Code	**SUS 101**
Name	**Sustainable Development Goals**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course explores the United Nations Sustainable Development Goals (SDGs) and their significance in addressing global challenges. The instructor will provide an in-depth analysis of each SDG, examining their interconnections, and discussing strategies for achieving sustainable development. Students will gain insights into the role of businesses, governments, and individuals in advancing the SDGs and promoting a more equitable and sustainable world.
Objectives	Introducing the United Nations Sustainable Development Goals and their background. Fostering the awareness towards interconnectedness of the SDGs and their application in various contexts. Promote students' ability to propose strategies for contributing to the achievement of specific SDGs.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Define the background and objectives of the United Nations Sustainable Development Goals. LO2. Classify the interconnected nature of the SDGs and their impact on social, economic, and environmental principles. LO3. Identify the progress and challenges associated with specific SDGs in various regions and industries. LO4. Discover strategies for businesses, governments, and individuals to contribute to the achievement of specific SDGs. L05. Adapt effectively about the importance of sustainable development and the role of the SDGs in addressing global financial challenges.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	5	4	5	5	4	3	4
LO2	5	4	4	5	4	4	3
LO3	5	5	5	4	3	3	0
LO4	4	5	3	4	3	3	0
L05	5	5	3	4	3	3	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
Introduction to Sustainable Development	L01, LO5
Principles of Sustainable Development	L01, L02
Global Challenges and Sustainable Development Goals (SDGs)	L01, LO3
Sustainable Development Indicators and Metrics	L01, L04
Sustainable Development and Economic Systems	L01, L02, LO5

DERS BİLGİLERİ

Kodu	**SUS 101**
İsmi	**Sürdürülebilir Kalkınma Amaçları**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Dersin amacı, Birleşmiş Milletler Sürdürülebilir Kalkınma Hedefleri (SKH'ler) ve bunların küresel zorlukların ele alınmasındaki önemini incelemektedir. Ders kapsamında, her bir SKH'nin derinlemesine bir analizi yapılıp, birbirleriyle olan bağlantılarını incelenerek sürdürülebilir kalkınmaya ulaşmak için stratejileri tartışacaktır. Öğrencilerin, SKH'lerin ilerletilmesinde ve daha adil ve sürdürülebilir bir dünyanın teşvik edilmesinde işletmelerin, hükümetlerin ve bireylerin rolüne ilişkin iç görü kazanmaları beklenmektedir

COURSE RECORD

Code	**SUS 201**
Name	**Economic Sustainability**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course provides principles and strategies of economic sustainability, emphasizing the integration of economic considerations into sustainable development. In this course, the intersection of economic systems, business practices, and sustainable development goals will be analyzed. Students will gain insights into the role of businesses, policymakers, and global economic forces in promoting economic sustainability. This course contributes to international efforts to promote economic sustainability and achieve comprehensive development, particularly in alignment with SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure).
Objectives	Introducing fundamental concepts of economic sustainability and its role in sustainable development. Introducing the economic dimensions of sustainability and their application in various sectors. Improving students' ability to propose strategies for fostering economic sustainability.
Learning Outcomes	By the end of the course, the student will be able to LO1. Define the principles and significance of economic sustainability in the context of sustainable development. LO2. Classify the economic dimensions of sustainability, including circular economy principles, responsible business practices, and fair trade. LO3. Identify the economic impacts of business activities, policies, and global economic trends on sustainable development. LO4. Discover strategies for promoting economic sustainability in businesses, industries, and policymaking. L05. Adapt effectively about the importance of economic sustainability and the role of stakeholders in fostering resilient and inclusive economies.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	5	4	5	5	4	3	0
LO2	5	4	5	5	4	3	0
LO3	5	5	5	4	3	3	0
LO4	4	5	5	5	5	4	3
L05	4	4	5	4	5	4	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
The Principles of Economic Sustainability	L01, L02, L03
Economic Dimensions of Sustainability	L01, L02, LO3
Impacts of Business Activities, Policies, And Global Economic Trends on Sustainable Development	L02, L03, LO5
Strategies for Promoting Economic Sustainability	L02, L03, LO4
Importance of Economic Sustainability	L01, L02, LO5

DERS BİLGİLERİ

Kodu	**SUS 201**
İsmi	**Ekonomik Sürdürülebilirlik**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, ekonomik sürdürülebilirliğin ilke ve stratejilerini sunmakta ve ekonomik hususların sürdürülebilir kalkınmaya entegrasyonunu içermektedir. Ekonomik sistemler, iş uygulamaları ve sürdürülebilir kalkınma hedeflerinin kesişimi analiz edilecektir. Öğrenciler, işletmelerin, politika yapıcıların ve küresel ekonomik güçlerin ekonomik sürdürülebilirliği teşvik etmedeki rolüne ilişkin içgörü kazanacaklardır. Bu ders, özellikle SKH 8 (İnsana Yakışır İş ve Ekonomik Büyüme) ve SKH 9 (Sanayi, Yenilikçilik ve Altyapı) ile uyumlu olarak, ekonomik sürdürülebilirliği teşvik etmek ve kapsamlı kalkınmayı sağlamak için uluslararası çabalara katkıda bulunur.

COURSE RECORD

Code	**SUS 202**
Name	**Social Sustainability**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course explores the principles and practices of social sustainability, focusing on the integration of social considerations in decision-making processes. The course will cover the social dimensions of sustainability, including equity, justice, and community engagement. Students will gain insights into the role of businesses, organizations, and governments in promoting social sustainability and contributing to the well-being of communities. The course aligns with Sustainable Development Goals, particularly SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 10 (Reduced Inequalities), and SDG 11 (Sustainable Cities and Communities), by addressing the urgent need to foster inclusive and equitable societies, promote social justice, and ensure the well-being of all individuals.
Objectives	Introducing fundamental concepts of social sustainability and its importance in sustainable development. Fostering the awareness of the social dimensions of sustainability and their application in various sectors. Enhancing students' ability to propose strategies for enhancing social sustainability.
Learning Outcomes	By the end of the course, the student will be able to LO1. Explain the principles and significance of social sustainability in the context of sustainable development. LO2. Interpret the social dimensions of sustainability, including equity, diversity, social justice, and community engagement. LO3. Evaluate the social impacts of business practices, policies, and projects in diverse communities. LO4. Develop strategies for promoting social sustainability in businesses, organizations, and government initiatives. LO5. Discuss the importance of social sustainability and the role of stakeholders in fostering inclusive and equitable societies.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	3	0	5	3	4	3	0
LO2	4	4	5	3	3	3	0
LO3	5	3	5	5	3	3	0
LO4	4	4	5	3	4	3	3
L05	4	4	5	5	4	5	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
Introduction to Social Sustainability	L01, L02, L03
Social Dimensions of Sustainability	L01, L02, LO3
Social Impacts of Business Practices	L02, L03, LO4
Strategies for Enhancing Social Sustainability	L02, L03, LO5
Communicating Social Sustainability	L01, L02, LO5

DERS BİLGİLERİ

Kodu	**SUS 202**
İsmi	**Sosyal Sürdürülebilirlik**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dönem	Güz/Bahar
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, karar alma süreçlerinde sosyal düşüncelerin entegrasyonuna odaklanarak sosyal sürdürülebilirliğin ilkelerini ve uygulamalarını ele almaktadır. Ders, adalet, eşitlik ve toplum etkileşimi de dahil olmak üzere sürdürülebilirliğin sosyal boyutlarını ele alacaktır. Öğrenciler, işletmelerin, kuruluşların ve hükümetlerin toplum sürdürülebilirliğini teşvik etme ve toplulukların refahına katkı sağlama rolü hakkında içgörüler kazanacaklardır. Ders, kapsayıcı ve eşitlikçi toplumların geliştirilmesi, sosyal adaletin teşvik edilmesi ve tüm bireylerin refahının sağlanması için acil bir ihtiyacı ele alarak, özellikle SKH 1 (Yoksulluğa Son), SKH 5 (Toplumsal Cinsiyet Eşitliği), SKH 10 (Eşitsizliklerin Azaltılması) ve SKH 11 (Sürdürülebilir Şehirler ve Topluluklar) ile uyumlu olacak şekilde tasarlanmıştır.

COURSE RECORD

Code	**SUS 203**
Name	**Introduction to Environmental Science**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course encompasses two main components. Initially, it offers a comprehensive overview of fundamental environmental science principles, including energy and matter flows, biogeochemical cycles, meteorology, biodiversity, and ecological systems. This foundational knowledge is essential for understanding contemporary environmental policy debates. The second part delves into human-induced environmental changes and their management. Topics include resource extraction, pollution, habitat destruction, and their global ramifications. Through this course, students will gain insight into addressing pressing environmental challenges by applying scientific principles to both natural and human-influenced systems, fostering a deeper understanding of sustainability concerns. Additionally, the course aligns with Sustainable Development Goals (SDGs) such as SDG 13 (Climate Action), SDG 14 (Life Below Water), SDG 15 (Life on Land), and SDG 12 (Responsible Consumption and Production).
Objectives	Helping students to understand foundational environmental science principles to recognize contemporary challenges. Introducing the human-induced environmental changes and evaluating global impacts and management strategies. Guiding students to apply the scientific principles to address pressing environmental issues and contributing to sustainability goals.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Outline the foundational principles of environmental science, including energy and matter flows, biogeochemical cycles, biodiversity, and ecological systems. LO2. Explain the interconnections between human activities and environmental changes, such as resource extraction, pollution, and habitat destruction. LO3. Apply scientific principles to analyze real-world environmental issues and propose potential solutions for mitigating negative impacts. LO4. Analyze the global ramifications of human-induced environmental changes, evaluating their ecological, social, and economic consequences. LO5. Assess the effectiveness of various management strategies in addressing environmental challenges and contributing to sustainability efforts, including their alignment with Sustainable Development Goals (SDGs).

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	4	4	5	0	0	0	0
LO2	3	4	5	3	0	0	0
LO3	3	4	5	3	0	0	4
LO4	3	4	5	4	0	0	3
LO5	4	4	5	3	0	0	0

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Environmental Science	L01
Biodiversity and Ecological Systems	L01, LO2
Human Impact on the Environment	L02, LO4
Global Environmental Challenges	LO3, LO4
Environmental Management and Sustainability	L05

DERS BİLGİLERİ

Kodu	**SUS 203**
İsmi	**Çevre Bilimine Giriş**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders iki temel bileşeni kapsamaktadır. Bu ders birinci kısımda, enerji ve madde akışları, biyojeokimyasal döngüler, meteoroloji, biyolojik çeşitlilik ve ekolojik sistemler de dahil olmak üzere temel çevre bilim prensiplerinin kapsamlı bir genel bakışını sunmaktadır. Bu temel bilgi, çağdaş çevre politikası tartışmalarını anlamak için önem arz etmektedir. İkinci kısımda ise ders insan kaynaklı çevresel değişikliklere ve bunların yönetimine odaklanmaktadır. Dersin konuları kaynak çıkarma, kirlilik, habitat tahribatı ve bunların küresel etkilerini içerir. Bu ders aracılığıyla, öğrenciler doğal ve insan etkili sistemlere bilimsel prensipleri uygulayarak önemli çevresel sorunları ele alma konusunda içgörü kazanacak ve sürdürülebilirlik endişelerini daha derinlemesine anlayacaklardır. Ayrıca, bu ders SKH 12 (Sorumlu Üretim ve Tüketim), SKH 13 (İklim Eylemi), SKH 14 (Sudaki Yaşam) ve SKH 15 (Karasal Yaşam) ile uyumlu olarak sürdürülebilir kalkınma hedefleri doğrultusunda tasarlanmıştır.

COURSE RECORD

Code	**SUS 204**
Name	**Unit Operations**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course offers a comprehensive study of fundamental processes essential for environmental remediation. Covering physical, chemical, and biological operations, students delve into techniques like sedimentation, filtration, coagulation, and biological treatment. Emphasizing practical application, the course equips students with the skills to design and operate treatment systems effectively. Topics include mass transfer phenomena and unit operations design principles. Through this course, students gain the necessary knowledge to address pollution control challenges and ensure environmental sustainability. Additionally, the course aligns with Sustainable Development Goals (SDGs) such as SDG 6 (Clean Water and Sanitation) and SDG 13 (Climate Action).
Objectives	Guiding students to comprehend principles of unit operations in environmental engineering. Improving students' theoretical knowledge to solve practical problems in treatment systems design. Introducing solutions to assess the efficiency of unit operations for pollution control and sustainability.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Define fundamental principles of unit operations in environmental engineering. LO2. Summarize the function and application of unit operations in addressing environmental challenges. LO3. Apply theoretical knowledge to design and evaluate treatment systems. LO4. Analyze performance data of unit operations in treatment processes. LO5. Propose innovative solutions for improving treatment systems based on sustainability principles.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	0	0	5	0	0	4	3
LO2	3	3	5	0	0	0	3
LO3	4	3	5	0	0	0	3
LO4	4	4	5	0	0	0	3
LO5	4	5	5	0	0	5	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Unit Operations	L01, LO2
Physical Unit Operations	L01, LO2, LO3
Chemical Unit Operations	L01, LO2, LO3
Biological Unit Operations	L01, LO2, LO3
Integration and Optimization	L04, LO5

DERS BİLGİLERİ

Kodu	**SUS 204**
İsmi	**Temel İşlemler**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, çevre iyileştirmesi için temel olan süreçlerin kapsamlı bir şekilde incelenmesini içermektedir. Fiziksel, kimyasal ve biyolojik işlemleri kapsayarak öğrenciler, çökeltme, filtrasyon, pıhtılaşma ve biyolojik arıtma gibi tekniklere giriş yaparlar. Pratik uygulamanın önemine vurgu yaparak, bu ders öğrencilere arıtma sistemlerini etkili bir şekilde tasarlama ve işletme becerileri kazandırır. Konular arasında kütle transferi fenomenleri ve birim işlemler tasarım prensipleri yer almaktadır. Bu ders sayesinde öğrenciler, kirlilik kontrolü ile ilgili zorlukları ele almak ve çevresel sürdürülebilirliği sağlamak için gerekli olan bilgileri kazanabilirler. Ayrıca, bu ders SKH 6 (Temiz Su ve Sanitasyon) ve SKH 13 (İklim Eylemi) gibi Sürdürülebilir Kalkınma Hedefleri ile uyumlu olacak şekilde tasarlanmıştır.

COURSE RECORDS

Code	**SUS 205**
Name	**Introduction to Environmental Technologies**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	The course provides a broad overview of environmental technology and its integral role in fostering sustainable development, considering the intricate nature and historical context of environmental and sustainability challenges. Through lectures, students delve into diverse applications of environmental technology, encompassing the treatment of gaseous emissions, water pollution, soil and groundwater contamination, and waste management practices. This course emphasizes both established state-of-the-art technology and emerging innovations, with a focus on the biological, chemical, and physical principles underlying these processes. This course contributes to Sustainable Development Goals (SDGs) related to environmental conservation and sustainable resource management, such as SDG 6 (Clean Water and Sanitation), SDG 11 (Sustainable Cities and Communities), and SDG 12 (Responsible Consumption and Production).
Objectives	Introducing the role of environmental technology in sustainable development by considering environmental challenges. Promoting the ability to use diverse applications of environmental technology to address environmental issues effectively. Enhancing students' skills to evaluate environmental technology innovations to assess their effectiveness.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Explain environmental technology principles for sustainable development. LO2. Summarize environmental technologies to address specific challenges. LO3. Analyze the effectiveness of environmental technologies. LO4. Design innovative solutions using environmental technologies. LO5. Evaluate environmental technology implementations' success.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	3	3	5	0	3	4	3
LO2	4	3	5	0	3	3	3
LO3	0	4	5	0	3	0	3
LO4	4	5	5	0	4	4	3
LO5	4	4	5	0	4	4	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Environmental Technology and Sustainable Development	L01, LO2
Gaseous Emissions Treatment and Air Quality Management	LO2, LO3, LO4
Water Pollution Control and Wastewater Treatment	LO2, LO3, LO4
Soil and Groundwater Contamination Remediation Techniques	LO4
Waste Management Practices and Resource Recovery Technologies	LO4, L05

DERS BİLGİLERİ

Kodu	**SUS 205**
İsmi	**Çevre Teknolojilerine Giriş**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, çevre ve sürdürülebilirlik sorunlarının karmaşık doğasını ve tarihsel bağlamını göz önünde bulundurarak, çevre teknolojisine ve bu teknolojilerin sürdürülebilir kalkınmayı teşvik etmedeki bütüncül rolüne yönelik geniş bir bakış açısı sunmaktdır. Bu ders aracılığıyla öğrenciler, gaz emisyonlarının arıtılması, su kirliliği, toprak ve yeraltı suyu kirliliği ve atık yönetimi uygulamalarını kapsayan çeşitli çevre teknolojisi uygulamalarını araştırmaktadır. Ders, bu süreçlerin altında yatan biyolojik, kimyasal ve fiziksel ilkelere odaklanarak hem yerleşik en son teknolojiyi hem de ortaya çıkan yenilikleri vurgulamaktadır. Bu ders, SKH 6 (Temiz Su ve Sanitasyon), SKH 11 (Sürdürülebilir Şehirler ve Topluluklar) ve SKH 12 (Sorumlu Üretim ve Tüketim) gibi çevrenin korunması ve sürdürülebilir kaynak yönetimi ile ilgili Sürdürülebilir Kalkınma Hedeflerine katkıda bulunmaktadır.

COURSE RECORD

Code	**SUS 301**
Name	**Environmental Sustainability**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course provides an in-depth exploration of environmental sustainability, focusing on the principles and practices that contribute to the well-being of ecosystems and communities. The course will cover key concepts such as biodiversity conservation, natural resource management, and environmental stewardship. Students will gain insights into the role of individuals, businesses, and governments in fostering environmental sustainability. The course aligns with Sustainable Development Goals (SDGs), particularly SDG 13 (Climate Action), SDG 14 (Life Below Water), and SDG 15 (Life on Land), by addressing the urgent need to preserve biodiversity, protect natural resources, and mitigate climate change for the well-being of present and future generations.
Objectives	Introducing fundamental concepts of environmental sustainability and its importance in global well-being. Guiding students to assess the environmental dimensions of sustainability and their application in various sectors. Developing students' ability to propose strategies for fostering environmental sustainability.
Learning Outcomes	By the end of the course, the student will be able to LO1. Define the principles and significance of environmental sustainability in the context of global well-being. LO2. Classify the environmental dimensions of sustainability, including conservation, pollution prevention, and ecosystem management. LO3. Identify the environmental impacts of human activities, policies, and global environmental trends. LO4. Discover strategies for promoting environmental sustainability in businesses, communities, and policymaking. L05. Discuss the importance of environmental sustainability and the role of stakeholders in preserving ecosystems and biodiversity.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	5	5	4	4	5	3	0
LO2	5	5	5	4	4	3	0
LO3	4	5	5	4	3	4	0
LO4	4	5	5	5	5	4	3
L05	4	4	5	4	5	4	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
The Principles of Environmental Sustainability	L01, L02, L03
Dimensions of Environmental Sustainability	L01, L02, LO3
Environmental impacts of human activities, policies, and global environmental trends	L02, L03, LO5
Strategies For Promoting Environmental Sustainability	L02, L03, LO5
Importance of Environmental Sustainability	L01, L02, LO5

DERS BİLGİLERİ

Kodu	**SUS 301**
İsmi	**Çevresel Sürdürülebilirlik**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dönem	Güz/Bahar
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, ekosistemlerin ve toplulukların refahına katkıda bulunan ilke ve uygulamalara odaklanarak çevresel sürdürülebilirliğin derinlemesine incelenmesini sağlar. Bu ders biyoçeşitliliğin korunması, doğal kaynak yönetimi ve çevre yönetimi gibi temel kavramları kapsayacaktır. Öğrenciler, çevresel sürdürülebilirliği teşvik etmede bireylerin, işletmelerin ve hükümetlerin rolüne ilişkin içgörü kazanacaklardır. Bu ders, özellikle SKH 13 (İklim Eylemi), SKH 14 (Sudaki Yaşam) ve SKH 15 (Karasal Yaşam) ile uyumlu olarak, biyoçeşitliliğin korunması, doğal kaynakların korunması ve iklim değişikliğinin hafifletilmesi gibi acil ihtiyaçları ele alarak, şimdiki ve gelecek nesillerin refahı için katkıda bulunmaktadır.

COURSE RECORD

Code	**SUS 302**
Name	**Climate Change**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course provides a comprehensive examination of climate change, exploring the scientific foundations, impacts, and mitigation strategies. The course will cover key concepts related to climate science, global warming, greenhouse gas emissions, and the societal and environmental consequences of climate change. Students will gain an understanding of international efforts to address climate change and develop critical thinking skills to evaluate and propose solutions. This course contributes to international efforts to combat climate change, particularly in alignment with SDG 13 (Climate Action).
Objectives	Introducing fundamental concepts of climate science and climate change. Increasing the awareness of the causes and consequences of global warming and climate variability. Developing students' ability to assess and propose mitigation and adaptation strategies.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Define the scientific principles behind climate change, including the greenhouse effect and climate variability. LO2. Analyze the causes and consequences of global warming and climate-related events on ecosystems, societies, and economies. LO3. Identify the effectiveness of international agreements and policies aimed at mitigating climate change. LO4. Assess strategies for climate change adaptation in various sectors. L05.Discuss climate change issues, considering diverse perspectives and stakeholders.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	5	5	4	4	5	3	0
LO2	5	5	5	4	4	3	0
LO3	4	5	5	4	3	4	0
LO4	4	5	5	5	5	4	3
L05	4	4	5	4	5	4	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
Understanding the Science of Climate Change: Causes, Impacts, and Solutions	L01, L02, L04
Policy Responses to Climate Change: International Agreements and National Strategies	L01, L02, LO3,
Climate Change and Global Health: Implications and Adaptation Strategies	L02, L03, LO5
The Economics of Climate Change: Costs, Benefits, and Market Solutions	L01, L02, LO5
Urban Resilience and Climate Change Adaptation: Planning for Sustainable Cities	L01, L02, LO5

DERS BİLGİLERİ

Kodu	**SUS 302**
İsmi	**İklim Değişikliği**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	BA 207
İçerik	Dersin amacı, bilimsel temelleri, etkileri ve azaltma stratejilerini araştırarak iklim değişikliğinin kapsamlı bir incelemesini sunmaktadır.Ders kapsamında iklim bilimi, küresel ısınma, sera gazı emisyonları ve iklim değişikliğinin toplumsal ve çevresel sonuçları ile ilgili temel kavramları ele alınacaktır. Bu ders sonunda öğrenciler, iklim değişikliğini ele almak için uluslararası çabaları anlayacak ve çözümleri değerlendirmek ve önermek için eleştirel düşünme becerileri geliştireceklerdir. Bu ders, özellikle SKH 13 (İklim Eylemi) ile uyumlu olarak, iklim değişikliğiyle mücadele etmek için uluslararası çabalara katkıda bulunmaktadır.

COURSE RECORD

Code	**SUS 303**
Name	**Water Pollution and Control**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course provides an in-depth exploration of water pollution issues and strategies for effective control. Building on the principles of water management, the course will help students analyze various sources of water pollution and examine the technologies and policies aimed at mitigating environmental impacts. Students will gain insights into the complex challenges of water pollution and develop the knowledge and skills necessary for designing and implementing water quality management plans. Additionally, this course aligns with SDG 3 (Good Health & Well-Being) and SDG 6 (Clean Water and Sanitation) by addressing the urgent need for sustainable water management practices to ensure access to clean water for all and to contribute to the conservation and sustainable use of water resources, thus promoting a healthier and more equitable society.
Objectives	Promoting students to investigate the causes and consequences of water pollution in different environments. Introducing various methods and technologies for water pollution control and treatment. Developing students' ability to assess and implement water quality management strategies.
Learning Outcomes	By the end of the course, the student will be able to LO1. Identify sources and types of water pollution and understand their environmental implications. LO2. Classify the principles and technologies involved in water pollution control and treatment. LO3. Evaluate the effectiveness of different water pollution control measures in diverse contexts. LO4. Propose water quality management plans for specific pollution scenarios. L05. Discuss regulatory frameworks and policies governing water pollution control at local and global levels.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	5	5	4	4	5	3	0
LO2	5	5	5	4	4	3	0
LO3	4	5	5	4	4	4	0
LO4	4	5	5	5	5	4	3
L05	4	5	5	5	5	4	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
The Types of Water Pollution	L01, L02, L03
Water Pollution Control and treatment System	L01, L02, LO5
Water Management Systems	L02, L03, LO5
Compare water quality management systems for pollution	L01, L02, LO5
Discuss local and national policies on Water Pollution	L02, L04, LO5

DERS BİLGİLERİ

Kodu	**SUS 303**
İsmi	**Su Kirliliği ve Kontrol**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, su kirliliği sorunlarının derinlemesine incelenmesini ve etkili kontrol stratejilerini ele almaktadır. Bu ders, su yönetiminin ilkelerine dayanarak, öğrencilerin çeşitli su kirliliği kaynaklarını analiz etmelerine ve çevresel etkileri hafifletmeyi amaçlayan teknolojileri ve politikaları değerlendirmelerine yardımcı olacaktır. Öğrenciler, su kirliliği sorunlarının karmaşıklığını anlayacak ve su kalitesi yönetim planları tasarlamak ve uygulamak için gereken bilgi ve becerileri kazanacaklardır. Ayrıca bu ders, herkesin temiz suya erişimini sağlamak ve su kaynaklarının korunmasına ve sürdürülebilir kullanımına katkıda bulunmak, böylece daha sağlıklı ve daha adil bir toplumu teşvik etmek için sürdürülebilir su yönetimi uygulamalarına duyulan acil ihtiyacı dikkate alarak SKH 3 (Sağlık ve Kaliteli Yaşam) ve SKH 6 (Temiz Su ve Sanitasyon) ile uyumlu olacak şekilde tasarlanmıştır.

COURSE RECORD

Code	**SUS 304**
Name	**Water Management**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course delves into the principles and practices of effective water management, exploring the dynamic processes of water distribution, utilization, and conservation. The course will provide an analytical framework covering various aspects of water management and its interconnectedness with environmental and societal factors. The course aims to deepen students' understanding of water sources, usage patterns, and the role of governmental and non-governmental organizations in water governance. It aligns with Sustainable Development Goals, particularly SDG 6 (Clean Water and Sanitation), by addressing the urgent need for sustainable water management practices to ensure access to clean water for all.
Objectives	Introducing fundamental concepts of water management and their practical applications in various sectors. Describing the dynamic relationships between different elements of water systems and institutions involved in water governance. Developing students' skills in utilizing water management tools and assessing the environmental and social impacts of water-related decisions.
Learning Outcomes	By the end of the course, the student will be able to LO1. Identify various water sources and their implications for sustainable water management. LO2. Apply core water management skills to address challenges related to water distribution and conservation. LO3. Evaluate environmental, social, and regulatory considerations in the context of water governance. LO4. Formulate a comprehensive water management plan that balances the needs of communities, industries, and the environment. LO5. Construct effective strategies for water resource allocation and conservation in various sectors.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	3	3	5	3	0	4	3
LO2	3	4	5	4	3	4	3
LO3	4	4	5	5	3	4	3
LO4	4	5	5	5	3	4	3
L05	5	5	5	4	3	4	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
Introduction to Water Management	L01, L02, L03
Water Sources and Usage Patterns	L01, L02, LO5
Water Governance and Institutions	L02, L03, LO5

Environmental and Social Impacts	L01, L02, LO5
Developing Water Management Plans and Strategies	L02, L04, LO5

DERS BİLGİLERİ

Kodu	**SUS 304**
İsmi	**Su Yönetimi**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, suyun dağıtımı, kullanımı ve korunması gibi dinamik süreçleri ele alarak etkili su yönetiminin ilke ve uygulamalarına derinlemesine bir giriş yapmaktadır. Ders, su yönetiminin çeşitli boyutlarını ve bunların çevresel ve toplumsal faktörlerle olan bağlantısını kapsayan bir analitik çerçeve sunacaktır. Ders, öğrencilerin su kaynakları, kullanım desenleri ve su yönetiminde hükümetler ve sivil toplum kuruluşlarının rolü hakkındaki anlayışlarını derinleştirmeyi amaçlamaktadır. Ayrıca bu ders, toplumun tamamı için temiz su erişimini sağlamak amacıyla sürdürülebilir su yönetimi uygulamalarının acil gereksinimini ele alarak, özellikle SKH 6'nın (Temiz Su ve Sanitasyon) önemini ortaya koymaktadır.

COURSE RECORD

Code	**SUS 305**
Name	**Ecosystem Modelling and Management**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course centers on the application of ecosystem models for effective management, specifically targeting marine and freshwater ecosystems. It delves into modeling techniques to assess the impacts of food webs, human activities, and environmental changes on ecosystem dynamics, while also addressing management trade-offs in a changing world. Students will learn to incorporate climate change variables like temperature, oxygen levels, and pH into models, predicting their consequences on species distributions and the proliferation of invasive species. The course emphasizes hands-on experience with existing frameworks, ensuring students gain practical skills for real-world application. By integrating concepts from the course, such as ecosystem resilience and biodiversity management, students contribute to SDG 14 (Life Below Water) and SDG 15 (Life on Land), fostering the preservation and sustainable use of aquatic and terrestrial ecosystems.
Objectives	Suggesting methods to students to examine complex ecosystem interactions within marine and freshwater systems using modeling techniques. Introducing ecosystem modeling principles to incorporate climate change variables and predict their effects on species. Guiding students to develop management strategies for marine and freshwater ecosystems based on insights gained from ecosystem modeling, emphasizing conservation and sustainability.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Recall ecosystem modeling principles and components of aquatic ecosystems. LO2. Explain how human activities and environmental changes affect ecosystem dynamics. LO3. Utilize ecosystem modeling techniques to analyze data and predict climate change impacts. LO4. Evaluate ecosystem models to propose management strategies and address biodiversity concerns. LO5. Design ecosystem management plans integrating modeling insights for conservation and sustainability.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	0	3	5	0	3	0	3
LO2	3	3	5	0	3	4	3
LO3	3	4	5	0	3	0	3
LO4	4	4	5	0	4	3	3
LO5	4	5	5	3	4	4	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Ecosystem Modelling	L01
Impact Assessment with Ecosystem Models	L01, LO2, LO3
Hands-on with EwE Frameworks	LO3, LO4
Management Trade-offs and Strategies	L03, LO4
Case Studies and Applications	LO4, L05

DERS BİLGİLERİ

Kodu	**SUS 305**
İsmi	**Ekosistem Modellemesi ve Yönetimi**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, deniz ve tatlı su ekosistemlerini merkeze alarak, etkili yönetim için ekosistem modellerinin uygulanmasına odaklanmaktadır. Bu ders yiyecek ağları, insan faaliyetleri ve çevresel değişikliklerin ekosistem dinamikleri üzerindeki etkilerini değerlendirmek için modelleme tekniklerine derinlemesine girerken, değişen dünyada yönetimdeki dengelemeleri de ele almaktadır. Öğrenciler, iklim değişikliği gibi değişkenleri (sıcaklık, oksijen seviyeleri, pH gibi) modellere dahil etmeyi öğrenerek, bu değişkenlerin tür dağılımları üzerindeki etkilerini ve istilacı türlerin yayılmasını öngörebileceklerdir. Ders, öğrencilerin gerçek dünya uygulamaları için pratik beceriler kazanmasını sağlayan mevcut çerçevelerle uygulamalı bir deneyimi benimsemektedir. Öğrenciler derste öğrendikleri kavramları (ekosistem direnci ve biyoçeşitlilik yönetimi gibi) entegre ederek, SKH 14 (Sudaki Yaşam) ve SKH 15 (Karasal Yaşam) kapsamında sucul ve karasal ekosistemlerin korunması ve sürdürülebilir kullanımına katkı sağlarlar.

COURSE RECORDS

Code	**SUS 306**
Name	**Air Pollution and Control**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course provides an in-depth examination of air pollution sources, impacts, and mitigation strategies. Students will explore various pollutants, their effects on human health and the environment, and the technological and regulatory approaches to air quality management. Through case studies and practical exercises, participants will learn to assess air quality, design pollution control measures, and evaluate their effectiveness. This course emphasizes the importance of addressing air pollution to achieve Sustainable Development Goals (SDGs), particularly SDG 3 (Good Health and Well-being) and SDG 11 (Sustainable Cities and Communities), by promoting clean air and enhancing public health in urban areas.
Objectives	Explaining air pollution sources and impacts on health and the environment. Enhancing students' knowledge of real-world pollution scenarios and proposing control measures. Helping students to assess the effectiveness of pollution control strategies and recommend improvements.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Recall the main sources of air pollutants and their effects on human health and the environment. LO2. Explain the mechanisms by which air pollutants are formed, transported, and dispersed in the atmosphere. LO3. Analyze air quality data to identify pollution hotspots and propose appropriate control measures. LO4. Evaluate the effectiveness of different air pollution control technologies and regulatory measures in mitigating pollution levels. LO5. Design comprehensive air quality management plans integrating multiple control strategies to improve overall air quality in urban areas.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	0	0	5	0	4	4	3
LO2	0	3	5	0	3	4	3
LO3	0	4	5	0	3	0	3
LO4	3	4	5	0	4	4	3
LO5	3	5	5	3	4	4	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Air Pollution	L01, LO2
Air Quality Monitoring and Assessment	LO2, LO3
Air Pollution Sources and Mechanisms	LO3, LO4
Air Pollution Control Technologies	LO4
Regulatory Approaches and Policy Implementation	LO4, L05

DERS BİLGİLERİ

Kodu	**SUS 306**
İsmi	**Hava Kirliliği ve Kontrolü**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, hava kirliliği kaynaklarının, etkilerinin ve azaltma stratejilerinin derinlemesine incelenmesini içermektedir. Öğrenciler, çeşitli kirleticileri, bunların insan sağlığı ve çevre üzerindeki etkilerini ve hava kalitesi yönetimine yönelik teknolojik ve düzenleyici yaklaşımları keşfedeceklerdir. Vaka çalışmaları ve pratik uygulamalar aracılığıyla, öğrenciler hava kalitesini değerlendirmeyi, kirlilik kontrol önlemleri tasarlamayı ve etkinliklerini değerlendirmeyi öğreneceklerdir. Bu ders, özellikle kentsel alanlarda temiz hava sağlayarak ve halk sağlığını artırarak SKH 3 (Sağlık ve Kaliteli Yaşam) ve SKH 11'e (Sürdürülebilir Şehirler ve Topluluklar) ulaşmanın önemini vurgulamaktadır.

COURSE RECORD

Code	**SUS 401**
Name	**Energy Management**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course provides the principles and practices of effective energy management, examining the dynamics of energy flow and its impact on businesses and the environment. The course will include an analytical framework covering various aspects of energy markets and their interconnectedness with energy-related institutions. The course aims to enhance students' understanding of energy sources, consumption patterns, and the role of regulatory bodies. Additionally, this course aligns with Sustainable Development Goals such as SDG 7 (Affordable and Clean Energy) and SDG 9 (Industry, Innovation, and Infrastructure).
Objectives	Introducing fundamental concepts of energy management and their practical applications in business. Describing the dynamic relationships between different energy markets and institutions. Developing students' skills in utilizing energy management tools and assessing the risks associated with energy-related decisions.
Learning Outcomes	By the end of the course, the student will be able to LO1. Define various energy sources and their implications for sustainable energy management. LO2. Classify core energy management skills to make informed decisions in business scenarios. LO3. Identify environmental, social, and regulatory considerations in the context of energy markets. LO4. Discover an energy management plan that balances environmental sustainability with economic growth. L05. Construct an effective energy funding strategy for business applications.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	5	5	4	4	5	3	0
LO2	5	5	5	4	4	3	0
LO3	4	5	5	4	3	4	0
LO4	4	5	5	5	5	4	3
L05	4	5	5	5	5	4	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
The Types of Current and Future states of Energy Supply	L01, L02, L03
Introducing Energy Demand and Supply	L01, L02, LO5
Develop energy models	L02, L03, LO5
Evaluate energy management sustainability performance	L01, L02, LO5
Analyze strategy and policy to promote sustainable energy systems	L02, L04, LO5

DERS BİLGİLERİ

Kodu	**SUS 401**
İsmi	**Enerji Yönetimi**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, enerji akışının dinamiklerini ve işletmeler ile çevre üzerindeki etkilerini inceleyerek etkili enerji yönetiminin ilke ve uygulamalarını sunmaktadır,. Ders, enerji piyasalarının çeşitli yönlerini ve enerji ile ilgili kurumlarla olan bağlantılarını kapsayan analitik bir çerçeve içerecektir. Ayrıca, dersin öğrencilerin enerji kaynaklarını, tüketim kalıplarını ve düzenleyici kurumların rolünü anlama becerilerini geliştirmeyi amaçlamaktadır. Bununla birlikte, bu ders, SKH 7 (Erişilebilir ve Temiz Enerji) ve SKH 9 (Sanayi, Yenilikçilik ve Altyapı) gibi Sürdürülebilir Kalkınma Hedefleri ile uyumlu olacak şekilde tasarlanmıştır.

COURSE RECORD

Code	**SUS 402**
Name	**Environmental Management System and Standards**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course explores the principles and implementation of Environmental Management Systems (EMS). The course will provide an in-depth analysis of environmental management practices and regulations. Students will gain a comprehensive understanding of how organizations can effectively manage their environmental impact through the adoption of internationally recognized standards. The course aligns with Sustainable Development Goals, particularly SDG 6 (Clean Water and Sanitation) and SDG 12 (Responsible Consumption and Production), by addressing the urgent need for sustainable environmental management practices to ensure access to clean water and promote responsible consumption and production patterns.
Objectives	Introducing fundamental concepts of EMS and standards. Providing an in-depth analysis of EMS and standards and their application in various industries. Developing students' ability to design, implement, and audit environmental management systems.
Learning Outcomes	By the end of the course, the student will be able to LO1. Outline the principles and requirements of the EMS. LO2. Identify the benefits and challenges associated with implementing an EMS. LO3. Design an effective EMS. LO4. Construct internal audits to assess the effectiveness of an EMS and ensure its compliance standards. LO5. Evaluate the role of EMS in corporate sustainability and environmental stewardship.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	5	5	4	4	5	3	0
LO2	5	5	5	4	4	3	0
LO3	4	5	5	4	3	4	0
LO4	4	5	5	5	5	4	3
L05	4	5	5	5	5	4	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	**Outcomes**
Introduction to Environmental Management Systems (EMS)	L01, L02, L03
Understanding Frameworks of the Standards	L01, L03
Designing Environmental Management Systems	L03, LO4, LO5
Implementing	L03, L04, LO5
Auditing and Evaluation	L04, LO5

DERS BİLGİLERİ

Kodu	**SUS 402**
İsmi	**Çevre Yönetim Sistemi ve Standartları**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, Çevre Yönetim Sistemleri'nin (ÇYS) ilke ve uygulamalarına odaklanmaktadır. Ders, çevre yönetimi uygulamaları ve yönetmeliklerine yönelik derinlemesine bir analiz sunacaktır. Öğrenciler, uluslararası olarak tanınan standartların benimsenmesiyle organizasyonların çevresel etkilerini nasıl etkili bir şekilde yönetebileceklerini kapsamlı bir şekilde anlayacaklardır. Ders, temiz suya erişimi ve sorumlu tüketim ve üretim desenlerini teşvik etmek için sürdürülebilir çevre yönetimi uygulamalarına yönelik acil gereksinimi ele alarak, özellikle SKH 6 (Temiz Su ve Sanitasyon) ve SKH 12'nin (Sorumlu Üretim ve Tüketim) önemini vurgulamaktadır.

COURSE RECORD

Code	**SUS 403**
Name	**Waste Management and Recycling**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course delves into the principles and practices of waste recycling, emphasizing the importance of sustainable waste management. The course will explore various aspects of waste recycling, from collection and processing to the creation of recycled products. Students will gain insights into the environmental and economic benefits of recycling and develop the skills necessary for designing and implementing effective waste recycling programs. The course emphasizes the role of waste recycling in achieving Sustainable Development Goals, particularly SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 14 (Life Below Water) and SDG 15 (Life on Land).
Objectives	Introducing fundamental concepts of waste recycling and their applications in sustainable waste management. Helping students to analyze the life cycle of different materials and understanding their recyclability. Developing students' ability to design and implement waste recycling programs.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Outline different types of waste materials to understand their potential for recycling. LO2. Explain the environmental impact of various waste management strategies, emphasizing recycling. LO3. Examine the economic feasibility of waste recycling programs in different contexts. LO4. Propose waste recycling initiatives considering technological, economic, and environmental factors. LO5. Criticize the role of policy and public awareness in promoting sustainable waste recycling practices.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	0	3	5	0	4	4	3
LO2	4	5	5	3	4	4	3
LO3	3	5	5	3	4	4	3
LO4	4	4	5	3	4	4	3
LO5	4	4	5	5	4	4	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Waste Recycling	L01, LO2
Life Cycle Analysis of Materials	L01, LO2, LO3
Economic Feasibility of Recycling Programs	L03, LO4

Designing Waste Recycling Programs	L03, LO4
Policy and Public Awareness	L05

DERS BİLGİLERİ

Kodu	**SUS 403**
İsmi	**Atık Yönetimi ve Geri Dönüşümü**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, sürdürülebilir atık yönetiminin önemini vurgulayarak atık geri dönüşümünün prensiplerine ve uygulamalarına derinlemesine bir giriş yapmaktadır. Ders, atık geri dönüşümünün çeşitli yönlerini, toplama ve işlemeden geri dönüştürülmüş ürünlerin oluşturulmasına kadar ele alacaktır. Öğrenciler, geri dönüşümün çevresel ve ekonomik faydalarını anlayacak ve etkili atık geri dönüşüm programları tasarlamak ve uygulamak için gerekli becerileri geliştireceklerdir. Bu ders, atık geri dönüşümünün Sürdürülebilir Kalkınma Hedefleri'ne ulaşmada rolünü vurgulayarak özellikle SKH 11 (Sürdürülebilir Şehirler ve Topluluklar), SKH 12 (Sorumlu Üretim ve Tüketim), SKH 13 (İklim Eylemi), SKH 14 (Sudaki Yaşam) ve SKH 15 (Karasal Yaşam) dikkate almaktadır.

COURSE RECORD

Code	**SUS 404**
Name	**Carbon Management**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	This course focuses on the principles and practices of carbon management, exploring strategies for measuring, reducing, and offsetting carbon emissions. The course will cover key concepts related to carbon accounting, carbon footprint assessment, and the development of sustainable practices to mitigate climate change. Students will gain practical skills in carbon management and contribute to the broader conversation on sustainable business practices. The course aligns with Sustainable Development Goals, particularly SDG 13 (Climate Action) and SDG 12 (Responsible Consumption and Production), by addressing the urgent need to mitigate climate change through sustainable practices.
Objectives	Introducing fundamental concepts of carbon management and its role in climate change mitigation. Introducing methods for measuring and assessing carbon footprints in various industries. Developing students' ability to design and implement carbon reduction strategies.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Summarize the principles of carbon management and its significance in addressing climate change. LO2. Identify carbon accounting methods to measure and assess carbon footprints in different sectors. LO3. List strategies for reducing carbon emissions in organizations and industries. LO4. Explain the role of carbon offsetting and explore sustainable practices for achieving carbon neutrality. LO5. Criticize carbon management principles and practices, considering business and environmental perspectives.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	0	4	5	0	0	0	3
LO2	4	4	5	3	0	3	3
LO3	3	4	5	4	0	3	3
LO4	3	4	5	3	0	3	3
LO5	3	4	5	4	0	5	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Carbon Management and Climate Change	L01, LO2
Carbon Accounting and Footprint Assessment	L01, LO2, LO3
Carbon Reduction Strategies	L03, LO4

Carbon Offsetting and Sustainable Practices	L03, LO4
Communicating Carbon Management Principles	L05

DERS BİLGİLERİ

Kodu	**SUS 404**
İsmi	**Karbon Yönetimi**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Bu ders, karbon yönetiminin ilke ve uygulamalarına odaklanarak, karbon emisyonlarının ölçülmesi, azaltılması ve dengelemesi için stratejileri incelemektedir. Ders, karbon muhasebesi, karbon ayak izi değerlendirmesi ve iklim değişikliğini hafifletmek için sürdürülebilir uygulamaların geliştirilmesi ile ilgili temel kavramları ele alacaktır. Öğrenciler, karbon yönetimi konusunda pratik beceriler kazanacak ve sürdürülebilir iş uygulamalarıyla ilgili geniş kapsamlı tartışmalara katkıda bulunacaklardır. Bu ders, özellikle iklim değişikliğini sürdürülebilir uygulamalar aracılığıyla hafifletme konusundaki acil gereksinimi ele alarak, Sürdürülebilir Kalkınma Hedefleri'ne uygun olarak özellikle SKH 12 (Sorumlu Üretim ve Tüketim) ve SKH 13 (İklim Eylemi) ile uyumlu olacak şekilde tasarlanmıştır.

Code	**SUS 405**
Name	**Life Cycle Assessment**
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/ 3-4
Type	Elective
Prerequisites	
Description	Life Cycle Assessment (LCA) delves into the comprehensive evaluation of environmental impacts associated with products, processes, or services across their entire life cycle. This course explores fundamental principles, methodologies, and applications of LCA, covering areas such as goal and scope definition, life cycle inventory analysis, impact assessment, and result interpretation. Through interactive lectures and hands-on exercises, students develop proficiency in conducting LCA studies, identifying avenues for environmental enhancement, and making informed decisions to promote sustainability. The course aligns with Sustainable Development Goals (SDGs) 12 (Responsible Consumption and Production) and 13 (Climate Action), emphasizing the crucial role of LCA in addressing climate change and fostering sustainable development practices.
Objectives	Fostering students to evaluate the environmental impacts of products, processes, or services throughout their life cycles. Offering novel cases to apply life cycle assessment methodologies to conduct systematic evaluations of environmental footprints. Guiding students to implement sustainability strategies based on the findings of life cycle assessments to enhance environmental performance.
Learning Outcomes	*By the end of the course, the student will be able to* LO1. Recall key concepts and principles of life cycle assessment methodologies. LO2. Explain the stages and components involved in conducting a life cycle assessment. LO3. Apply life cycle assessment methodologies to evaluate the environmental impacts of products, processes, or services. LO4. Analyze life cycle assessment results to identify areas for environmental improvement. L05. Develop sustainable strategies and recommendations based on life cycle assessment findings to enhance environmental performance.

CONTRIBUTION TO INSTITUTIONAL STUDENT LEARNING OUTCOMES*

	IO1	IO2	IO3	IO4	IO5	IO6	IO7
LO1	0	3	5	0	4	3	3
LO2	3	3	5	0	4	5	3
LO3	4	4	5	0	4	3	3
LO4	4	4	5	3	5	0	3
L05	5	5	5	4	5	4	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction to Life Cycle Assessment	L01, LO2
Goal and Scope Definition	L01, L02, LO3
Life Cycle Inventory Analysis	L03, LO4

Impact Assessment	L04
Interpretation and Reporting	L04, LO5

DERS BİLGİLERİ

Kodu	**SUS 405**
İsmi	**Yaşam Döngüsü Değerlendirmesi**
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/ 3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	
İçerik	Yaşam Döngüsü Değerlendirmesi (YDD) dersi , ürünlerin, işlemlerin veya hizmetlerin tüm yaşam döngüleri boyunca ilişkilendirilen çevresel etkilerinin kapsamlı bir şekilde değerlendirilmesini incelemektedir. Bu ders, YDD'nin temel prensiplerini, metodolojilerini ve uygulamalarını, amaç ve kapsam tanımı, yaşam döngüsü envanter analizi, etki değerlendirmesi ve sonuçların yorumlanması gibi alanları kapsayarak ele almaktadır. Etkileşimli dersler ve uygulamalar aracılığıyla, öğrenciler YDD çalışmalarını yürütmede yetkinlik kazanabilecek, çevresel iyileştirmeler için olanakları belirleyebilecek ve sürdürülebilirliği teşvik etmek için bilinçli kararlar alabilecektir. Bu ders, SDG 13 (İklim Eylemi) ve SDG 12 (Sürdürülebilir Üretim ve Tüketim) gibi Sürdürülebilir Kalkınma Hedefleri ile uyumlu olarak, YDD'nin iklim değişikliği ile mücadelede ve sürdürülebilir kalkınma uygulamalarını teşvik etmedeki kritik rolünü vurgulamaktadır.