

SPS 374- GLOBAL ENVIRONMENTAL CHALLENGES

Dr. Ümit Şahin

COURSE DESCRIPTION

This course aims to provide an introduction to the global environmental challenges with their scientific, economic and political aspects from an interdisciplinary natural and social science perspective. This course equips students with skills to comprehend and analyse the historical background, as well as the future outlook of current environmental problems caused by the immense impact of human civilizations, particularly by economic growth and changing production-consumption patterns. Topics to be discussed include environmental pollution and ecological footprint, global issues such as ozone depletion, deforestation, climate change, and biodiversity loss, air pollution and other environmental health issues, urban environmental problems, food and water politics, plastic pollution and the oceans. Course includes discussions of case studies for the solutions and movements for a sustainable future, such as eco-innovation, green economy, and environmentalist campaigns.

[Bu kurs, küresel çevre sorunlarına, interdisipliner doğa bilimleri ve sosyal bilimler perspektifiyle, bilimsel, ekonomik ve politik bakış açılarıyla yaklaşan bir giriş yapmayı hedeflemektedir. Bu kurs, öğrencilerin, insan uygarlıklarının devasa etkisiyle, özellikle de ekonomik büyüme ve değişen üretim-tüketim biçimleri nedeniyle oluşan günümüz çevre meselelerinin tarihsel arka planını ve gelecekteki görünümünü anlamalarını ve tahlil etmelerini sağlayacak beceriyi kazanmalarını amaçlar. Ele alınacak konular arasında çevre kirliliği ve ekolojik ayak izi, ozon tabakasının incelenmesi, ormansızlaşma, iklim değişikliği ve biyoçeşitlilik kaybı gibi küresel sorunlar, hava kirliliği ve diğer çevre sağlığı konuları, kent çevresi sorunları, gıda ve su politikaları, plastik kirliliği ve okyanuslar bulunmaktadır. Kursta sürdürülebilir bir gelecek için çözümler ve hareketlere dair, eko-inovasyon, yeşil ekonomi ve çevreci kampanyalar gibi örnek olgular da tartışılacaktır.]

SYLLABUS

WEEK 1 – 3 OCTOBER 2022

Introduction – What is the environment and why do we talk about a global crisis?
Fundamentals of Ecology - Earth System Science 1

WEEK 2 – 10 OCTOBER 2022

Fundamentals of Ecology - Earth System Science 2

WEEK 3 – 17 OCTOBER 2022

Quiz 1

Global environmental change and planetary boundaries – 1

WEEK 4 – 24 OCTOBER 2022

Global environmental change and planetary boundaries - 2

WEEK 5 – 31 OCTOBER 2022

Quiz 2

Human Impact on the Earth System: Global Environmental Pollution and Resource Depletion - 1

WEEK 6 – 7 NOVEMBER 2022

Human Impact on the Earth System: Global Environmental Pollution and Resource Depletion - 2

WEEK 7 – 14 NOVEMBER 2022

MIDTERM EXAM

WEEK 8 – 21 NOVEMBER 2022

Environmental Health

WEEK 9 – 28 NOVEMBER 2022

Air Pollution

WEEK 10 – 5 DECEMBER 2022

Biodiversity Loss

WEEK 11 – 12 DECEMBER 2022

Quiz 3

Global Water Crisis

WEEK 12 – 19 DECEMBER 2022

Energy and Environment

Food Politics

WEEK 13 – 26 DECEMBER 2022

Quiz 4

Plastic Pollution and Oceans

WEEK 14 – 2 JANUARY 2023

Solutions for sustainability – Socio-technical transition and eco-innovation, decarbonization, green economy, and circular economy

MAIN COURSE RESOURCES

BOOK CHAPTERS

The Blue Planet: An Introduction to Earth System Science. Brian J. Skinner, Barbara Murck. Wiley, 2011 (Several chapters.)

Earth's Evolving Systems: The History of Planet Earth. Ronald Martin. Jones & Bartlett, 2018 (Chapter 6: Geologic Time and Stratigraphy.)

Stuffed and Starved: The Hidden Battle for the World Food System. Raj Patel. Melville House, 2012 (Introduction)

ARTICLES

Johan Rocström et al. A safe operating space for humanity. Nature, Vol 461, 24 September 2009

Maude Barlow, Tony Clarke. Who Owns Water. The Nation, 2002

**Also, several videos and documentaries will be seen and recommended.*

TIME AND PLACE

*EVERY MONDAY 12:40-15:30 @FASS 1102

COURSE GRADE

30% Midterm

40% Final Exam

30% Attendance and Quizzes

QUIZZES will be done at the beginning of the indicated course hours on the last topics of the last 2 weeks as mostly multiple-choice questions.

Office hours will be announced later.

** Course content, requirements, and policies are subject to change at the discretion of the instructor.*