

BALIKESİR ÜNİVERSİTESİ
MÜHENDİSLİK FAKÜLTESİ
ÜNİVERSİTE SEÇMELİ DERS TANITIM FORMU

Bölüm / Anabilim dalı	Environmental Engineering					
Dersin Adı	USD0000- Industrial Symbiosis					
Dersin Yarıyılı	Güz ☐			Bahar ☐		
Dersin Dili	Türkçe ☐			İngilizce ☐		
Dersin Kredisi	Teorik 2		Uygulama		Toplam Kredi 2	
Dersin AKTS	3					
Dersin Öğrenim Türü	University elective			Normal Education		
Dersin Amacı	Make industrial processes more circular and integrated to reduce waste, increase resource efficiency and minimize environmental impacts					
Dersin İçeriği	Definition and history of industrial symbiosis, industrial systems and environmental impacts, sustainable development and circular economy, effects of industrial systems on the environment, industrial symbiosis, waste reuse and inter-sectoral cooperation, circular economy principles, material and energy flow analysis, methods of evaluating the environmental impacts of products and processes, sustainable production processes and eco-efficiency, waste management and recycling, industrial symbiosis projects, examples of sectoral sustainability					
Dersin Önkoşulları	There is no prerequisite for the course.					
Dersi Verenler	Doç.Dr.Elif Özmetin			mail : eozmetin@balikesir.edu.tr		
Dersin Yardımcıları	-			mail :		
Dersin Staj Durumu	-					
Ders Kaynakları	1. Başer, N., Industrial Symbiosis Approach as a Tool for Sustainability in Development, Ministry of Development, 2017 2. Relevant reports of various ministries 3. National and international articles					
Dersin Yapısı	University Elective Course					
Planlanan Öğrenme Aktiviteleri ve Metodları	Lecture, homework, final exam					
Ders Değerlendirme Ölçütleri			Ders AKTS Hesaplama İçeriği			
Yarıyıl Çalışmaları	Sayısı	Katkısı (%)	Etkinlik	Sayısı	Süre	Toplam İş Yüğü(Saat)
Ara Sınav			Ders Süresi	14	2	28
Kısa Sınav			Sınıf Dışı Çalışma Süresi	0	2	
Ödev	1	40	Ara Sınavlar	1	1	1
Devam			Yarıyıl Sonu Sınavı	1	1	1
Uygulama			Toplam İş Yüğü :30			
Proje			AKTS Kredisi :3			

Yarıyıl Sonu
Sınavı

1

60

Dersin Öğrenme Çıktıları

1. Students will be able to develop sustainable production and consumption strategies for resource efficiency, waste management and recycling.
2. Students will be able to recognize and design industrial symbiosis practices related to waste reuse and collaborations between industrial sectors.

Ders Konuları

Hafta	Konu	Ön Hazırlık	Dökümanlar
1	Course introduction and scope		
2	Definition, history, emergence, purpose and basic principles of industrial symbiosis		
3	Functioning of natural ecosystems and comparison with industrial systems		
4	Sustainable development and circular economy		
5	Waste management and recycling		
6	Effects of industrial systems on the environment		
7	Examination of prepared assignments		
8	Industrial symbiosis, waste reuse and cross-sectoral cooperation		
9	Circular economy principles material and energy flow analysis		
10	Methods for assessing the environmental impact of products and processes		
11	Sustainable production processes and eco-efficiency		
12	Industrial symbiosis projects are examples of sectoral sustainability		
13	Industrial symbiosis projects are examples of sectoral sustainability		
14	New suggestions for examples of alternative symbiosis		
Dersin Program Çıktılarına Katkısı			