

## Subject card

|                                             |                                                                                                                                                                             |                                                          |                                         |                                     |                                                                                              |            |     |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | Inventory animal inventory methods, PG_00154782                                                                                                                             |                                                          |                                         |                                     |                                                                                              |            |     |
| Field of study                              | Natural Resources Conservation                                                                                                                                              |                                                          |                                         |                                     |                                                                                              |            |     |
| Date of commencement of studies             | October 2023                                                                                                                                                                |                                                          | Academic year of realisation of subject |                                     | 2025/2026                                                                                    |            |     |
| Education level                             | Bachelor's studies                                                                                                                                                          |                                                          | Subject group                           |                                     | 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                           | 6                                                                                                                                                                           |                                                          | ECTS credits                            |                                     | 1.0                                                                                          |            |     |
| Learning profile                            | academic                                                                                                                                                                    |                                                          | Assessment form                         |                                     | credit                                                                                       |            |     |
| Conducting unit                             |                                                                                                                                                                             |                                                          |                                         |                                     |                                                                                              |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                          |                                                          | dr Paulina Kozina                       |                                     |                                                                                              |            |     |
|                                             | Teachers                                                                                                                                                                    |                                                          |                                         |                                     |                                                                                              |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                 | Lecture                                                  | Tutorial                                | Laboratory                          | Project                                                                                      | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                       | 0.0                                                      | 0.0                                     | 15.0                                | 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                                                       |                                         | 3.0                                 |                                                                                              | 7.0        | 25  |
| Subject objectives                          | To familiarize students with practical methods of inventorying aquatic and terrestrial invertebrates, including planning field research, collecting and analyzing material. |                                                          |                                         |                                     |                                                                                              |            |     |

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| Learning outcomes               | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Subject outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Method of verification                                                       |
|                                 | [OZPL3_U04] The graduate is able to plan and carry out simple research tasks in the biological sciences under the guidance of a supervisor                                                                                                                                                                                                                                                                                                                        | plans and carries out research tasks in the field of invertebrate inventory under the supervision of a supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | [SU2] presentation/project/paper/report<br>[SU4] test/exam - oral or written |
|                                 | [OZPL3_W13] The graduate has an advanced understanding of the fundamental rules, methods, and techniques of environmental research and their potential applications in nature conservation                                                                                                                                                                                                                                                                        | presents basic methods and techniques for conducting research on invertebrate populations in the environment and the possibilities for their use in nature conservation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | [SW4] test/exam - oral or written                                            |
|                                 | [OZPL3_U01] The graduate is able to use basic apparatus and research tools and maintains the correct sequence of operations in laboratory and field work                                                                                                                                                                                                                                                                                                          | uses basic equipment and research methods and maintains the correct sequence of activities in laboratory and field work used during the inventory of invertebrates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | [SU4] test/exam - oral or written<br>[SU6] demonstration of practical skills |
|                                 | [OZPL3_W06] The graduate has an advanced understanding of the names and types of natural environments, including their structural and functional characteristics                                                                                                                                                                                                                                                                                                  | has knowledge of invertebrates and understands the interactions between them and the environment, which translates into the correct performance of inventories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | [SW4] test/exam - oral or written                                            |
|                                 | [OZPL3_K08] The graduate is ready to systematically update his/her natural knowledge and to apply it in practice                                                                                                                                                                                                                                                                                                                                                  | systematically updates their knowledge of nature in light of changing regulations and knows how to apply it to prepare correct inventory documentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [SK8] observation of student's independent or team work                      |
| Subject contents                | <p>Inventory survey rules (determining monitoring areas/boundaries, survey dates and frequency, assessing the condition (number, density) of invertebrate populations, completing species observation cards for each site).</p> <p>Methods of catching aquatic and terrestrial invertebrates. Detection and identification of invertebrates based on direct observation. Recognition of signs of the presence (e.g., feeding, reproduction) of invertebrates.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |
| Prerequisites and co-requisites | <p>A. Formal requirements<br/>None</p> <p>B. Prerequisites<br/>Ability to identify basic groups of invertebrates.</p>                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                              |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                          | Passing threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Percentage of the final grade                                                |
|                                 | practical test                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 50.0%                                                                        |
|                                 | written exam                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 50.0%                                                                        |
|                                 | class attendance                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 85.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.0%                                                                         |
| Recommended reading             | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ol style="list-style-type: none"> <li>1. Klucze do oznaczania owadów Polski cz. 1-29. Polskie Towarzystwo Entomologiczne, 1954-2013.</li> <li>2. Makomaska-Juchiewicz M. (red.), 2010. Monitoring gatunków zwierząt. Przewodnik metodyczny, cz. 1. Biblioteka Monitoringu Środowiska, Warszawa.</li> <li>3. Makomaska-Juchiewicz M., Baran P. (red.), 2012. Monitoring gatunków zwierząt. Przewodnik metodyczny, cz. 2. Biblioteka Monitoringu Środowiska, Warszawa.</li> <li>4. Makomaska-Juchiewicz M., Bonka M. (red.), 2015. Monitoring gatunków zwierząt. Przewodnik metodyczny, cz. 4. Biblioteka Monitoringu Środowiska, Warszawa.</li> <li>5. Obidziński A., Żelazo J. (red.), 2011. Inwentaryzacja i waloryzacja przyrodnicza. Przewodnik ćwiczeń terenowych. SGGW. Warszawa.</li> <li>6. Tończyk G., Siciński J. (red.), 2013. Klucz do oznaczania makrobezkręgowców bentosowych dla potrzeb oceny stanu ekologicznego wód powierzchniowych. Biblioteka Monitoringu Środowiska, Warszawa.</li> <li>7. Materiały udostępniane przez prowadzącego zajęcia</li> </ol> |                                                                              |

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|----------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                | Supplementary literature | <ol style="list-style-type: none"> <li>1. Dumnicka E., Biesiadka E., Namiotko T. 2016. Zoobentos. W: Krzyściak-Kosińska R., Wilk-Woźniak E. (Red.) Ekosystemy wodne Białowieskiego Parku Narodowego: 213-231. Białowiecki Park Narodowy, Białowieża.</li> <li>2. Izdebska J.N., Janta A., Żmudziński L. 1997. Fauna Bezkręgowców Nadmorskiego Parku Krajobrazowego. (W:) Nadmorski Park Krajobrazowy. A. Janta (red.). NPK, Władysławowo: 57-75.</li> <li>3. Kozina P. 2015. Nowe stanowisko <i>Mantis religiosa</i> (L.) (Mantodea: Mantidae) na terenie rezerwatu Wzgórza Sobkowskie (Wyżyna Małopolska, Pogórze Szydłowskie). Wiadomości Entomologiczne 34: 67.</li> <li>4. Sutherland W. J. (red.), 2006. Ecological census techniques: a handbook. Cambridge University Press, Cambridge.</li> </ol> |
|                                                                | eResources addresses     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Example issues/<br>example questions/<br>tasks being completed |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Work placement                                                 | Not applicable           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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