SYLLABUS

Name: ***Evolutionary developmental biology (25-BI-S2-E3-EDB-AN)***
Name in Polish: **Ewolucyjna biologia rozwoju**
Name in English: ***Evolutionary developmental biology***

Information on course:

Course offered by department: Faculty of Biological Sciences
Course for department: Faculty of Biological Sciences

Default type of course examination report:

Grading

Language:

English

Short description:

Prerequisites regarding knowledge, skills, and social competences for the course/module
Basic knowledge of plant and animal developmental biology, genetics and evolutionary biology.

Student's own work:
- reading scientific publications: 20h
- preparing homework assasemnts/presentations: 20h
- preparing for tests; 15h

Description:

Educational aims:
The evolution of embryonic development, the influence of development modification on the formation of new features, the role of developmental plasticity in evolution, the environmental effects on the development and evolution.

Course content:
Lectures: Theory of recapitulation (embryological parallelism). Chosen homeoboxes evolution. Evolutionary morphology (body plan). Genes and development. The control of body structure (deep homology, gene toolkit, the embryo’s regulatory network).
Seminars: Evolutionary novelties (the birth of evo-devo). The molecular biology underlying developmental evolution. Eco-evo-devo. The control of body structure (deep homology, gene toolkit, the embryo’s regulatory network).

Bibliography:

Mandatory and recommended reading list:
B. K. Hall. Evolutionary Developmental Biology. 1999. Springer
W. Tworzydło, Sz. Biliński. Evo-Devo: Non-model Species in Cell and Developmental Biology. 2019. Springer.
W. Arthur. Understanding Evo-Devo. 2021. Cambridge University Press
Original articles recommended by the teacher.

Learning outcomes:

Student:

K_W01
- knows the theoretical basis of evolutionary developmental biology;

K_W06
- knows factors influencing embryonic development evolution;

K_U02
- uses the scientific literature to deepen the evolutionary developmental biology knowledge;

K_K01
- is aware of modern scientific evolutionary developmental biology theories;

K_K07
- is aware of evolutionary processes complexity.

Assessment methods and assessment criteria:

Assessment methods for the intended learning outcomes:
- Lectures:
-written test.
- Seminars:
- oral presentation and continuous activity evaluation during classes.

Credit requirements for individual components of the course/module:
- Lectures:
- written test.
- Seminars:
- flash talk and continuous activity evaluation during classes.

Course credits in various terms:

<without a specific program>

Type of credits	Number	First term	Last term
European Credit Transfer System (ECTS)	30	2024/25-Z	