



**ESOGU Faculty of Art and Design  
Industrial Design Department  
COURSE INFORMATION FORM**

<b>SEMESTER</b>	Fall
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<b>COURSE CODE</b>	1411xx	<b>COURSE NAME</b>	Circular Economy
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	Type	Language
7	2	0	0	2	3	COMPULSORY ( ) ELECTIVE (x)	Turkish

COURSE CATEGORY				
Basic Education	Design	Natural and Applied Science	Social Science	Art
	X	X	X	

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
<b>MID-TERM</b>	1st Mid-Term	1	40
	2nd Mid-Term		
	Quiz		
	Homework		
	Project		
	Report		
	Others (.....)		
<b>FINAL EXAM</b>		1	60

<b>PREREQUIEITE(S)</b>	None
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<b>COURSE DESCRIPTION</b>	In the Circular Economy course, it is first explained to the students how the consuming economy system (produce-use-dispose) has brought the world's resources to the limit of depletion. Then students learn how we can move with the principles of circular economy to an economy and production system that consumes less of our resources. By showing examples of technical and biological cycles and discussing different approaches in the class, students will be able to understand the principles of the circular economy and the system changes that need to be made now. Topics that closely affect the circular economy such as permaculture, biophilic design, biomimicry, green and blue economy, sustainable development goals, doughnut economy and the effects of digitalization are also discussed.
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<b>COURSE OBJECTIVES</b>	With the current economic system, we are currently consuming the world's resources above a sustainable level. With such and consuming and constantly waste generating economic system we are destroying our own basis of life. The circular economy is a system change that tries to bring our resources into a sustainable cycle with the principles of maintain and prolong, redistribute and reuse, refurbish and remanufacture and recycle. Designer today have to prepare the product and services, they are developing, by considering the principles of circular economy instead of linear economy. The Circular Economy course aims to convey information to the students and to raise awareness about this topic.
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<b>ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION</b>	The negative consequences of our globalized consumer society are now starting to emerge. With high living standards and population growth, risks such as resource scarcity, climate change, loss of biodiversity and similar are approaching. If we take sustainable development goals seriously, the
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	<p>economy and industrial production processes must undergo a systemic change. These future systemic changes will also directly affect the design of products and product-service-systems. The Circular Economy course aims to help the students by taking into account possible future changes to position themselves in their professional life and helping the student to improve themselves in this area.</p>
<b>COURSE OUTCOMES</b>	<ol style="list-style-type: none"> <li>1. The student is well acquainted with the principles of circular design economy.</li> <li>2. The student can adjust his or her own design processes taking into account these principles.</li> <li>3. Internalizes examples of sustainable materials, production and systemic approaches and can carry out his or her design process in a wider and more comprehensive perspective.</li> <li>4. Able to realize social and environmentally friendly designs</li> <li>5. Able to realize design that can get solutions to environmental and social problems.</li> </ol>
<b>TEXTBOOK</b>	<p>Tools for the Design Revolution: Design Knowledge for the Future, <i>Institute of Design Research Vienna, Harald Gründl, Christina Naegele, Marco Kellhammer, Ulrike Haele</i>, niggli Verlag, 2014  Döngüsel Ekonomi: Makro ve Mikro İncelemeler, <i>Editör Doç. Dr. Ferhan Sayın</i>, Nobel Akademik Yayıncılık, 2020</p>
<b>OTHER REFERENCES</b>	<p>Farklı Disiplinlerde Sürdürülebilirlik, <i>Şükran Karaca</i>, Nobel Akademik Yayıncılık, 2020  Cradle to Cradle: Remaking The Way We Make Things, <i>Michael Braungart, William McDonough</i>, Vintage, 2009  The Upcycle: Beyond Sustainability – Designing for Abundance, <i>Michael Braungart, William McDonough</i>, North Point Press, 2013  Simit Ekonomisi: 21. Yüzyıl İktisatçısı Gibi Düşünmenin Yedi Yolu, <i>Kate Raworth</i>, Tellekt, 2019  Reintroducing Materials for Sustainable Design – Design Process and Educational Practice, <i>Mette Bak-Andersen</i>, Routledge, 2021  Half-Earth: Our Planet’s Fight for Life, <i>Edward O. Wilson</i>, Liveright, 2017  Sowing Seeds in the Desert: Natural Farming, Global Restoration, and Ultimate Food Security, <i>Masanobu Fukuoka</i>, Chelsea Green Pub, 2013</p>
<b>TOOLS AND EQUIPMENTS REQUIRED</b>	None

## WEEKLY COURSE SYLLABUS

WEEK	TOPICS
1	Information about content and execution of the course. Introduction to the topic.
2	IPCC reports, <i>How Many Earths</i> do we use (limited resources / biocapacity), Human Development Index related to the Ecologic Footprint, Carbon Footprint, 2000 Watts Society, Water Footprint
3	Cradle-to-cradle, Life Cycle Assessment, Environmental Product Declaration
4	Principles of the Circular Economy, Butterfly diagram of the Ellen Macarthur Foundation
5	Technical Cycle: Maintain and prolong, reuse and redistribute, refurbish and remanufacture, recycle
6	Technical Cycle: Maintain and prolong, reuse and redistribute, refurbish and remanufacture, recycle
7	Circular Economy, Sustainability and Energy
8	<b>Midterm Exam</b>
9	Biological cycle
10	Living with nature: Permaculture, Biophilic Design
11	Biomimicry, Green and Blue Economy
12	Economic change against the growth principle: Doughnut Economy
13	Sustainable development goals, urban development
14	Circular Economy and Digitalization
15	Circular Economy, Sustainability and Innovation
16	<b>Final Exam</b>

NO	PROGRAM OUTCOMES	Contribution Level		
		3	2	1
1	Within cultural, historical and artistic context the ability to integrate theoretical knowledge about production and consumption mechanisms into the design practice;		x	
2	The ability to plan the design process, to choose and use appropriate methods and techniques;			x
3	The ability to identify design problems and related sub-problems and to produce creative solutions with a critical and dialectical approach;		x	
4	The ability to design in terms of spatial thinking using design principles and elements;			x
5	The ability to make applications in the interaction of aesthetics and function using design elements and means and to evaluate these applications;			x
6	The ability to visualize and present using two and three dimensional design tools;			x
7	The ability to follow and apply technological developments, current design approaches, sustainable production methods, materials and innovations in the field of informatics in design projects;	x		
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 awareness, professional ethics and the laws;	x		
9	The ability to carry out the design process effectively individually or in a team;			x
10	The ability to take an active role in discipline-specific or interdisciplinary studies at the national and international levels.			x

**1: None. 2: Partial contribution. 3: Complete contribution.**

**Instructor(s):** Öğr. Gör. Stefanie Aydın

**Signature:**

**Date:**