University of Gdańsk

Subject card

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| Subject name and code | The rudiments of plant embryology, PG_00154437 | | | | | | |
| Field of study | Biology | | | | | | |
| Date of commencement of studies | October 2026 | | Academic year of realisation of subject | | 2028/2029 | | |
| Education level | Bachelor's studies | | Subject group | | Obligatory subject group in the field of study<br>Optional subject group<br>Subject group related to scientific research 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 | | 1.0 | | |
| Learning profile | academic | | Assessment form | | credit | | |
| Conducting unit | Faculty of Biology -> Rector | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr Joanna Rojek | | | | |
| | Teachers | | | | | | |
| Lesson types | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15 |
| | E-learning hours included: 0.0 | | | | | | |
| 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 | 15 | | 2.0 | | 8.0 | 25 |
| Subject objectives | Understanding of current issues regarding sexual reproduction of angiosperm plants. | | | | | | |

## Learning outcomes

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [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 | - The graduate is oriented in the development and current state of knowledge of plant embryology and<br>indicates the relationship of this field with other natural disciplines (B_W10) | [SW4] test/exam - oral or written |
| [BIOLL3_W04] The graduate knows and understands at an advanced level the course of physiological processes and their relationship to the adaptation of the organism to changing environmental conditions | - The graduate can indicate and explain the relationship of embryological processes in plants to their adaptation to the environment (B_W04) | [SW4] test/exam - oral or written |
| [BIOLL3_K01] The graduate is prepared to evaluate his/her own knowledge, understand the need for continuous learning and development, and is open to new ideas | - The graduate knows the limitations of his/her own knowledge in the field of plant embryology and understands the need for continuous learning and development and is open to new ideas (B_K01) | [SK4] test/exam - oral or written |
| [BIOLL3_U12] The graduates will be able to use Polish and foreign languages specific to biology in a way that is understandable and accessible to both specialists and non-specialists | - graduate uses with understanding, both orally and in writing, the terminology used in the specialized scientific language of plant embryology (B_U12) | [SU4] test/exam - oral or written |
| [BIOLL3_W14] The graduate knows the theoretical basis of experimental methods and the most important techniques of the biological sciences | The graduate is able to indicate the methods used in modern research in plant embryology (B_W14) | [SW4] test/exam - oral or written |

## Subject contents

1. structure and development of organs of sexual reproduction of angiosperm plants:- formation and structure of the ovary; formation and structure of the anther,- The course of male and female sporogenesis,- formation and maturation of gametophytes; pollination; fertilization,- embryo and endosperm development - seed formation.2. Basics of molecular mechanisms of sexual reproduction of plants.

## Prerequisites and co-requisites

## Assessment methods and criteria

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| test | 51.0% | 100.0% |

## Recommended reading

Basic literature

- the latest scientific review publications in the field of plant embryology- English-language online materials for teachers (available, for example, on the pages of the journals Plant Cell, Nature)- Lersten NR. 2008. Flowering Plant Embryology: With Emphasis on Economic Species.Wyd. Blackwell Publ., Oxford .- Bednarska E. 1984. Zarys embriologii roślin okrytonasiennych. Wyd. UMK, Toruń- Rodkiewicz B., Śnieżko R., Fryk B., Niewęglowska B., Tchórzewska D., 1996. Embriologia Angiospermae rozwojowa i eksperymentalna. Wyd.UMCS, Lublin- Bhojwani S.S., Soh W.Y. 2001. Current trends in the embryology of angiosperms. Wyd. Kluwer Acad. Publ., Dordrecht

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| | Supplementary literature | Rojek J, Kuta E. 2002. Bielmo tkanka odżywiająca zarodek I. Bielmo u roślin okrytonasiennych (Angiospermae) jako wynik podwójnegozapłodnienia. Kosmos 69-84.Kuta E, Rojek J. 2002. Bielmo tkanka odżywiająca zarodek II. Autonomiczny rozwój bielma u roślin okrytonasiennych (Angiospermae). Kosmos 85-98Raghavan V. 1997. Molecular embryology of flowering plants. Wyd. Cambridge Univ. Press, Cambridge;.Bhojwani S.S., Soh W.Y. 2001. Current trends in the embryology of angiosperms. Wyd. Kluwer Acad. Publ., Dordrecht;Lersten N.R. 2008. Flowering plant embryology. Wyd. Blackwell Publ., Oxford |
| | eResources addresses | |
| Example issues/ example questions/ tasks being completed | Written credit includes the material from the lecture in the form of closed questions.The pass is graded according to the percentage ("UG Academic Regulations"). | |
| Work placement | Not applicable | |

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