

COURSE INFORMATION					
Course Title	Code	Semester	L+P Hour	Credits	ECTS
Climate-Sensitive Urban Design Approaches	LAUD 514	-	3+0	3	10

<b>Prerequisites</b>	-
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<b>Language of Instruction</b>	English
<b>Course Level</b>	Graduate
<b>Course Type</b>	Elective
<b>Course Coordinator</b>	Asst. Prof. Dr. Bengi KORGAVUŞ
<b>Instructors</b>	Asst. Prof. Dr. Bengi KORGAVUŞ
<b>Assistants</b>	-
<b>Goals</b>	<ol style="list-style-type: none"> <li>1. To introduce the design factors acting on climate sensitive and energy efficient urban design</li> <li>2. To introduce the climate responsive and sustainable design process in various climatic regions.</li> <li>3. To introduce design parameters and innovations related to climatic comfort and energy efficiency in urban design</li> <li>4. To increase awareness about the effects of global warming on human living conditions</li> </ol>
<b>Content</b>	<p>Climate, climatic factors, energy and energy sources; Urban design, global warming and carbon sequestration; Natural and man-made factors effective on climatic conditions; Evaluation of settlements in relation to climate; Design parameters in the designing of climate sensitive and energy efficient settlement; Relationship between landscape design and micro-climate; Use of renewable energy sources in urban design; Spatial dimensions of creating energy networks in urban design; Sustainability and urban design; The role of plant materials in climate sensitive urban design; Components of climate sensitive urban design; Roof gardens and vertical gardens; Management of energy and microclimate factors in urban design; Case studies</p>

Learning Outcomes	Program Learning Outcomes	Teaching Methods	Assessment Methods
1. To have comprehensive knowledge on climate, energy, and use of renewable energy sources	1, 2, 10	1, 2, 3, 4	A, C
2. To understand the role of urban design in creating microclimate and increasing quality of life	1, 4, 8, 9, 12	1, 2, 3, 4	A, C

<b>3.</b> To be conscious on energy efficient urban design related to climatic regions	1, 3, 5, 8, 9, 10	1, 2, 3, 4	A, C
<b>4.</b> To be able to integrate renewable energy sources in to design	1, 2, 4, 5, 8	1, 2, 3, 4	A, C
<b>5.</b> To have comprehensive knowledge on the latest state of the art and technology regarding climate comfort and energy efficiency	1, 2, 5	1, 2, 3, 4	A, C

<b>Teaching Methods:</b>	1: Lecture, 2: Question-Answer, 3: Discussion, 4: Seminar, 5: Project, 6: Team Work, 7: 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>
<b>1</b>	Climate, climatic factors, energy and energy sources	
<b>2</b>	Urban design, global warming and carbon sequestration	
<b>3</b>	Natural and man-made factors effective on climatic conditions	
<b>4</b>	Evaluation of settlements in relation to climate	
<b>5</b>	Design parameters in the designing of climate sensitive and energy efficient settlement	
<b>6</b>	Relationship between landscape design and micro-climate	
<b>7</b>	Midterm exam	
<b>8</b>	Use of renewable energy sources in urban design	
<b>9</b>	Spatial dimensions of creating energy networks in urban design	
<b>10</b>	Sustainability and urban design	
<b>11</b>	The role of plant materials in climate sensitive urban design	
<b>12</b>	Components of climate sensitive urban design	
<b>13</b>	Roof gardens and vertical gardens	
<b>14</b>	Management of energy and microclimate factors in urban design	
<b>15</b>	Case studies	

<b>RECOMMENDED SOURCES</b>	
<b>Textbook</b>	-
<b>Additional Resources</b>	<ul style="list-style-type: none"> <li>▪ Emmanuel, R. 2005. An Urban Approach To Climate Sensitive Design: Strategies for the Tropics. Taylor &amp; Francis Group.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Brown, R. D. 2010. Design With Microclimate: The Secret to Comfortable Outdoor Space, International &amp; Pan-American Co.</li> <li>▪ Watson, D. &amp; Adams, M. 2010. Design for Flooding: Architecture, Landscape, and Urban Design for Resilience to Climate Change, John Wiley &amp; Sons.</li> <li>▪ Dahl, T. 2009. Climate and Architecture. Routledge,</li> <li>▪ Givoni B., 1990. Man, Climate and Architecture. John Wiley&amp; Sons</li> <li>▪ Givoni, B. &amp; B. Givoni. 1998. Climate Considerations in Building and Urban Design. John Wiley &amp; Sons.</li> <li>▪ Lechner N., Heating, Cooling, Lighting, Design Methods for Architects, John Wiley &amp; Sons, 2000.</li> <li>▪ Duany, A. J. Speck &amp; M. Lydon. 2010. The Smart Growth Manual. McGraw-Hill.</li> </ul>
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<b>MATERIAL SHARING</b>	
<b>Documents</b>	-
<b>Assignments</b>	-
<b>Exams</b>	-

<b>ASSESSMENT</b>		
<b>In-Term Studies</b>	<b>Number</b>	<b>Percentage</b>
Mid-terms	-	-
Quizzes	-	-
Project	-	-
Seminar and Presentation	2	%50
Homework	-	-
Final Exam	1	%50
<b>Total</b>		<b>100</b>
<b>Contribution of Final Examination To Overall Grade</b>		%50
<b>Contribution of In-Term Studies To Overall Grade</b>		%50
<b>Total</b>		<b>100</b>

<b>COURSE CATEGORY</b>	Expertise / Field Courses
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COURSE'S CONTRIBUTION TO PROGRAM						
No	Program Learning Outcomes	Contribution				
		1	2	3	4	5
1	Develops and deepens the theoretical and practical knowledge at the level of expertise in the field of Urban Design and Landscape Architecture, based on the qualifications of undergraduate education.					X
2	Has knowledge of legal and managerial issues such as national / international environmental policies and legislation, as well as discusses current developments and changes.					X
3	Has critical awareness of the nature of knowledge, its sources, and the problems of knowledge production and the testing of knowledge in the areas of Architecture / planning / design and Interfaces between other related areas. Is able to disgust the interaction between disciplines related to the field.					
4	Has extensive knowledge of the criteria and processes that are effective in determining urban design requirements such as socio-economic and spatial standards and the ability to use these criteria within the design process.				X	
5	Knows world examples in urban design and its parts, follows current developments and has an idea about how they can be handled according to the conditions of the country.					X
6	Has extensive knowledge about the current techniques and methods applied in the field of Biological-Ecological Environmental Protection (Nature conservation, landscape planning, recreational planning, Green area planning, protected area planning, etc.) and solutions for local and global environmental problems and their limitations.					
7	Has extensive knowledge about ecosystem, biodiversity and sustainable resource management, rural development, design, planning and technology use.					
8	Has the ability to prepare urban design / landscape design projects or research projects based on theoretical and practical knowledge by following /producing innovative methods and ideas.					X
9	Has problem-solving skills necessary for integrating knowledge from different fields and the ability to critically evaluate academic research.				X	
10	Has the competence to access information, databases and other resources, and conduct specific scientific studies, as well as the ability to share and discuss open and systematic knowledge with experts and non-experts.			X		
11	Is conscious of the social and professional ethical responsibilities that may arise from the application of information and decisions.					
12	Protects public benefit in the design of urban components and the shaping of the city as a whole, and acts with social responsibility				X	
13	Has the attitude to decide and act with judicial awareness by showing respect to human, social and cultural rights, and by being sensitive to the protection of the natural environment and cultural heritage.					

<b>ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION</b>			
<b>Activities</b>	<b>Quantity</b>	<b>Duration (Hour)</b>	<b>Total Workload (Hour)</b>
Course Duration (Including the exam week: 16 x Total course hours)	16	3	48
Hours for off-the-classroom study (Pre-study, practice)	16	10	160
Mid-terms	-	-	-
Quizzes	-	-	-
Project	-	-	-
Seminar and Presentations	2	18	36
Homework	-	-	-
Final examination	1	3	3
<b>Total Work Load</b>			247
<b>Total Work Load / 25 (h)</b>			9,88
<b>ECTS Credit of the Course</b>			10