COURSE DETAIL

CLIMATE CHANGE IMPACTS, ADAPTATION, AND MITIGATION
Country Denmark
Host Institution University of Copenhagen
Program(s) University of Copenhagen
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Environmental Studies
UCEAP Course Number 150
UCEAP Course Suffix
UCEAP Official Title CLIMATE CHANGE IMPACTS, ADAPTATION, AND MITIGATION
UCEAP Transcript Title CLIMATE CHANGE
UCEAP Quarter Units 12.00
UCEAP Semester Units 8.00

Course Description

The focus of the course is climate change impacts and the human response to climate change, including efforts to adapt to climate change, as well as efforts to avoid or reduce the negative impacts of climate change. Using the IPCC Assessment Reports as the main reference, together with recent complementary and contrasting findings, the relevant scientific tools are applied to analyze and discuss the different aspects of climate change. The course is divided into four main parts. In the first part of the course, the E-learning platform is introduced and a basic understanding of the physical science of climate change is offered, together with a brief introduction to the ongoing climate change debate. Natural and anthropogenic drivers, and direct observations of recent climate change are presented. Different climate change models and scenarios are presented and discussed in relation to future climate change projections. In the second part of the course, the impacts of climate change and potential adaptation strategies in different sectors are presented. After a short introduction to different approaches to climate change adaptation, the climate change impacts and adaptation practices for ecosystems, land use, water resources and human health are presented and discussed in relation to options, constraints, costs, and benefits. National climate change adaptation strategies from selected developed and developing countries are analyzed and discussed. The third part of the course deals with climate change mitigation strategies. After a general introduction to potential mitigation strategies, the most relevant technological and economic mitigation strategies are presented and discussed, including biological and inorganic carbon sequestration, energy system transformation and renewable energy technologies, carbon trading and carbon offsetting. National climate change mitigation plans from some of the world's major emitters of greenhouse gases are analyzed and discussed. In the fourth and final part of the course, the focus is climate change policy and social change. First, the current status of international climate change negotiations is discussed. Afterward, climate change policy is discussed in relation to the green economy paradigm. Finally, the course ends with a discussion of the need for social change in order to reduce the negative impacts of climate change. The course is limited to 60 students, which are selected in order to create international and interdisciplinary student groups of 12-15 students.

Language(s) of Instruction
English

Host Institution Course Number
LNAK10069U

Host Institution Course Title
CLIMATE CHANGE IMPACTS, ADAPTATION AND MITIGATION

Host Institution Course Details

Host Institution Campus
Science

Host Institution Faculty

Host Institution Degree

Host Institution Department
Plant and Environmental Science/Geoscience and Natural Resource Management

Course Last Reviewed

Print