

# ARCH444 hands-on architectural design

s2025

<b>Faculty:</b>	Architecture and Design	<b>Department:</b>	Architecture
<b>Course Code:</b>	ARCH 444	<b>Course Title:</b>	Hands-on Architectural Design
<b>Type of Course:</b>	Elective	<b>Semester:</b>	Spring
<b>Course Credit Hours:</b>	(2+2+0) 3 / 5 ECTS	<b>Pre-requisite:</b>	-
<b>Language of Instruction:</b>	English	<b>Mode of Delivery:</b>	Face-to-face (E314)
<b>Instructors:</b>	Onur Yüncü onuryuncu@tedu.edu.tr	Seray Türkay seray.coskun@tedu.edu.tr	

## CATALOG DESCRIPTION

Learning by doing. Collaborative and hands-on design practice. Research by design. Reflective practice. Material-driven design research. Experimental construction methods. 1/1 full-scale production and installation of a spatial construction. Sustainable approaches in architectural design practices.

## COURSE OBJECTIVES

The main objective of the course is to equip students with architectural know-how to conduct design processes from idea to practice. The course engages students in collaborative and hands-on activities to research, document, design, and construct with experimental materials and methods to foster novel and sustainable design solutions. It aims to develop students' practical knowledge in architectural research by 1/1 full-scale production and installation of a spatial construction. The course aims to integrate the SDGs and their applications in architectural design practices.

## LEARNING OUTCOMES

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

1. Evaluate properties and potentials of different materials,
2. Develop architectural designs with experimental construction methods,
3. Practice collaborative and hands-on work in architectural research, design, and construction processes,
4. Integrate construction details in architectural design process,
5. Construct a 1:1 full-scale design project on-site.

## TEACHING METHODS AND LEARNING ACTIVITIES

Course is organized around a hands-on design practice conducted with the collaborative efforts of voluntary students. Students are expected to actively participate in the workshops, meetings and discussions prior to and during the course contribute to the documentation of the practical process and prepare a poster presentation on the collaborative experience and theoretical discussions.

## 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 collaborative work through the practice log is an important part of the evaluation.

Collaborative Construction: 35%  
Workshops and Hands-on Work: 15%  
Collaborative Hands-on Design Practice Log: 15%  
Project Documentation & Presentation Poster: 25%  
Contribution & Attendance: 10%

### Assessment Methods

Collaborative Construction  
Workshops and Hands-on Work  
Collaborative Hands-on Design Practice Log  
Project Documentation & Presentation Poster  
Course Contribution

### Course Learning Outcomes

#1-2-3-4-5  
#1-2-3-4  
#1-2-4  
#1-2-4  
#3-5

## 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. 30% worth of non-attendance results in failing. Missing the preliminary and final presentation results in an FX grade.

## 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

150 hours (Lectures 42 hrs | Hands-on Work: 40 hrs | Workshops: 40 hrs | Mock Designs: 12 hrs | Field Trips/Visits: 4 hrs | Poster Presentation: 12 hrs)

## SUGGESTED SOURCES / READINGS / BOOKS

Archer, Bruce. "Nature of Research." Co-design, interdisciplinary journal of design. (January 1995): 6-13.

Armstrong, Rached. Experimental Architecture: Designing the Unknown. London and New York: Routledge, 2020.

Berger, Markus and Kate Irvin (eds.) Repair: Design Sustainable Futures. London and New York: Routledge, 2022.

Bloszies, Charles. Old Buildings, New Designs: Architectural Transformations. New York: Princeton Architectural Press, 2011.

Bollack, Françoise Astorg. Old Buildings, New Forms: New Directions in Architectural Transformations. New York: The Monicalli Press, 2013.

Cross, Nigel. "Designly Ways of Knowing: Design Discipline Versus Design Science." Design Issues. Vol. 17-3 (Summer 2001): 49-55.

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

Hauberg, Jørgen. "Research by Design - a research strategy." Revista Lusófona de Arquitectura e Educação (Architecture & Education Journal). N. 5 (2011): 46-56.

Hebel, Dirk E., Felix Heisel, and Marta H. Wisniewska. Building from Waste: Recovered Materials in Architecture and Construction. Basel: Birkhäuser, 2014.

Hillebrandt, Annette, Petra Riegler-Floors, Anja Rosen, and Johanna-Katharina Seggewies. Manual of Recycling: Buildings as sources of materials. Munich: DETAIL, 2019.

Hofstadter, Douglas R. Gödel, Escher, Bach: an Eternal Golden Braid. New York, NY: Basic Books, Inc., 1999: 3-10.

Jencks, Charles and Nathan Silver. Adhocracy: The Case for Improvisation. Cambridge, MA: The MIT Press, 2023 [1972]

Karana, Elvin, Owain Pedgley and Valentina Rognoli. Materials experience: Fundamentals of materials and design. Oxford: Butterworth-Heinemann, 2014.

Nagarajan, N. and R. Prabhu. "Tacit Knowledge - A Review." International Journal of Marketing and Human Resource Management (IJMHRM). Vol. 6-2 (May-August 2015): 1-7.

Pelman, Barak and Amit Raphael Zoran. "Material-Driven Architectural Pedagogy: A Sociometrical Perspective," Form Akademisk 15, no.1 (2022): 1-17.

Plevoets, Bie and Koenraad Van Cleempoel. Adaptive Reuse of the Built Heritage. London and New York: Routledge, 2019.

Rendell, Jane. "Architectural research and disciplinary." Architectural Research Quarterly 8, no.2 (2004): 141-147.

Rossi, Catharine. "Bricolage, Hybridity, Circularity: Crafting Production Strategies in Critical and Conceptual Design," Design and Culture 5, no. 1, (2013): 69-87.

Vrontissi, Maria, Mario Rinke and Frederik Vanduyck. "Crafting Circularity. A European Education Project Exploring Sustainable Construction Practices with Future Architects," E3S Web of Conferences 436, 01014 (2023): 1-8.

Wong, Liliane. Adaptive REUSE: Extending the Lives of Buildings. Basel: Birkhäuser, 2017.

TACK: <https://tacit-knowledge-architecture.com/object/>

CIRC-ARCH Crafting Circularity: Rethinking Sustainable Design and Construction in Architecture Erasmus+ project: <https://www.uantwerpen.be/en/projects/circarch/>

Superuse Studios: <https://www.superuse-studios.com/publication/harvest-collect-re-use/>

Supertecture: <https://www.supertecture.com>

Reduce Reuse Recycle | Architecture as Resource: <http://www.reduce-reuse-recycle.info/>

## STUDENT SERVICES INFO

- Student Development and Psychological Counseling Center:

Student Development and Psychological Counseling Centre is mandated with providing crisis intervention and supportive listening services to the campus community. The Center conducts individual counseling, group guidance studies, workshops, seminars, and orientation studies for all students in need. You may apply to the Center in order to deal with all your current problems.

For further information and/or questions: [ogrencidanismamerkezi@tedu.edu.tr](mailto:ogrencidanismamerkezi@tedu.edu.tr), <https://csc.tedu.edu.tr/en>

- TEDU Without Barriers Unit:

Please inform the TEDU Without Barriers Unit and the instructor of the course about the specific issues in case you have a physical or mental disability and are having trouble with anything related to this course—such as accessing the material, participating in the class, taking notes, preparing for, attending or managing to complete the exams. Your situation will be reviewed by commission, in accordance with the principle of confidentiality, and if deemed appropriate, facilitating measures will be taken so that you can take the course more efficiently.

For further information and/or questions: [engelsiz@tedu.edu.tr](mailto:engelsiz@tedu.edu.tr), <https://engelsiz.tedu.edu.tr/en>

## WEEKLY SCHEDULE (TENTATIVE)

### W1. Introduction

13.2.25

### W2. ...

20.2.25

### W3. Hands-on Work & Discussion

27.2.25

### W4. ...

6.3.25

### W5. Hands-on Work & Discussion

13.3.25

### W6. ...

20.3.25

### W7. Documentation & Discussion

27.3.25

### W8. ...

3.4.25

### W9. Documentation & Discussion

10.4.25

### W10. ...

17.4.25

### W11. Presentation & Discussion

24.4.25

### W12. LABOR AND SOLIDARITY DAY

15.25

### W13. Presentation & Discussion

8.5.25

### W15. ...

15.5.25

### W14. Presentation & Discussion

22.5.25 Preliminary Poster Presentation

### W16. ...

29.5.25

## FINAL POSTER PRESENTATION (Date to be determined)

