

<b>Course Information</b>					
<b>Course Title</b>	<b>Code</b>	<b>Semester</b>	<b>L+P Hour</b>	<b>Credits</b>	<b>ECTS</b>
Sustainability and Ecology	ARCH 573	Fall/Spring	3 + 0	3	7

<b>Prerequisites</b>	-
----------------------	---

<b>Language of Instruction</b>	English
<b>Course Level</b>	Master Program
<b>Course Type</b>	Elective
<b>Course Coordinator</b>	Assist. Prof. Dr. Sema Karagüler
<b>Instructors</b>	Assist. Prof. Dr. Sema Karagüler
<b>Assistants</b>	
<b>Goals</b>	Comprehension of the role of ecology and sustainability in architecture in various scales.
<b>Content</b>	Economical, Environmental and Social Sustainability aspects form the main frame of the research context.

<b>Learning Outcomes</b>	<b>Program Learning Outcomes</b>	<b>Teaching Methods</b>	<b>Assessment Methods</b>
The ability of conducting the assessment and presentation of an architectural project in urban sustainability context.	9, 10, 12, 15	1, 3, 6	A, D, E
Skills in analysis and presentation on the relationship between the architectural structures and the environment	9, 10, 12, 15	1, 3, 6	A, D, E
Capability to assess structural systems in regard to actual economical, cultural and sustainability aspects	9, 10, 12, 15, 17	1, 3, 6	A, D, E

<b>Teaching Methods:</b>	1: Lecture, 2: Question-Answer, 3: Discussion, 4: Seminar, 5: Project, 6: Teamwork; 7: Technical excursion
<b>Assessment Methods:</b>	A: Testing, B: Jury, C: Homework, D: Quiz

<b>COURSE CONTENT</b>		
<b>Week</b>	<b>Topics</b>	<b>Study Materials</b>
1	Introduction to global context of Sustainability. ecology in	Preparatory Work

	architecture.	
2	Environmental Footprint of Architectural Structures	Prepatory Work
3	Energy Efficiency and Resilience: impacts on concept, design, application	Prepatory Work
4	Sustainable Architecture in Urban Environment	Prepatory Work
5	Sustainable Architecture in Urban Environment	Prepatory Work
6	MID-TERM EXAM	
7	Sustainability & Urban Transit Systems	Prepatory Work
8	Sustainability & Green Energy	Prepatory Work
9	Sustainability & Architecture-Culture-Economics	Prepatory Work
10	Sustainability & Architecture-Culture-Economics	Prepatory Work
11	MID-TERM EXAM	
12	Sustainability, Structure, Material	Prepatory Work
13	Sustainability, Structure, Material	Prepatory Work
14	Energy Systems and Certifications	Prepatory Work

### RECOMMENDED SOURCES

<b>Textbook</b>	Bradshaw V., <i>The Building Environment: Active and Passive Control Systems</i> , Wiley, NJ, 2006
<b>Additional Resources</b>	Eicker U., <i>Low Energy Cooling for Sustainable Buildings</i> , Wiley, SQ, 2009 Bingelli C., <i>Building Systems for Interior Designers</i> , Wiley, NJ, 2003 Smith P., <i>Sustainability at the Cutting Edge</i> , Architectural Press, OX, 2007

### MATERIAL SHARING

<b>Documents</b>	Contact the course coordinator
<b>Documents</b>	Term homework assigned to each participant
<b>Exams</b>	Midterm and Final Assignment

### ASSESSMENT

<b>IN-TERM STUDIES</b>	<b>NUMBER</b>	<b>PERCENTAGE</b>
Mid-terms	1	30
Quizzes		
Project		
Seminar and presentation		
Assignment	2	70
Final		
<b>Total</b>		<b>100</b>
<b>CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE</b>		
<b>CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE</b>		100
<b>Total</b>		<b>100</b>

<b>COURSE CATEGORY</b>	Expertise/Field Courses
------------------------	-------------------------

<b>COURSE'S CONTRIBUTION TO PROGRAM</b>						
No	Program Learning Outcomes	Contribution				
		1	2	3	4	5
1	Acquires knowledge of and comprehends socio-economic and spatial elements, and processes which necessitates urban design and also involves outputs of design projects.					
2	Has the competence for producing a comprehensive architectural project from the beginning of schematic design to detailed system development phase (structural and environmental systems, safety and fire protection, partition systems, building envelop, building service systems).					
3	Has the ability to employ the experience gained from architectural building to new fields and generate strategies.					
4	Has the knowledge of approaches, models and techniques which will improve the efficiency in managerial tasks and management of a architectural project and construction.					
5	Has the knowledge of principles of the modern load-bearing systems and application methods.					
6	Has the ability to transfer and apply architectural knowledge to design and application processes.					
7	Has the ability to employ theoretical and practical field-related knowledge with reference to their undergraduate competence.					
8	Has the ability to conduct research, evaluate, make critical analysis, employ appropriate techniques and reach unique results.			x		
	Has the competence of relating to project and construction processes,			x		

9	analyzing and evaluating within the framework of architectural structure.					
10	Has the competence of taking strategic decisions of an architectural project and generating unique architectural solutions.				x	
11	Has the competence of systematically presenting a work- carried out individually or as a group work- visually, orally and in written by employing required computer programs.					
12	Has the knowledge of relation of urban design with architecture and other fields of expertise.					
13	Has the ability to prepare urban design project and/ or research by employing his/her knowledge and generating new methods and ideas.					
14	Has the ability to include socio-economic and spatial criteria into design process.					
15	Has the ability to conduct research, acquire knowledge, make analysis and synthesis, and use those for unique outputs.					x
16	Has the competence of managing a project in urban design field individually.					
17	Has the competence of conducting a unique academic/ scientific study, presenting it and discussing it on a dialectic basis.					x

#### ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION

Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Including the exam week: 14 x Total course hours)	14	3	42
Hours for off-the-classroom study (Pre-study, practice)	15	4	60
Mid-terms	2	6	6
Quizzes			
Project			
Seminar and presentation			
Assignment	12	5	60
Final examination			
<b>Total Work Load</b>			168
<b>Total Work Load / 25</b>			6.72
<b>ECTS Credit of the Course</b>			7