University of Gdańsk

Subject card

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| Subject name and code | Systematics and basic biology of cultivated organisms - lectur, PG_00075890 | | |
| Field of study | Aquaculture – Business And Technology | | |
| Date of commencement of studies | October 2024 | Academic year of realisation of subject | 2024/2025 |
| Education level | undergraduate studies | Subject group | |
| Mode of study | full-time studies | Mode of delivery | at the university |
| Year of study | 1 | Language of instruction | Polish<br>Polish |
| Semester of study | 2 | ECTS credits | 3.0 |
| Learning profile | practical | Assessment form | |
| Conducting unit | Pracownia Ekofizjologii i Bioenergetyki -> Katedra Ekologii Morza -> Faculty of Oceanography and Geography | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | prof. dr hab. Monika Normant-Saremba | |
| | Teachers | | |

**Lesson types**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 45.0 | 0.0 | 0.0 | 0.0 | 0.0 | 45 |

E-learning hours included: 0.0

Additional information:

**Learning activity and number of study hours**

| Learning activity | Participation in didactic classes included in study plan | Participation in consultation hours | Self-study | SUM |
|---|---|---|---|---|
| Number of study hours | 45 | 15.0 | 30.0 | 90 |

**Subject objectives**

The aim of the course is to familiarize the student with the systematics and basic issues in the field of biology of various groups of organisms used in aquaculture.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [AKWAL3_W03] knows and understands the conceptual categories and terminology related to the biological basis of aquatic organisms breeding, as well as concepts directly relevant to the practical applications of this knowledge | Knows and understands the terminology relating to the systematics and biology of farmed plants and algae, invertebrates and fish, as well as concepts directly related to the practical applications of this knowledge. | [SW4] test/exam - oral or written |

**Subject contents**

Plants and algae: classification of cyanobacteria, algae and vascular plants of aquatic environments; structure of cyanobacterial and plant cells; characterization of the level of morphological organization of cyanobacteria, algae and vascular plants; macroalgae development cycles; adaptation of cyanobacteria and algae to the inhabited environments.

Invertebrates: taxonomy and morphological structure of the most important species in aquaculture, with particular emphasis on mollusks, crustaceans and echinoderms; anatomy; reproduction and life cycle; sense organs, behavior and inter-individual interactions.

Fish: historical outline of the taxonomy and specificity of the taxonomy nomenclature of this group; description of systematic features of fish: shape and color; elements of the external structure of fish; biometric and meristic features; skeleton and the structure and functioning of selected internal organs; characteristics of the main taxonomic groups; reaction to stimuli and behavior.

**Prerequisites and co-requisites**

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| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Test/ exam: Fish | 51.0% | 33.34% |
| | Test/ exam: Invertebrates | 51.0% | 33.33% |
| | Test/ exam: Plants and Algae | 51.0% | 33.33% |
| Recommended reading | Basic literature | Barnes R.S.K., Calow P., Olive P.J.W., Golding D.W., Spicer J.I., 2007. The Invertebrates, A Synthesis. 3rd Edition, Blackwell Publishing.<br><br>Bieniarz K., Epler P., 2004. Zoologia Tom V, Ryby. Leksykon popularnonaukowy. Wydawnictwo Albatros, Kraków.<br><br>Błaszak C. (red.), 2021. Zoologia Szkarłupnie płazy Tom 3 Część 1. Wydawnictwo Naukowe PWN.<br><br>Brusca R.C., Moore W., Shuster S.M., 2016. Invertebrates, 3rd Edition, Sinauer Associates.<br><br>Brylińska M., 2000. Ryby słodkowodne Polski. Wydawnictwo Naukowe PWN Warszawa.<br><br>Gerstmeier R., Romig T., 2002. Przewodnik. Słodkowodne ryby Europy. Mulico Warszawa.<br><br>Kadłubowska J. Z., 1975. Zarys algologii, PWN, Warszawa.<br><br>Kottelat M., Freyhof J., 2007. Handbook of European Freshwater Fishes<br><br>Nelson J.S., 2006. Fishes of the Word. Wiley<br><br>Pechenik J.A., 2014. Biology of the Invertebrates, 7th Edition, McGraw-Hill Education.<br><br>Szweykowska A., Szweykowski J. 1974, 1993. Botanika Systematyka, PWN, Warszawa.<br><br>Szweykowska A., Szweykowski J., 1974, 1993. Botanika Morfologia, PWN Warszawa. | |

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| | Supplementary literature | Gąsowska M., 1962. Krągłouste i ryby. Państwowe Wydawnictwo Naukowe, Warszawa.<br><br>Grabda E., 1986. Zoologia. Bezkręgowce, PWN.<br><br>Grodziński Z., 1981. Anatomia i embriologia ryb. Państwowe Wydawnictwo Rolnicze i Leśne, Warszawa.<br><br>Moore J., 2009. Wprowadzenie do zoologii bezkręgowców, Wydawnictwa Uniwersytetu Warszawskiego.<br><br>Opuszyński K., 1979. Podstawy biologii ryb. Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa.<br><br>Pliński Marcin - Glony Zatoki Gdańskiej, część I-VII - Uniwersytet Gdański, 1980.<br><br>Pliszka F., 1964. Biologia ryb. Państwowe Wydawnictwa Rolnicze i Leśne, Warszawa.<br><br>Suworow E., 1954. Podstawy ichtiologii. Państwowe Wydawnictwo Naukowe, Warszawa. |
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | Taxonomy, external and internal structure, phenotypic diversity; reproduction, life cycle and growth; adaptation to environmental conditions. | |
| Work placement | Not applicable | |

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