

Course Code	Course Name	Year/Semester	Theory	Practice	Credits	ECTS
IAED 3302	Environmental Control in Interior Space	2019/2020 Spring	3	0	3	3

**Level of Course:** Undergraduate

**Course Type:** Core Course

**Language of**

**Instruction:** English

**Course time:** 14:30-17.30 / Tuesday

**Course classroom:** B2-30

**Mode of Delivery:** Class Teaching, Presentation, Assignments

**Prerequisites and** None

**Co-requisites:** None

**Course Coordinator:** Prt. Time Lec. Begüm SÖYEK ABAY

**Name of Lecturer(s):**

**Course Teaching**

**Assistant:**

**Course Objectives:** It is aimed to investigate environmental conditions and evaluate its impact on interior space.

**Course Description:** This course aims to discuss the interior thermal comfort in the scope of passive conditioning (heating, cooling, ventilation and humidification) criteria and how these criteria are applied as a part of the design.

**Learning Outcomes:** Upon successful completion of the course, students will be able to:

- Learns the features of environmental conditions related with interior architecture.
- Learns specific terminology and details about subject
- To gain consciousness of regarding standards and regulations during design processes
- To gain perception of requirements and methods of interdisciplinary study and application during design

**Language:** The studio classes and discussions will be in English. Developing your verbal language skills will be very important in acquiring the disciplinary terminology as well as daily communication at the class.

**Text Books:** There is no specific text book for this course.

**Recommended Text Books:** Mehta M., Architectural Acoustics: Principles and Design 1st Edition  
O.H. Koenigsberger, Manual of Tropical Housing and Building: Climate Design  
H.B Awbi, Ventilation of Buildings  
C. Carter, J. De Villiers, Johan De Villiers, Principles of Passive Solar Building Design  
Burberry P., Environment and Services  
Lechner N., Heating, Cooling, Lighting: Sustainable Design Methods for Architects 3rd Edition  
A.F.E Wise, J.A. Swaffield, Water, Sanitary and Waste Services for Buildings

**For the terminology:**

**Reading Text books:**

**Planned Learning Activities and Teaching Method:** **Learning/Teaching Method:** The expected learning outcomes for the course will be assessed through: Individuals Presentations, a Midterm Exam, Final Project and Class discussions and feedback.

**Assignments:** Students are required to submit 5 assignments in an individual work throughout the semester.

**Class Participation:** Regular attendance of all enrolled classes is expected. Do not be late to the class. Attendance will be taken through your signature within the first quarter of the class; if you come later you will be considered absent. At the end of the Semester, your attendance will be reported on UBS system. Attendance is compulsory and in case of absenteeism of more than 30%, the system will automatically grade you "FX". If you miss a class, it is your responsibility to 'make up' all work, including items discussed in class. Class contribution will be measured in terms of quality not quantity. If you need to leave early for whatever reason, you should exercise politeness and notify your professor at the commencement of the session.

**Academic integrity & plagiarism:** Academic integrity is the pursuit of scholarly activity based on the values of: honesty, trust, fairness, respect and responsibility. Practicing academic integrity means never plagiarizing or cheating, never misrepresenting yourself, never falsifying information, never deceiving or compromising the work of others. Basically, this means, either intentionally or unintentionally, using the words or ideas of someone else without giving credit, it's strictly forbidden.

**Course Text books:** There is no specific textbook for this course.

**Key Works:** In this course lectures and assignments mainly focuses on all pipe systems, HVAC, Water systems, electricity, lighting design, acoustic and sound insulation.

**Specific Rules:**

1. **Be punctual. Punctuality is a sign of respect toward yourself and the others.**
2. Show respect for all the people and property around you.
3. Be responsible for your actions and meet all expectations.
4. Follow directions the first time they are given.
5. Students should raise their hand to signal a question or to answer a question.
6. Students should use the Internet at school for academic purposes only.
7. It is forbidden to record classes with any type of device.

**Communication:** Students are encouraged to visit the professor during their Office Hours. If you cannot make it to announced office hours, please make individual arrangements via e-mail. However, do not expect the professor and the research assistant to respond at length via e-mail to questions of content, definition of terms, grading questions etc. If you have a question that requires a substantive response, please set up an appointment to speak with one of us.

**Course Contents\*:  
(Weekly Lecture Plan)**

Date	Week	Chapter Topic	Take-home exercise
11.02.2020	1	Introduction to the syllabus	-
18.02.2020	2	Introduction to energy conservation, design parameters affecting heating and air conditioning energy conservation (settlement, distances between buildings, orientation, building form, building envelope etc.)	-
25.02.2020	3	Basic definitions on sunlighting, sunlighting and solar control principles, thermal and visual effects; solar control systems in traditional architecture; solar control systems in modern architecture	-
03.03.2020	4	Solar control with glazing, glazing properties in general, introduction to the shading device design methodology	Group presentations about the shading device design
10.03.2020	5	Presentations and discussions	-
17.03.2020	6	Sound in closed spaces, sound absorption, reflection, refraction, scattering, Acoustical parameters	-



		that effect speech-music, Calculation methods of airborne sound transmission, Case studies in Noise control	
<b>24.03.2020</b>	<b>7</b>	Architectural building criteria for concert halls, operas, cinemas, conference halls, multipurpose halls and educational buildings (form, volume and area per person, floor slope, side walls and back wall)	Class presentations: (after midterm exam week) 1. Recently Built Concert Halls and their architects 2. Acoustics of different room functions
	<b>8</b>	<b>MIDTERM EXAM WEEK</b>	
<b>07.04.2020</b>	<b>9</b>	Discussion about the Midterm Exam and Class Presentations	-
<b>14.04.2020</b>	<b>10</b>	Cold and hot water (central and local) supply into the building, tanks and water distribution in buildings, design of wet spaces, various proposals for the development of wet spaces, wastewater disposal, sewer systems	1. Water supply into the building, 1/50 2. Designing cold and hot water installation system in the plan 1/50 3. Designing sewage disposal from the building 1/50 4. Preparation of architectural drawings for a typical wet space - plan- sections 1/20
<b>21.04.2020</b>	<b>11</b>	Water efficient design parameters in buildings (water saving devices and sanitation, rainwater harvesting systems, grey water recycling), examples from Turkey and the world, regulations, codes and standards for water efficiency in Turkey and in the world	-
<b>28.04.2020</b>	<b>12</b>	Electrical Equipment	Hw: Drawing
<b>05.05.2020</b>	<b>13</b>	HVAC Systems	Hw: Drawing
<b>12.05.2020</b>	<b>14</b>	Phases of fire, fire spread between buildings, determination of escape routes, capacity and width of emergency escape routes, fire precautions in building elements and components, combustion	-

		characteristics of building materials, regulation and standards	
<b>2020</b>			<b>FINAL EXAM</b>
<b>2020</b>			

\* PLEASE NOTE: Details of the syllabus and course schedule are subject to minor changes that will be announced in class and posted on Blackboard website.

**Grading:** Midterm and final exam responses will be evaluated for accuracy, thoughtfulness and assignments will be evaluated for content, quality of ideas and clarity of presentation (including text and graphics).

**Assessment Methods and Criteria :**

METHODS	EFFECTS ON GRADING
Attendance and Participation	%10
Homework	%25
Midterm Exam	%30
Final Project	%35
	100

**ECTS Workload Table :**

ACTIVITIES	NUMBER	HOUR	WORKLOAD
Course Teaching Hours	13	3	39
Assignment(s)	2	5	10
Self-study for Midterm Project	1	10	10
Self-study for Final Exam	1	16	16
<b>Total Workload</b>	<b>0</b>	<b>0</b>	<b>75</b>
<b>Total workload/25</b>			<b>75/25</b>
<b>ECTS</b>			<b>3</b>

**GRADING AND EVALUATION**

The students' progress will be evaluated throughout the semester.

Grade Scale:

GRADE	MARKS	VALUE	GRADE	MARKS	VALUE
A+			C+	60-64	2.30
A	95-100	4.00	C	55-59	2.00
A-	85-94	3.70	C-	50-54	1.70
B+	80-84	3.30	D+	45-49	1.30
B	75-79	3.00	D	40-44	1.00
B-	65-74	2.70	F	0-39	0.00