

Subject card

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|--|---|--|---|-------------------------------------|--|---|-----|
| Subject name and code | Mechanisms of evolution, PG_00132650 | | | | | | |
| Field of study | Biology | | | | | | |
| Date of commencement of studies | October 2024 | Academic year of realisation of subject | | | 2026/2027 | | |
| Education level | undergraduate studies | Subject group | | | Obligatory subject group in the field of study | | |
| Mode of study | full-time studies | Mode of delivery | | | at the university | | |
| Year of study | 3 | Language of instruction | | | Polish | | |
| Semester of study | 5 | ECTS credits | | | 2.0 | | |
| Learning profile | academic | Assessment form | | | | | |
| Conducting unit | Faculty of Biology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | prof. dr hab. Tadeusz Namiotko | | | | |
| | Teachers | | | | | | |
| Lesson types | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 30.0 | 0.0 | 0.0 | 0.0 | 0.0 | 30 |
| | E-learning hours included: 0.0 | | | | | | |
| | Additional information: multimedia lecture with some discussion | | | | | | |
| 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 | 30 | | 2.0 | | 18.0 | 50 |
| Subject objectives | 1. To understand the pathways and mechanisms of evolution. 2. Ability to use this knowledge to explain the causes and extent of biodiversity. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | | Method of verification | |
| | [BIOLL3_W06] The graduate will know the characteristics, systematics and understand the evolution of selected groups of organisms including molecular basis and basic concepts and mechanisms of evolution | | Students will describe the basic concepts and mechanisms of evolution and explain the causes of biodiversity using selected examples of plants and animals. | | | [SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion | |
| | [BIOLL3_W10] The graduate is familiar with the development and current state of knowledge and the latest trends in biology, as well as their relationship with other natural disciplines | | Students will be able to assess the development, current state of knowledge and critically evaluate the latest hypotheses of evolutionary biology, explain why it is the central theory of biology and indicate its relationship to other natural sciences. | | | [SW3] text preparation/written work | |
| Subject contents | A short history of evolutionary biology. Major tenets of the evolutionary synthetic theory. Evolution at the population level: Hardy-Weinberg principle, systematic, dispersive and non-periodic factors responsible for elementary evolutionary change, models and examples of the efficiency of natural selection, the concept of the adaptive landscape. Evolution of quantitative traits. Concepts of species, barriers to gene flow, classification and examples of speciation modes. Problems of the genesis of altruistic traits. Limited aggression and evolutionarily stable strategy. Evolutionary benefits and costs of sexuality. The evolution of life histories. Introduction to evolutionary developmental biology. Evolutionary trends and rates of evolutionary change. Evolutionary biology versus creationism. | | | | | | |
| Prerequisites and co-requisites | | | | | | | |

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| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | exam test | 51.0% | 90.0% |
| | essay | 51.0% | 10.0% |
| Recommended reading | Basic literature | Futuyma D.J., Kirkpatrick M. 2017. Evolution. Oxford Univ. Press. | |
| | Supplementary literature | articles on evolutionary biology (e.g. from current and archive issues of Scientific American and from electronic sources) | |
| | eResources addresses | Adresy na platformie eNauczenie: | |
| Example issues/ example questions/ tasks being completed | | | |
| Work placement | Not applicable | | |

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