

UNDERGRADUATE COURSE DETAILS

Course Title: Environmental Ecology				Code : USD0000		Faculty or VS: E.A.F. Programme: Environmental Engineering		
Education and Teaching Methods							Credits	
Lecture	Application	Lab.	Project/ Field Study	Homework	Other	Total	Credit T+A+L=Credit	ECTS
							2+0+0=2	2
Semester			1		Language		Turkish/English	
Course Type	Basic Scientific ☐		Scientific ☐		Technical Elective ☐		Social Elective ☒	
Course Objectives	To examine living things, their environment, all their interactions, the factors that cause environmental and environmental problems, the development stages of environmental problems occurring until today, current environmental problems, and to gain the basic principles of producing modern solutions to these problems.							
Learning Outcomes and Competencies	Understanding of the environment and the definition of environmental science, Learning the basic environmental concepts, To gain the basic principles of producing modern solutions to environmental problems							
Textbooks and /or References	1. Çevre Mühendisliği Ekolojisi" Ders Notu (Yaşar Nuhoğlu, A.Ü. 2000) 2. Environmental Ecology" (Bill Freedman) Amazon.com, 1994). 3. Ekoloji ve Çevre Sorunları", Y. Muslu, (2000) 3rd Edition, Englewood Cliffs, NJ, Prentice Hall Inc							
ASSESSMENT CRITERIA								
Theoretical Courses				Project Course and Graduation Study				
	If any, mark as (X)	Percent (%)		If any, mark as (X)	Percent (%)			
Midterm Exams	X	40	Midterm Exams					
Quizzes			Midterm Controls					
Homework			Term Paper					
Term Paper, Project Reports, etc.			Oral Examination					
Laboratory Work			Final Exam					
Final Exam	X	60	Other					
Other								
Week	Subjects							
1	Introduction to Ecology: Definition of Ecology, Events that Make Ecology Up-to-Date, Research and Investigation Criteria of Ecology, Basic Rules and Principles of Ecology.							
2	Basic Concepts in Ecology: Environmental Concept, Environmental Pollution, Biotope, Ecological Niche, Life Union, Biosphere, Habitat, Ecological Balance, Flora and Fauna, Endemic Living, Biomass, Ecological Succession, Environmental Response, Biological Diversity, Adaptation, Mutation, Natural Selection.							
3	Elements and Functions of Ecosystems; System, Ecosystem Definitions, Elements of Ecosystem, Functions of Ecosystem, Development Factors in Ecosystems, Environmental Laws.							
4	Natural Ecological Factors Forming Ecosystems: Biotic and Abiotic Factors.							
5	Investigation of Ecosystems: Basic Types and Classification Criteria of Ecosystems, General Structure and Elements of Ecosystems, Space Structure of Ecosystems, Structure of Ecosystems in terms of Living Community.							
6	Matter and Energy Relations in Ecosystems: Concepts of Energy and Matter, Production in Ecosystems, Energy Flow, Determination of First Stage Efficiency, Evaluation of Thermodynamic Laws in Terms of Ecosystems.							
7	Food Chains, Food Pyramid, Food Nets, Biological Accumulation.							
8	Ecological Cycles; Astronomical, Geological, Matter Circulation (Hydrological and Biogeochemical Circulation); Carbon, Nitrogen, Phosphorus, Sulfur Circulation, Other Circulation.							
9	Anthropogenic Effects on Ecological Cycles and Their Results: Global Warming, Acid Rains,							

10	Ozone Layer Degradation (Investigation), Eutrophication, Radioactive Pollution, Biological Accumulation.
11	Principles of Protection of Ecological Cycles and Application to Environmental Engineering.
12	Natural Change of Ecosystems in Time; Short Term, Periodic Events, Long Term and Sequential Changes.
13	Ecological Succession Description Changes Caused in Ecosystems, Earth Large Ecosystems and Nature Conservation Areas: Aquatic and Terrestrial Ecosystems, Nature (Nature) Protected Areas and Determination Criteria, Nature Conservation Importance, Turkey and the World Conservation Areas.
14	Population Ecology: Definition of Population, Population Properties and Concepts, Development of Populations and Supervising Factors, Applications and Practical Results.
	Ecological Effects of Environmental Pollution, Behaviors of Pollutants in the Ecosystem, Examples of Monitoring Pollution and Ecological Change
Instructor/s	Assoc. Prof. Baybars Ali FİL
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Website	