

TISHK INTERNATIONAL UNIVERSITY
FACULTY OF ENGINEERING
Department of ARCHITECTURE,
2021-2022 Fall
Course Information for ARCH 313 SUSTAINABLE ARCHITECTURE

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|--|---|--------------------|------------------|----------------|-------------|
| Course Name: | SUSTAINABLE ARCHITECTURE | | | | |
| Code | Regular Semester | Theoretical | Practical | Credits | ECTS |
| ARCH 313 | 5 | 2 | - | 2 | 4 |
| Name of Lecturer(s)- Academic Title: | Nawaz Dabbagh - assistant lecturer | | | | |
| Teaching Assistant: | Safa Khalid | | | | |
| Course Language: | English | | | | |
| Course Type: | Main | | | | |
| Office Hours | Sunday 11:00-1:00 | | | | |
| Contact Email: | nawaz.dabbagh@tiu.edu.iq Tel:07728000008 | | | | |
| Teacher's academic profile: | MSc. TU Delft | | | | |
| Course Objectives: | a new trend that lets the student to learn how to design a more efficient and sustainable building, to understand the Green Architecture, what is it , and how to make a building more sustainable , how to enter green into the project. To take care about natural light and use less as possible as the artificial lighting. Cares about ventilation inside a building and allows the student to know which project need a natural lighting and natural ventilation. Teach the student what are renewable energy resources (solar, wind, Biomass, Geothermal) and how to make use of them in our country and how to put them in their projects. It helps the student to think more livable about the human comfortable and ways of having a less energy use project | | | | |
| Course Description (Course overview): | Is a new trend that lets the student to learn how to design a more efficient and sustainable building, to understand the Green Architecture, what is it , and how to make a building more sustainable , how to enter green into the project. To take care about natural light and use less as possible as the artificial lighting. Cares about ventilation inside a building and allows the student to know which project need a natural lighting and natural ventilation. Teach the student what are renewable energy resources (solar, wind, Biomass, Geothermal) and how to take useful of them in our country and how to put them in our projects. It helps the student to think more livable about the human comfortable and ways of having a less energy use project. | | | | |

COURSE CONTENT

| Week | Hour | Date | Topic |
|------|------|-----------------|--|
| 1 | 2 | 4-7/10/2021 | Introduction to sustainability |
| 2 | 2 | 10-14/10/2021 | General principles of sustainability renewable energy and recycling method |
| 3 | 2 | 17-21/10/2021 | sustainability and construction materials |
| 4 | 2 | 24-28/10/2021 | sustainability and buigding design |
| 5 | 2 | 31/10-4/11/2021 | International Standards for green Architecture |
| 6 | 2 | 7-11/11/2021 | Measuring sustainability in architectural design |
| 7 | 2 | 14-18/11/2021 | Midterm Exam |
| 8 | 2 | 21-25/11/2021 | examples of sustainable buildings |
| 9 | 2 | 28/11-2/12/2021 | project guide lines and presentations |
| 10 | 2 | 5-9/12/2021 | nanotechnology materials for architecture and construction |
| 11 | 2 | 12-16/12/2021 | Group project presentation |
| 12 | 2 | 19-23/12/2021 | Regional sustainability applications in contemporary regional architecture |
| 13 | 2 | 26-30/12/2021 | Regional sustainability applications in contemporary regional architecture |
| 14 | 2 | 2-5/1/2022 | sustainability and aesthetic values- |

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|---|--|---------------------------------------|-----------------------|
| 15 | 2 | 9-13/1/2022 | Final Exam |
| 16 | 2 | 16-20/1/2022 | Final Exam |
| COURSE/STUDENT LEARNING OUTCOMES | | | |
| 1 | 1 Introduction to individual sustainability | | |
| 2 | 2 Explain sustainability in ecological and green building architectural design | | |
| 3 | 3 Use the renewable energy sources in architectural design | | |
| 4 | 4 Teach student the possible ways to apply sustainability in buildings | | |
| COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES (Blank : no contribution, I: Introduction, P: Profecient, A: Advanced) | | | |
| Program Learning Outcomes | | | Cont. |
| 1 | Be able to apply creative problem solving skills to architectural problem solving | | I |
| 2 | Demonstrate knowledge of architectural history, theory, and practice in the solution of architectural design problems in a global society | | I |
| 3 | Be able to utilize freehand drawing, architectural graphics, and model building skills in the solution of design problems | | I |
| 4 | Be able to utilize the computer as a tool in a wide range of documentation and presentation applications, using CADD, 3-D visualization and rendering, electronic image composition and editing software | | I |
| 5 | Be able to identify, formulate, and effectively communicate the critical issues involved in the solution of architectural design problems regarding other engineering professions. | | A |
| 6 | The Ability to conceptualize and coordinate designs that addressing some of the most social, cultural, environmental, theoretical, economic, and technological aspects of architecture. | | A |
| 7 | The ability to recognize the dialectic relationship between people and the built environment in a region and apply principles of sustainable design. | | A |
| 8 | The ability to work collaboratively with various design teams involved in the building industry, and collaborate and negotiate with clients and consultants. | | I |
| Prerequisites (Course Reading List and References): | books on sustainability and buildings, Renewable sources of energy, building construction technology | | |
| Student's obligation (Special Requirements): | historical background and scientific knowledge about sustainability, let the students use the methods and principles of sustainability in their architectural design projects. | | |
| Course Book/Textbook: | Websites on internet + reference books in libraries. 2- ASHRAE Handbook | | |
| Other Course Materials/References: | Lectures, Exercises, Presentation, Seminar, Assignments | | |
| Teaching Methods (Forms of Teaching): | Lectures, Presentation, Project, Assignments, , , | | |
| COURSE EVALUATION CRITERIA | | | |
| Method | Quantity | Percentage (%) | |
| Attendance | 1 | 5 | |
| Participation | 1 | 5 | |
| Quiz | 2 | 5 | |
| Homework | 1 | 10 | |
| Project | 1 | 10 | |
| Midterm Exam | 1 | 20 | |
| Final Exam | 1 | 40 | |
| Total | | 100 | |
| Examinations: Essay Questions, True-False, Fill in the Blanks, Multiple Choices, Short Answers, Matching, , , | | | |
| Extra Notes: | | | |
| ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD | | | |
| Activities | Quantity | Workload Hours for 1 quantity* | Total Workload |
| Theoretical Hours | 16 | 2 | 32 |

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|--|----|---|-------------|
| Practical Hours | 16 | 0 | 0 |
| Final Exam | 1 | 5 | 5 |
| Attendance | 1 | 1 | 1 |
| Participation | 1 | 1 | 1 |
| Quiz | 2 | 1 | 2 |
| Homework | 1 | | 0 |
| Project | 1 | | 0 |
| Midterm Exam | 1 | | 0 |
| Total Workload | | | 41 |
| ECTS Credit (Total workload/25) | | | 1.64 |

Peer review

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean