General Information	Subject name, code and number of credits	**DSN 424 Eco Design, 3 KU/ 6 ECTS**
	Department	**Architecture and design department**
	Program (bachelor's degree, master's degree)	Bachelor
	Academic semester	Autumn semester of the 2024/25 academic year
	Instructor(s)	Ilaha Tahmazli
	E-mail:	ilaha.tahmazli@khazar.org
	Lecture Room/Schedule	Neftchilar campus, room 402N Mon. 11:50 – 13:20 13:40 – 15:10
	Office hours	At times agreed upon with students
Prerequisites	-	
Language of instruction	English	
Type of subject (compulsory, elective)	Compulsory	
Textbooks and additional literature	1. Iyengar, K.(2015). *Sustainable Architectural Design:An Overview* (1sted.). Routledge. 2. Ching, F.D.K., & Shapiro, I.M. (2014). *GreenBuilding Illustrated* (1sted.). Wiley. 3. Block, M., & Bokalders, V. (2009). *The Whole Building Handbook: How to Design Healthy, Efficient and Sustainable Buildings* (1st ed.). Routledge. 4. Bauer, M., Mösle, P., & Schwarz, M. (2009). *Green Building: Guide book for Sustainable Architecture*. Springer Publishing.	
Course outline	In the course, students will learn about the importance of ecologically efficient design, the factors that cause this demand, the importance of green buildings in the application of eco-design, and their planning based on the requirements of eco-design.	
Course objectives	**The purpose of the subject:** The main goal of studying the subject is to ensure the minimization of the impact on the ecological environment in the buildings designed by the student. To teach ways to minimize the environmental impact of the buildings that the student will design based on the use of natural energy resources, eco-efficient and recycled building materials.	
Results of teaching (learning)	As a result of the educational process, the student will learn: • the concept of eco-design and the main factors of demand for this type of design; • green buildings in eco-design, requirements for their design; • site selection in green buildings, influence of climate conditions and available natural resources in the area on eco-design; • use of natural resources and energy conservation in green building design planning;	

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- construction materials, evaluation of their eco-efficiency and areas of use;
- planning of building internal engineering facilities based on eco-design requirements in order to increase energy efficiency;
- types of evaluation and certification of green buildings based on the requirements of eco-design.

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<tr><td rowspan="3">Teaching methods</td><td>Lecture</td><td colspan="2">x</td></tr>
<tr><td>Practical tasks</td><td colspan="2">x</td></tr>
<tr><td>Analysis of practical issues</td><td colspan="2">x</td></tr>
<tr><td rowspan="7">Evaluation</td><td>Components</td><td>Date/Deadline</td><td>Percentage (%)</td></tr>
<tr><td>Presentation</td><td></td><td>10</td></tr>
<tr><td>Attendance</td><td></td><td>5</td></tr>
<tr><td>Activity</td><td></td><td>15</td></tr>
<tr><td>Midterm exam</td><td></td><td>30</td></tr>
<tr><td>Final exam</td><td></td><td>40</td></tr>
<tr><td>Total</td><td></td><td>100</td></tr>
<tr><td>Rules

(Education policy and conduct)</td><td colspan="3">
Presentation
The student is required to conduct detailed research on the project he/she will work on during the semester and present a related presentation. The presentation should reflect the requirements related to the design of the school project, a detailed study of the style and materials that the student will use in the design process. Sources cited during the analysis should be appropriately listed in the form of a reference list at the end of the presentation. The reliability and number of the referenced resource, the completeness of the general information are taken as the main factors during the evaluation. For each presentation, the student is given a minimum of 10 and a maximum of 15 minutes, and it is required not to exceed this time frame of the presentation. The purpose of the assignment is to develop the student's short-term research and presentation skills.

Deadline:
Task 1 should be prepared and submitted till the time of the midterm exam.

Attendance:
The maximum score for attending classes is 5 points. The number of points is based on: if the student attends all classes on the subject during the semester, he is given 5 points, 1 point is deducted for every 2 classes not attended. If the total number of lessons missed during the semester for the subject is more than 25% of the norm (illness, family situation, etc.), the student is not admitted to the exam session, and a certain decision is made about it.

Activity:
The activity is designed to monitor the progress of the project that the student has to work on during the semester. Each student must come prepared to class every week during the 15-week semester and present the current status of the project to the instructor. If there is sufficient progress in the project, the activity is evaluated with 1 point for the current week. It encourages the student to constantly work on the project during the semester, and the parallel application of the learned knowledge on the project
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	ensures the consolidation of this knowledge. **Midterm Exam:** It is planned to review the project that the student will work on during the semester. For the review of the project, the area analysis of the project, idea solutions, interior planning, front and side facade solutions must have been completed. **Note:** Project design should be done by using any computer graphics programs (AutoCAD, ArchiCAD, SketchUp, Revit, 3ds Max, Rhino, Lumion, Photoshop, CorelDraw, etc.). **Final exam:** In the final exam, students are supposed to present projects that they will work on during the semester. The project should be finalized, all drawings should be demonstrated in detail. **Completion of the course:** The student's knowledge is evaluated with a maximum of 100 points. An overall success rate of 61% and above is considered to complete the course. A failed student can take this subject again in the next semester or the next year. **Rules of conduct of the student:** A student is not allowed to violate the University's internal disciplinary rules and use a mobile phone.

Schedule (subject to change)

Week	Date	Topics of the subject	Textbook/Resource
1	16.09.2024 16.09.2024	**Introduction. The concept of eco-design. Current approaches to eco-design and resource efficiency. Green buildings are part of eco-design** **Acquaintance with the syllabus and assignments. Discussion of the lecture topicş**	1. Iyengar, K. (2015). *Sustainable Architectural Design: An Overview* (1st ed.). Routledge. 2. Bauer, M., Mösle, P., & Schwarz, M. (2009). *Green Building: Guidebook for Sustainable Architecture*. Springer Publishing. 3. Ching, F. D. K., & Shapiro, I. M. (2014). *Green Building Illustrated* (1st ed.). Wiley.
2	23.09.2024 23.09.2024	**Area selection, initial idea solutions** **Area selection, initial idea solutions**	

3	30.09.2024 30.09.2024	**Construction Site Selection and Analysis** **Analysis of the selected area, climatic conditions, initial idea solutions**	1. Iyengar, K. (2015). *Sustainable Architectural Design: An Overview* (1st ed.). Routledge.
4	07.10.2024 07.10.2024	**Analysis of the selected area, climatic conditions, initial idea solutions** **Analysis of the selected area, climatic conditions, initial idea solutions**	
5	14.10.2024 14.10.2024	**Eco-efficient materials, their evaluation and selection** **Selection of materials to be used in the project**	1. Iyengar, K. (2015). *Sustainable Architectural Design: An Overview* (1st ed.). Routledge. 2. Block, M., & Bokalders, V. (2009). *The Whole Building Handbook: How to Design Healthy, Efficient and Sustainable Buildings* (1st ed.). Routledge.
6	21.10.2024 21.10.2024	**Selection of materials to be used in the project** **Selection of materials to be used in the project**	
7	28.10.2024 28.10.2024	**Passive Sustainable/Eco-design Ideas and Systems** **Planning of the building envelope (roof, outer walls, etc.) based on eco-design principles.** **Renewable energy systems.** **Implementation of passive sustainable/eco-design solutions on the project**	1. Iyengar, K. (2015). *Sustainable Architectural Design: An Overview* (1st ed.). Routledge. 2. Bauer, M., Mösle, P., & Schwarz, M. (2009). *Green Building: Guidebook for Sustainable Architecture*. Springer Publishing.
8	04.11.2024 04.11.2024	**Midterm Exam**	

9	11.11.2024 11.11.2024	**Holiday**	
10	18.11.2024 18.11.2024	**Implementation of renewable energy systems on the project** **Implementation of renewable energy systems on the project**	
11	25.11.2024 25.11.2024	**Active Sustainable/Eco-design Ideas and Systems** **3D model preparation of the project**	1. Iyengar, K. (2015). *Sustainable Architectural*
12	02.12.2024 02.12.2024	**Implementation of active sustainable/eco-design solutions in the project** **Designing of exterior and interior design solutions of the project**	
13	09.12.2024 09.12.2024	**Evaluation of green buildings based on standards. A closer look at green buildings, a theoretical analysis of existing projects** **Designing of exterior and interior design solutions of the project**	1. Iyengar, K. (2015). *Sustainable Architectural* 2. Bauer, M., Mösle, P., & Schwarz, M. (2009). *Green Building: Guidebook for Sustainable Architecture*. Springer Publishing.
14	16.12.2024 16.12.2024	**Preparation of the final presentation layout of the project** **Preparation of the final presentation layout of the project**	
15	23.12.2024 23.12.2024	**Holiday**	
Final Exam			