



ECTS COURSE INFORMATION FORM

School/Faculty/Institute	Faculty of Arts, Design and Architecture
Program	B.Sc. in Architecture
	Elective

Course Code	ARC 432
Course Title in English	Healthy & Sustainable Design
Course Title in Turkish	Yapı Biyolojisi ve Ekolojisi Tasarımı
Language of Instruction	English
Type of Course	Studio
Level of Course	Undergraduate
Semester	Spring
Contact Hours per Week	Lecture: 1 Recitation: Lab: Studio:4
Estimated Student Workload	136 hours per semester.
Number of Credits	5 ECTS
Grading Mode	Standard Letter Grade
Pre-requisites	None
Expected Prior Knowledge	None
Co-requisites	None
Registration Restrictions	Only Undergraduate Students
Overall Educational Objective	To comprehend human health focused sustainable design and rehabilitation with a holistic approach to "Building- Human- Environment" relationships.
Course Description	Building's influence to its environment will be analyzed through the filter of building biology and ecology discipline. Mapping out all the effects on natural environment and human health, new structural solutions will be designed. Projects designed with different set of values, on the previous semester studio class will be developed further with parameters based on sustainability and human health.
Course Description in Turkish	Yapının etkileri, çevresi ile kurduğu ilişkiler bakımından yapı ekolojisi, insan sağlığına etkileri bakımından da yapı biyolojisi disiplinlerinin filtresinden geçirilerek değerlendirilecek. Öğrencilerin bir önceki dönem, farklı değerlere göre tasarladıkları stüdyo projeleri, bu stüdyoda sürdürülebilirlik ve insan sağlığı parametrelerine göre tasarlanacak.
Course Learning Outcomes and Competences	Upon successful completion of the studio, the learner is expected to be able to: 1. design an energy efficient building with the topographic data; 2. identify the energy cycles through construction, usage and destruction phases of the building; 3. recognize architectural design focusing on healthy living; 4. research a present building's negative effects on our health; 5. know necessary interventions to a building so that it stops to be a threat to our health.

Relation to Program Outcomes and Competences: N=None S=Supportive H=Highly Related

Program Outcomes and Competences	Level	Assessed by
	N/S/H	Exam, Project, HW, Lab, Presentation, etc.
1. Ability to read, write and speak effectively in Turkish and English, equivalent to a B2 European Language Passport Level in English.	S	Presentations

2. Ability to question and interpret ideas considering diverse points of view; gather and use data, develop concepts related to people, places and the environment, and make individual decisions.	S	Assignments
3. Ability to use appropriate graphical methods including freehand and digital drawing techniques, (ECDL advanced) in order to develop ideas in addition to communicate the process of design.	H	Assignments, HW, Presentations
4. Ability to use fundamental principles of architectural design considering the place, climate, people, society as factors, and simultaneously express present principles in relevant precedents.	S	
5. Understanding of architectural principles belonging to global and local cultures shaped by the climatic, technological, socioeconomic, cultural factors, in addition to principles of historic preservation while developing architectural and urban design projects.	N	
6. Understanding the theories and methods used to describe the relationship between human behavior and physical environment; and concurrently understanding different needs, values, behavioral norms, social and spatial patterns of different cultures.	S	
7. Ability to apply various stages of design processes considering the client and user needs, which include space and equipment requirements besides site conditions and relevant laws and standards.	S	
8. Understanding the role of applied research in determining function, form and systems and their impact on human conditions and behavior.	N	
9. Understanding of the basic principles of static and dynamic structural behavior that withstand gravity and lateral forces, in addition to the evolution and applications of structural systems.	N	
10. Ability to apply the principles of sustainability in architectural and urban design projects that aim to preserve the natural and historic resources and provide healthful environments.	N	
11. Ability to apply the fundamental principles of building and safety systems such as mechanical, electrical, fire prevention, vertical circulation additionally to principles of accessibility into the design of buildings.	N	
12. Understanding the basic principles in the selection of materials, products, components and assemblies, based on their characteristics together with their performance, including their environmental impact and reuse possibilities.	N	
13. Ability to produce a comprehensive architectural project from the schematic design phase to design development phase, while integrating structural systems, life safety and sustainability principles.	S	
14. Understanding the principles of environmental systems such as energy preservation, active and passive heating and cooling systems, air quality, solar orientation, day lighting and artificial illumination, and acoustics; in addition to the use of appropriate performance assessment tools.	N	
15. Ability to choose appropriate materials, products and components in the implementation of design building envelope systems.	N	
16. Ability to understand the principles and concepts of different fields in multidisciplinary design processes and the ability to work in collaboration with others as a member of the design team.	N	
17. Understanding the responsibility of the architect to organize and lead design and construction processes considering the environmental, social and aesthetic issues of the society.	N	
18. Understanding the legal to responsibilities of the architect of the architect effecting the design and construction of a building such as public health and safety; accessibility, preservation, building codes and regulations as well as user rights.	N	
19. Ability to understand the ethical issues involved in the design and construction of buildings and provide services for the benefit of the society. In addition to the ability to act with social responsibility in global and local scales that contribute to the well being of the society.	N	
20. Understanding the methods for competing for commissions, selecting consultants and assembling teams, recommending project delivery methods, which involve financial management and business planning, time management, risk management, mediation and arbitration.	N	
Prepared by and date	İrem Korkmaz 11.03.2020	

Semester	Spring 2019-2020	
Name of Instructor	Gonca Yilmaz	
Course Contents	Week	Topic
	1.	What is healthy & sustainable design? History, introducing the course
	2.	Introducing the previous semester projects
	3.	Principles of building biology & ecology
	4.	Project development "influence of design to energy efficiency"
	5.	Project development "influence of materials to energy efficiency"
	6.	Project development "focused on recycling"
	7.	Project development "influence of design to human health"
	8.	Project development "influence of materials to human health"
	9.	Project development "influence of building mechanics to human health"
	10.	Developing the projects "considering social context while designing and long term effects of this approach"
	11.	In theory "building biology testing methods and measurement tools"
	12.	Practicing building biology testing methods in MEF building
	13.	Project presentations and evaluations
	14.	Last revisions and submission of final project
	15.	Final Examination Period
	16.	Final Examination Period
Required/Recommended Readings	Recommended Reading:	
Teaching Methods	Studio, movie presentation, slideshow, discussion.	
Homework and Projects	2 Assignments and 1 Portfolio	
Laboratory Work	-	
Computer Use	Yes	
Other Activities		
Assessment Methods	1. Performance in studio: 30 points 2. Performance in studio: 30 points 3. Final Portfolio Submission: 40 points (stands for final examination)	
Course Administration	Office: Gonca Yilmaz Email: yilmazgo@mef.edu.tr Academic Dishonesty and Plagiarism: YÖK Disciplinary Regulation.	

ECTS Student Workload Estimation	Activity	No/Weeks	Hours			Calculation	Explanation
		No/Weeks per Semester (A)	Preparing for the Activity (B)	Spent in the Activity Itself (C)	Completing the Activity Requirements (D)		
	Lecture	14	1	2	1	56	A*(B+C+D)
	Lab etc.					0	
	Midterm(s)					0	A*(B+C+D)
	Assignment, Project, Presentation	2	30			60	A*(B+C+D)
	Final Examination	1	20			20	A*(B+C+D)
	Total Workload					136	
	Total Workload/25					5,44	
	ECTS					5	