**SYLLABUS**

**regarding the qualification cycle 2023/2024 - 2024/2025**

***Academic year 2023/2024***

1. Basic information about the subject

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| --- | --- |
| Course/Module title | Aerobiological monitoring |
| Course/Module code \* |  |
| Faculty (name of the unit offering the field of study) | College of Natural Sciences |
| Name of the unit running the course | **Institute of Biology and Biotechnology** |
| Field of study | Biology |
| Qualification level | II degree |
| Profile | general academic |
| Study mode | stationary |
| Year and semester of studies | year Ist, sem. 2th |
| Course type | Specialized course |
| Language of instruction | English |
| Coordinator | Prof. dr hab. Idalia Kasprzyk |
| Course instructor | Prof. dr hab. Idalia Kasprzyk, dr inż. Katarzyna Kluska |

\* - optional, as agreed in the Unit

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* 1. Learning format – number of hours and ECTS credits

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Semester  (n0.) | Lectures | Classes | Colloquia | Lab classes | Seminars | Practical classes | Internships | others | **ECTS credits** |
| 2nd |  |  |  |  |  | 30 |  |  | 3 |

1.2. Course delivery methods

- conducted in a traditional way

1.3. Course/Module assessment (an exam, pass with a grade, pass without a grade)

2. Prerequisites

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| Good communication in English; knowledge of the general and systematic botany |

3. Objectives, Learning Outcomes, Course Content, and Instructional Methods

3.1. Course/Module objectives

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| --- | --- |
| O1 | Introducing the student to morphology of pollen grains and fungal spores. |
| O2 | Acquiring the ability to assess the impact of abiotic parameters on airborne fungal spores and pollen grains. |
| O3 | Presentation of the possibilities of applying aerobiology in practice |

3.2. Course/Module Learning Outcomes

|  |  |  |
| --- | --- | --- |
| Learning Outcome | The description of the learning outcome  defined for the course/module | Relation to the degree programme outcomes |
| LO\_01 | the student has in-depth knowledge of aerobiology, including research methods | K\_W01, K\_W04, K\_W05; |
| LO\_02 | The graduate identifies sporomorphs, explains and interprets in detail the relationship between the weather, climate and the occurrence of pollen grains and fungal spores in the air. | K\_W01, K\_U05, K\_U07, K\_K01 |
| LO\_03 | The graduate is fluent in the use of scientific literature and uses specialist terminology in English | K\_U03, K\_U05, K\_U07, K\_K01 |

**3.3 Course content**

1. Practical classes

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| Content outline |
| Aerobiology as an interdisciplinary science - Methods in aerobiology. |
| Pollen grains – structure and function - the identification of pollen grains of selected plants |
| The identification of chosen pathogenic and allergenic fungal spores |
| Scanning microscopic slides from different periods of the season |
| Data analysis |
| Seasonal and daily concentration of sporomorphs in the air - pollen calendars |
| The influence of meteorological parameters on the aerobiological phenomena. |
| Phenology and aerobiology. |
| Application of aerobiology research in medicine, agriculture, forestry and forensic |

3.4. Methods of Instruction

Practical classes: practical laboratory work, presentation, discussion

4. Assessment techniques and criteria

4.1 Methods of evaluating learning outcomes

|  |  |  |
| --- | --- | --- |
| Learning outcome | Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes) | Learning format (lectures, classes,…) |
| LO\_01 | A written test | Practical Classes |
| LO\_02 | A written and practical test, an observation during a Practical Classes, Project | Practical Classes |
| LO\_03 | A written test, an observation during Practical Classes, presentation | Practical Classes |

4.2 Course assessment criteria

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| Written test, practical test\*  \* The number of points obtained in the test is decisive (> 50% of the maximum number of points): dst 51%, dst plus 65%, db 75%, db plus 90%, na 100%.  THE CONDITION OF GRADUATING THE COURSE IS THE ACHIEVEMENT OF ALL ASSUMED EDUCATIONAL EFFECTS. |

5. Total student workload needed to achieve the intended learning outcomes

– number of hours and ECTS credits

|  |  |
| --- | --- |
| **Activity** | **Average number of hours to complete the activity** |
| Scheduled course contact hours | **Practical** Classes - 30 |
| Other contact hours involving the teacher (consultation hours, examinations) | Participation in consultations - 15 |
| Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.) | Preparation for the test-10  Preparation for classes- 10  Preparation presentation - 10 |
| Total number of hours | 75 |
| Total number of ECTS credits | 3 |

6. Internships related to the course/module

|  |  |
| --- | --- |
| Number of hours | n.a. |
| Internship regulations and procedures | n.a. |

7. Instructional materials

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| Compulsory literature:   1. Kasprzyk I. Smith M. 2015. Manual for aerobiology. Wyd. Univ.Rzeszow., Rzeszów |
| Complementary literature:  Sofiev M., Bergmann K.C. (Eds.) 2013. Allergenic Pollen. A Review of the Production, Release, Distribution and Health Impacts. Springer |

Approved by the Head of the Department or an authorised person