



ESOGU Faculty of Art and Design
Industrial Design DEPARTMENT



COURSE INFORMATION FORM

| Course Name | Course Code |
|------------------------|-------------|
| Experimental Materials | 141115007 |

| Semester | Number of Course Hours per Week | | Credit | ECTS |
|----------|---------------------------------|----------|--------|------|
| | Theory | Practice | | |
| 5 | 2 | 2 | 3 | 5 |

| Course Category (Credit) | | | | |
|--------------------------|----------------------|--------|-------------------|--------|
| Basic Sciences | Engineering Sciences | Design | General Education | Social |
| | 3 | 2 | | |

| Course Language | Course Level | Course Type |
|-----------------|---------------|-------------|
| Turkish | Undergraduate | Elective |

| | |
|---------------------------------|--|
| Prerequisite(s) if any | |
| Objectives of the Course | The Experimental Materials course aims to expand the student's theoretical and practical material knowledge, to internalize the material by using different material creating techniques, and with the design of objects to apply in a creative way the new learnings. |
| Short Course Content | Beyond the typical materials taught primarily in industrial design education, for example wood, metal and plastics, in the Experimental Materials course, students will learn about less used or currently not broad available, experimental materials and production techniques. Plant fibers, wool/felt, used paper and waste plastic materials, growing mycelium and bacterial cellulose are materials introduced in the course and used to design small objects in an experimental way. In the theoretical part of the course students will learn how these materials are produced, how they are used and what can be done from them. In the applied part of the course students will internalize the materials by using traditional artisanal, manual and recycling techniques. |

| Learning Outcomes of the Course | Contributed PO(s) | Teaching Methods * | Measuring Methods ** |
|--|-------------------|--------------------|----------------------|
| 1 To be able to recognize natural, biological and recycled materials and techniques that are not used that much in serial production. | 1,2,3,4,6,8,9 | 1,2,3,5,6 | A,D,G |
| 2 To be able to create materials from natural, biological and recyclable basic materials. | 2,5,7,8,9 | 1,2,3,5,6 | A,D,G |
| 3 To be able to use experimental material as a starting point, to develop a design concept appropriate to the properties of the material and to realize the designs prototype. | 1,3,5,6,7 | 1,2,3,5,6 | A,D,G |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

*Teaching Methods 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

**Measuring Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

| | |
|----------------------------------|---|
| Main Textbook | Reintroducing Materials for Sustainable Design: Design Process and Educational Practice, Mette Bak-Andersen, Routledge, 2021 |
| Supporting References | Material Atlas – The Growing Pavilion, Editors: Jasper van den Berg and Bente Konings, Company New Heroes, Amsterdam, 2019 The Chemarts Cookbook, Editors: Pirjo Kaariainen, Liisa Tervinen, Tapani Vuorinen, Nina Riutta, Aalto University publication seriesC, 2020 Papermaking with Garden Plants & common Weeds, Helen Hiebert, Storey Publishing, 2006 Papier Mache (New Crafts), Marion Elliot, Lorenz Books, 2015 Wet Felting: Creating texture, pattern and structure, Natasha Smart, The Crowood Press Ltd, 2022 Bioplastic Cook Book – A catalogue of bioplastic recipes, Margaret Dunne, FabTextiles, Fab Lab Barcelona, 2018 |
| Necessary Course Material | Necessary tools and equipment can be found in stationery and hobby shops, in markets and in the kitchen. |

| Course Schedule | |
|------------------------|--|
| 1 | Explanation of course content and the way it is taught. |
| 2 | Introduction to GIY materials, mycelium, fermentation of kombucha-soby. |
| 3 | Creating container objects with natural materials, weaving techniques. |
| 4 | Rope and roll making from used paper, weaving and basket making techniques. |
| 5 | Felt fabric and tree-dimensional felt objects made from wool and fabric scraps. |
| 6 | Handmade paper made from plants and used paper. |
| 7 | Making of three-dimensional objects from paper pulp, trying out composite materials with pulp foam and natural fibers. |
| 8 | Mid-Term Exam |
| 9 | Making recycled plastic materials from waste plastic bags, sewing techniques. |
| 10 | Bioplastic trials from starch and agar. |
| 11 | Individual student project. |
| 12 | Individual student project. |
| 13 | Individual student project. |
| 14 | Individual student project. |
| 15 | Individual student project. |
| 16,17 | Final Exam |

| Calculation of Course Workload | | | |
|---|---------------|--------------------|------------------------------|
| Activities | Number | Time (Hour) | Total Workload (Hour) |
| Course Time (number of course hours per week) | 14 | 2 | 28 |
| Classroom Studying Time (review, reinforcing, prestudy,...) | | | |
| Homework | 12 | 2 | 24 |
| Quiz Exam | | | |
| Studying for Quiz Exam | | | |
| Oral exam | | | |
| Studying for Oral Exam | | | |
| Report (Preparation and presentation time included) | | | |
| Project (Preparation and presentation time included) | | | |
| Presentation (Preparation time included) | | | |
| | | | |
| | | | |
| Mid-Term Exam | 1 | 2 | 2 |
| Studying for Mid-Term Exam | 1 | 30 | 30 |

| | | | |
|-------------------------|----------------------------|----|-------------|
| Final Exam | 1 | 2 | 2 |
| Studying for Final Exam | 1 | 60 | 60 |
| | Total workload | | 146 |
| | Total workload / 30 | | 4,86 |
| | Course ECTS Credit | | 5 |

| Evaluation | |
|----------------|------------|
| Activity Type | % |
| Mid-term | 40 |
| Quiz | |
| Homework | 10 |
| Bir öge seçin. | |
| Bir öge seçin. | |
| Final Exam | 50 |
| Total | 100 |

| RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low) | | |
|---|---|--------------|
| NO | PROGRAM OUTCOME | Contribution |
| 1 | Within cultural, historical and artistic context the ability to integrate theoretical knowledge about production and consumption mechanisms into the design | 3 |
| 2 | The ability to plan the design process, to choose and use appropriate methods and techniques: | 5 |
| 3 | The ability to identify design problems and related sub-problems and to produce creative solutions with a critical and dialectical approach: | 3 |
| 4 | The ability to design in terms of spatial thinking using design principles and elements: | 5 |
| 5 | The ability to make applications in the interaction of aesthetics and function using design elements and means and to evaluate these applications: | 5 |
| 6 | The ability to visualize and present using two and three dimensional design tools; | 3 |
| 7 | The ability to follow and apply technological developments, current design approaches, sustainable production methods, materials and innovations in the | 5 |
| 8 | The ability to use field knowledge in industrial design projects by considering the needs and interests of the society and target users within the scope of environmental | 3 |
| 9 | The ability to carry out the design process effectively individually or in a team; | 3 |
| 10 | The ability to take an active role in discipline-specific or interdisciplinary studies at the national and international levels. | |

| LECTUTER(S) | | | | |
|--------------|--|--|--|--|
| Prepared by | | | | |
| Signature(s) | | | | |

Date:08.08.2024