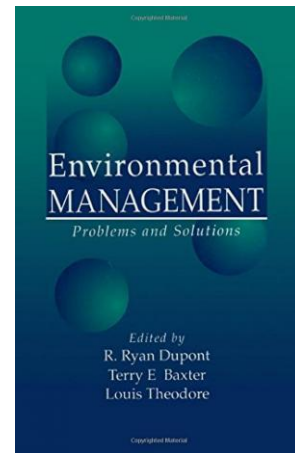


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Systemes de management environnemental — Exigences et lignes directrices pour son utilisation



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