

COURSE DETAIL

ANIMAL ADAPTATION TO CLIMATE CHANGE

Country

Italy

Host Institution

University of Bologna

Program(s)

University of Bologna

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Environmental Studies

UCEAP Course Number

131

UCEAP Course Suffix**UCEAP Official Title**

ANIMAL ADAPTATION TO CLIMATE CHANGE

UCEAP Transcript Title

ANML ADAPT CLM CHNG

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course is part of the Laurea Magistrale degree program and is intended for advanced level students. Enrollment is by permission of the instructor. The course requires a background knowledge of cell biology and animal physiology from Bachelor of Science courses of Biology. The course content includes:

- Temperature: biochemical and physiological effects on animals; regulation of thermal biology; molecular basis of thermal adaptation.
- Ocean Acidification: biochemical and physiological effects of pH variations on animals; molecular basis of pH adaptation
- Drought and salinity: animal water balance and osmoregulation; adaptation in terrestrial and aquatic environments; molecular basis of osmotic adaptation.
- Physiological and molecular limits of adaptation; climate change adverse effects on animal and human health.
- Biological effects of emerging pollutants

At the end of the course, students demonstrate knowledge and understanding of the physiological mechanisms (at the molecular, cellular and systemic levels) through which animals - including humans - can adapt to changes in temperature, pH, osmolarity, water scarcity, etc. in the surrounding environment. On the other hand, students know the limits of adaptation, thus being able to evaluate the risks related to climate changes. Students have the ability to integrate knowledge and formulate hypothesis, and clearly communicate their achievements.

Language(s) of Instruction

English

Host Institution Course Number

88267

Host Institution Course Title

ANIMAL ADAPTATION TO CLIMATE CHANGE

Host Institution Course Details

<https://www.unibo.it/en/study/course-units-transferable-skills-moocs/course-uni...>

Host Institution Campus

BOLOGNA

Host Institution Faculty**Host Institution Degree**

LM in SCIENCES AND MANAGEMENT OF NATURE

Host Institution Department

BIOLOGICAL, GEOLOGICAL, AND ENVIRONMENTAL SCIENCES

Course Last Reviewed

2025-2026

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