

School of Fine Arts Design and Architecture / Architecture (English)

2023 - 2024 Academic Year

INTRODUCTION to ENVIRONMENT and SUSTAINABILITY

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
INTRODUCTION to ENVIRONMENT and SUSTAINABILITY	ARC2215228	Spring Semester	2+0	2	4
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Elective				
Course Coordinator	Assist.Prof. Mustafa ERDEM				
Name of Lecturer(s)	Prof.Dr. Ayşin SEV				
Assistant(s)					
Aim	To make the students conscious about the environment and environmental problems, sustainable development concept, to give information about the state of art of sustainability in design, sustainability principles for architecture, limited natural resources, address environmentally conscious design and construction activities, as well as devices to utilize renewable energy sources in architectural designs. The lecture also aims to inform the student about the worldwide applications of sustainable architecture,				
Course Content	This course contains; Introduction, aims, scope and method of the lecture, Definition of the concept of environment, environmental problems, Definition of Sustainable Development (SD) and role of construction sector in SD Anlatım Tartışma Theoretical expression Discussion ,The historical development of SD The development of human settlements and civilization before and after the Industrial Revolution, Theoretical expression Discussion,Sustainable architecture principles, strategies and methods I – Efficient use of resources (energy, water, material and land) Theoretical expression Discussion ,Sustainable architecture principles, strategies and methods II – Life-cycle design, Theoretical expression Discussion ,Sustainable architecture principles, strategies and methods III – Design for human, Theoretical expression Discussion ,Sustainable construction materials and selection criteria Eco-labels, Theoretical expression Discussion ,Passive solar design and building examples, Theoretical expression Discussion ,Utilization of renewable energy sources in architecture, Theoretical expression Discussion ,The movie: California Science Museum (Renzo Piano), Theoretical expression Discussion ,Sustainable Building Assessment Tools and Methods, (LEED, BREEAM, CASBEE; GSBCS...), Theoretical expression Discussion ,Midterm exam ,Laws and regulations about the topic, Theoretical expression ,Sustainable building examples from the world, Theoretical expression Watching movie ,Sustainable building examples from the world, Theoretical expression - watching videos.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
Integrates the state-of-the-art Technologies in architecture for sustainability.Knows the principles and strategies of sustainable architecture.Explains the principles of conserving the natural environment and built environment.Explains the concept of environment and sustainability.Knows the laws and regulations about consering environment and sustainability principles.Knows the green building assessment tools and methods worldwide. Applies life-cycle design principles.Knows building integrated design process.			10, 14, 9	A, E	
Teaching Methods	10: Discussion Method, 14: Self Study Method, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction, aims, scope and method of the lecture, Definition of the concept of environment, environmental problems, Definition of Sustainable Development (SD) and role of construction sector in SD Anlatım Tartışma Theoretical expression Discussion				
2	The historical development of SD The development of human settlements and civilization before and after the Industrial Revolution, Theoretical expression Discussion				
3	Sustainable architecture principles, strategies and methods I – Efficient use of resources (energy, water, material and land) Theoretical expression Discussion				
4	Sustainable architecture principles, strategies and methods II – Life-cycle design, Theoretical expression Discussion				
5	Sustainable architecture principles, strategies and methods III – Design for human, Theoretical expression Discussion				
6	Sustainable construction materials and selection criteria Eco-labels, Theoretical expression Discussion				
7	Passive solar design and building examples, Theoretical expression Discussion				
8	Utilization of renewable energy sources in architecture, Theoretical expression Discussion				
9	The movie: California Science Museum (Renzo Piano), Theoretical expression Discussion				
10	Sustainable Building Assessment Tools and Methods, (LEED, BREEAM, CASBEE; GSBCS...), Theoretical expression Discussion				
11	Midterm exam				
12	Laws and regulations about the topic, Theoretical expression				
13	Sustainable building examples from the world, Theoretical expression Watching movie				
14	Sustainable building examples from the world, Theoretical expression - watching videos				
Evaluation Methods		Weight(%)			
Midterm Exam		50			
General Exam		50			

Resources

Ders Notları. Lecture notes.

Ayşin Sev (2009), Sürdürülebilir Mimarlık, YEM Yayın, İstanbul.

Sev, A., (2011), "A comparative analysis of building environmental assessment tools and suggestions for regional adaptations", Civil Engineering and Environmental Systems, 28 (3), 231-245.

Sev, A. (2009), "How Can the Construction Industry Contribute to Sustainable Development? A Conceptual Framework," Sustainable Development, 17 (3), 161-173, (2009).

Sev, A., (2013). Sürdürülebilir mimarlığı doğru mu algılıyoruz? Ege Mimarlık, 2013/1

(83), 16-19.

Gissen, D., (2002). Big & Green: Towards Sustainable Architecture in the 21st Century, Princeton Architectural Press, New York.

Yeang, K. (2008). Ecodesign: A manual for Ecological Design, Wiley, New York.

Jones, D. L., (1998). Architecture and the Environment: Bioclimatic Building Design, Laurence King Publishing, London.

Mimarlık alanında türkçe yayın yapan güncel süreli dergiler.

Uluslararası indekslerde taranan süreli dergilerde yayımlanan güncel bilimsel makaleler National Geographic; Pearl River Tower. (video)

National Geographic; One Bryant Park. (video)

National Geographic, California Science Museum. (video)