

COURSE DETAIL

ATMOSPHERE AND CLIMATE

Country

Netherlands

Host Institution

Utrecht University - University College Utrecht

Program(s)

University College Utrecht

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Earth & Space Sciences

UCEAP Course Number

118

UCEAP Course Suffix**UCEAP Official Title**

ATMOSPHERE AND CLIMATE

UCEAP Transcript Title

ATMOSPHERE&CLIMATE

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

The climate is a complicated physical system, the properties of which affect our everyday lives and impact virtually all things ecological and economic. The basic principles that govern the interaction between the climate's main constituents, the atmosphere and oceans, can be described by the methods of physics. This course introduces the fundamentals of the physics of the atmosphere and related climate, starting with atmospheric composition and static stability. Students learn about the vertical distribution of mass (pressure), temperature, the role of moisture in the atmosphere (clouds) and radiation transport. The course then focuses on the dynamical atmosphere to see how pressure gradients and the Coriolis force affect air motion (wind). Knowledge is applied to simple models of the atmosphere to discuss large scale and small scale flows. Throughout the course, recent developments, current affairs and issues pertaining to climate change are discussed. Prerequisite for this course is one of the following: calculus, foundations of mathematics, introduction to quantum physics, classical physics.

Language(s) of Instruction

English

Host Institution Course Number

UCSCIEAR22

Host Institution Course Title

ATMOSPHERE AND CLIMATE

Host Institution Course Details

<https://cursusplanner.uu.nl/Curriculum>

Host Institution Campus

University College Utrecht

Host Institution Faculty

Sciences

Host Institution Degree

Host Institution Department

Earth and Environment

Course Last Reviewed

2024-2025

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