Faculty: Architecture and Design
Course Code & Number: ARCH 445
Type of Course: Elective
Course Credit Hours: (3+0+0) 3 / 5 ECTS
Language of Instruction: English

Department: Architecture
Course Title: Research on Architectural Tectonics
Semester: Fall
Pre-requisite: ARCH 372
Mode of Delivery / Classroom: Face-to-face / F 204

Instructor: Onur Yüncü
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Office/contact hours: Mondays 13:00 - 14:00

CATALOG DESCRIPTION

Practical modes of research through making and construction. Action research in architecture. Architectural tectonics. Constructional aspects of design problems. Materials, techniques and holistic detailing of interior and exterior spaces.

COURSE OBJECTIVE

The course aims to make students develop an understanding of the constructional aspects of a design problem. It will introduce and discuss main concepts of practical philosophy and action research in order to provide a framework for students in their research on architectural tectonics. By focusing on the material and technical dimensions of design processes, it urges the students to develop an understanding for the realization of their architectural projects.

LEARNING OUTCOMES

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

1. make use of practical modes of research
2. analyze case studies on material usage and technical detailing
3. identify constructional problems of their own design proposals
4. propose articulate and integrated solutions for constructional problems
5. document and present the results of their research on architectural tectonics in coherence with their overall design approach

TEACHING METHODS AND LEARNING ACTIVITIES

Course is organized as a series of lecture/discussions based on weekly topis and assigned readings accompanied by student presentations. Students are expected to actively engage in weekly discussions, prepare commentaries on these discussions / assigned readings and prepare a presentation on a particular topic in groups during the semester in addition to a final project.

EVALUATION

Students will be evaluated on the basis of the quality and process of the work, the completion of assignments, and contribution to the course environment. It is reminded that proper, elaborate and regularly updated documentation of the course work on LMS is an important part of the evaluation.

Weekly Commentaries (a visual accompanied by app. 100 words description): 20%
Presentation on a Particular Topic: 25%
Final Project: 45%
Contribution and Attendance: 5%

Assessment Methods	Course Learning Outcomes
Weekly Commentaries	#1-2-3-4
Presentation on a Particular Topic	#1-2-5
Final Assignment	#1-2-3-4-5
Course Contribution and Attendance	#1-2-3-4-5

GRADING SYSTEM

For each course taken, the student is given one of the following grades by the course teacher. The letter grades, coefficients and percentage equivalents are given below.

AA	4.0 / 100-90
BA	3.5 / 89-85
BB	3.0 / 84-80
CB	2.5 / 79-75
CC	2.0 / 74-70 average
DC	1.5 / 69-60
DD	1.0 / 59-50 unsatisfactory
F	0.0 / 49-0 fails to follow requirements of the assignment
FX	0

LANGUAGE

The discussions and all of your submissions will be in English. Developing your verbal language skills will be very important in acquiring design terminology as well as daily communication in the class.

ATTENDANCE

It is extremely important to follow the course. 25% worth of non-attendance results in failing.

MISSED WORK

In case of medical report or accepted excuses by the university policies, the instructor may evaluate the missed work as incomplete. Incomplete work is generally discouraged.

PLAGIARISM & CHEATING

Each student is expected to respect for others work, and learning experience, avoid plagiarism and cheating, provide appropriate citation of others' ideas, works and products. Each work should be an original product of students' own learning and research process.

STUDENT WORKLOAD

140 hours (Lectures and Discussions 25 hrs | Weekly Commentaries: 20 | Presentation: 35 hrs | Final Project: 60 hrs)
Please provide the instructor your own personal assessment at the end of the semester, for further improvements in the course design.

SUGGESTED READINGS / BOOKS / SOURCES

Ching, Francis D.K. *Building Structures Illustrated*. Hoboken, NJ: Wiley, 2009.

Ching, Francis D.K. *Building Construction Illustrated*. New Jersey: Ching Publications, 2020.

Cross, Nigel. "Designerly Ways of Knowing." *Design Studies*. Vol. 3 No. 4 (October 1982): 221-227.

Frayling, Christopher. "Research in Art and Design." *Royal College of Art, London, Research Paper*. Vol. 1-1 (1993/4): 1-5.

Frampton, Kenneth. "Rappel a l'Ordre: The Case for the Tectonic." in Nesbitt, Kate (ed.), *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995*. New York, NY: Princeton Architectural Press. 516-529.

Frampton, Kenneth. *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture.* Cambridge, MA: 1995.

Groat, Linda and David Wang. *Architectural Research Methods*. New York, NY: John Wiley and Sons, 2002.

Hofstadter, Douglas R. *Gödel, Escher, Bach: an Eternal Golden Braid*. New York, NY: Basic Boks, Inc., 1999.

Lewin, Kurt. "Action Research and Minority Problems." In Kurt Lewin, *Resolving Social Conflicts: Selected Papers in Group Dynamics*. Edited by Gertrud Weiss Lewin, 201-216. New York, NY: Harper & Brothers, 1948. Originally published in *Journal of Social Issues*. Vol. 2 No. 4, 1946, special issue, "Action Research: A Challenge," issue editor David Krech: 34-46.

Polanyi, Michael. *Personal Knowledge: Towards a Post-Critical Philosophy*. New York, NY: Harper & Row, 1964. First edition, 1958.

Schön, Donald A. *The Reflective Practitioner: How Professionals Think in Action*. London: Basic Books, 1991. First edition, 1983.

Architects' Monographs

Detail Magazine

www.archdaily.com (Products & BIM)

Manufacturers' websites, catalogues, manuals

TENTATIVE WEEKLY SCHEDULE / ARCH 445 RESEARCH ON ARCHITECTURAL TECTONICS

W1	Introduction to the Course
2.10.23	
W2	**Design/Research**, **Reflective Practice, Research by Design:** Readings and Discussion
9.10.23	Introduction of the Tectonic Themes and Formation of Research Groups
W3	**Tacit Knowledge, Action Research**, **Practical Philosophy:** Readings and Discussion
16.10.23	Feedbacks on Tectonic Research
W4	**Tectonic Culture:** Readings and Discussion
23.10.23	Feedbacks on Tectonic Research
W5	**Load Bearing:** Tectonic Research Presentation - Group 1
30.10.23	Discussion and Feedbacks on Final Project
W6	**Enveloping**: Tectonic Research Presentation - Group 2
6.11.23	Discussion and Feedbacks on Final Project
W7	**Sheltering:** Tectonic Research Presentation - Group 3
13.11.23	Discussion and Feedbacks on Final Project
W8	**Partitioning, Interior Finishes - Surfaces and Sanitary:** Tectonic Research Presentation - Group 4
20.11.23	Discussion and Feedbacks on Final Project
W9	**Openings:** Tectonic Research Presentation - Group 5
27.11.23	Discussion and Feedbacks on Final Project
W10	**Vertical Circulation**: Tectonic Research Presentation - Group 6
4.12.23	Discussion and Feedbacks on Final Project
W11	**Climate Control:** Tectonic Research Presentation - Group 7
11.12.23	Discussion and Feedbacks on Final Project
W12	**Electrical and Mechanical Systems**: Tectonic Research Presentation - Group 8
18.12.23	Discussion and Feedbacks on Final Project
W13	**Hardscape:** Tectonic Research Presentation - Group 9
25.12.23	Discussion and Feedbacks on Final Project
W14	**HOLIDAY – New Year's Day**
1.1.24	
Final	**Final Project Submission** (date to be determined according to your final jury dates)
	Identify constructional problems of your own project of last semester, develop tectonic solutions for these problems in coherence with your overall design approach and present your proposal in 3D.