

# SPS 374- GLOBAL ENVIRONMENTAL CHALLENGES

Dr. Ümit Şahin

## COURSE DESCRIPTION

This course aims to introduce 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 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 – 2 OCTOBER 2023

Introduction – What is the environment and why do we talk about a global crisis?

Fundamentals of Ecology - Earth System Science 1

### WEEK 2 – 9 OCTOBER 2023

Fundamentals of Ecology - Earth System Science 2

### WEEK 3 – 16 OCTOBER 2023

Quiz 1

Global environmental change and planetary boundaries – 1

### WEEK 4 – 23 OCTOBER 2023

Global environmental change and planetary boundaries - 2

**WEEK 5 – 30 OCTOBER 2023**

*Quiz 2*

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

**WEEK 6 – 6 NOVEMBER 2023**

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

**WEEK 7 – 13 NOVEMBER 2023**

MIDTERM EXAM

**WEEK 8 – 20 NOVEMBER 2023**

Environmental Health

**WEEK 9 – 27 NOVEMBER 2023**

Air Pollution

**WEEK 10 – 4 DECEMBER 2023**

*Quiz 3*

Biodiversity Loss

**WEEK 11 – 11 DECEMBER 2023**

Global Water Crisis

Food Politics

**WEEK 12 – 18 DECEMBER 2023**

*Quiz 4*

Plastic Pollution and Oceans

**WEEK 13 – 25 DECEMBER 2023**

Energy and Environment

Solutions for sustainability

**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

**ARTICLES**

Johan Rockström 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.*