

COURSE DETAIL

FUNCTIONAL BIOLOGY

Country

Netherlands

Host Institution

Utrecht University

Program(s)

Utrecht University

UCEAP Course Level

Lower Division

UCEAP Subject Area(s)

Biological Sciences

UCEAP Course Number

16

UCEAP Course Suffix**UCEAP Official Title**

FUNCTIONAL BIOLOGY

UCEAP Transcript Title

FUNCTIONAL BIOLOGY

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course extends the discussion of molecules and cells presented earlier to the biology of a wide range of organisms and to the processes and mechanisms that affect their functions and activities. The course covers evolution, starting with key evolutionary concepts and the "Tree of Life". In lectures and work groups, the differences and similarities between organisms and their genes and proteins and how these can be studied from an evolutionary perspective are covered. The importance and diversity of microorganisms and the biological processes in which they function, e.g., nutrient cycling is explored. This section includes a hands-on microbiology laboratory session. The course then focuses on the higher eukaryotes, especially plants and animals. Here, the multicellularity, growth, development, and physiology of these organisms is discussed. In individual assignments, students explore the parallels and differences among important biological processes, such as development, chemical signals that direct growth and physiology, reproduction, immunity, electrical signaling, and neural regulation. Throughout the course, students work on a group project describing research on a biological process in a selected model organism, culminating in a plenary poster session during the course's final week.

Language(s) of Instruction

English

Host Institution Course Number

MBLS-107

Host Institution Course Title

FUNCTIONAL BIOLOGY

Host Institution Course Details

<https://osiris-student.uu.nl/onderwijscatalogus/extern/cursus>

Host Institution Campus

Utrecht University

Host Institution Faculty

Faculty of Science

Host Institution Degree**Host Institution Department**

Molecular and Biophysical Life Sciences (MBLS)

Course Last Reviewed

2025-2026

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