COURSE DETAIL

INTRODUCTION TO ECOLOGICAL MODELING: FROM MICROBIAL TO ECOSYSTEM DYNAMICS

Country
Denmark

Host Institution
University of Copenhagen

Program(s)
University of Copenhagen

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Biological Sciences

UCEAP Course Number
126

UCEAP Course Suffix

UCEAP Official Title
INTRODUCTION TO ECOLOGICAL MODELING: FROM MICROBIAL TO ECOSYSTEM DYNAMICS

UCEAP Transcript Title
INTRO ECOL MODELING

UCEAP Quarter Units
6.00

UCEAP Semester Units
4.00

Course Description

This course provides an overview of and an introduction to ecological modeling. The course emphasizes on computational simulations of two contrasting biological levels: the ecosystem and the microbial community. It models their responses to environmental and climate changes. It also teaches basic concepts in modeling, the structures of two widely used ecological models (i.e., LPJ-GUESS and DEMENT), and how models, together with observational data, can be used to understand ecological systems better. The course applies and tests ecological models to understand process interactions and system responses. Topics include ecosystem biogeochemical cycles; vegetation dynamics; microbial processes: traits and community structure; model-data integration; model sensitivity testing, evaluation and prediction; modeling plant-plant and microbial community competition.

Language(s) of Instruction
English

Host Institution Course Number
NBIB25002U

Host Institution Course Title
INTRODUCTION TO ECOLOGICAL MODELLING: FROM MICROBIAL TO ECOSYSTEM DYNAMICS

Host Institution Course Details
https://kurser.ku.dk/course/nbib25002u/2025-2026

Host Institution Campus

Host Institution Faculty
Science

Host Institution Degree
Bachelor

Host Institution Department
Biology

Course Last Reviewed
2025-2026

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