# A COURSE SYLLABUS – DOCTORAL SCHOOL

## REGARDING THE QUALIFICATION CYCLE FROM 2025/2026 TO 2028/2029

| GENERAL INFORMATION ABOUT COURSE | |
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| Course title | **DOCTORAL SEMINAR** |
| Name of the unit running the course | Rzeszów University Doctoral School |
| Type of course *(obligatory, optional)* | Compulsory subject |
| Year and semester of studies | Years I – IV, semesters: I–VII |
| Discipline | **Biological sciences** |
| Language of Course | Polish language/English language |
| Name of Course coordinator | **Roma Durak, PhD, Professor at the University of Rzeszów** |
| Name of Course instructor | **Roma Durak, PhD, Professor at the University of Rzeszów** |
| Prerequisites | Completion of second-cycle higher education studies. Learning outcomes achieved at level 7 of the Polish Qualifications Framework, foreign language proficiency at level B2 of the Common European Framework of Reference for Languages. |

**BRIEF DESCRIPTION OF COURSE**
**(100-200 words)**

The aim of the doctoral seminar is to deepen and systematise current knowledge related to the topic of the doctoral dissertation, to develop the ability to formulate and solve research problems, and to present scientific work. The issues discussed and projects carried out as part of the course will also serve to prepare doctoral students to write their doctoral dissertations and present their research results. In addition, the doctoral seminar will aim to develop doctoral students' skills in searching for publications that are important in terms of their substantive and scientific value in the field of their research.

**COURSE LEARNING OUTCOMES AND METHODS OF EVALUATING LEARNING OUTCOMES**

| Learning outcome | The description of the learning outcome defined for the course | Reference to learning outcomes for qualifications at Level 8 of the Polish Qualification Framework (PRK) (symbol) | Learning Format (Lectures, classes,...) | Method of assessment of learning outcomes (e.g. test, oral exam, written exam, project,...) |
|---|---|---|---|---|
| **Knowledge: (no.)** | ***knows and understands*** | | | |
| **P8S_WG1** | Possesses extensive theoretical knowledge, supported by research experience, and is familiar with current scientific achievements, including global ones, in the field of biological sciences, particularly in the area of behavioural and biochemical responses of insects to environmental stress, as well as general issues in related disciplines. | **P8S_WG** | seminar | oral presentation, discussion |

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| **P8S_WG2** | He/she is familiar with the directions of scientific research in the discipline of biological sciences and the latest discoveries, including global ones, in the discipline in which education is provided. | **P8S_WG** | seminar | oral presentation, discussion |
| **P8S_WG3** | Knows, understands and is able to use concepts used by scientists and specialists in the discipline of biological sciences and related disciplines in their native language and in a foreign language that is leading in the discipline. | **P8S_WG** | seminar | oral presentation, discussion |
| **Skills: (no.)** | ***is able to*** | | | |
| **P8S_UW1** | Based on their knowledge of various fields of science, they are able to identify and solve scientific research problems, define objectives, formulate hypotheses and research topics, select and improve research techniques, methods and tools, and draw conclusions based on scientific research results. | **P8S_UW** | seminar | oral presentation, discussion |
| **P8S_UW2** | Is able to select and use available scientific literature to diagnose and solve research problems and innovative activities in their research work, as well as apply the appropriate tools to create new elements of scientific output. | **P8S_UW** | seminar | oral presentation, discussion |
| **P8S_UW3** | Uses their interdisciplinary knowledge to analyse and evaluate the results of scientific research, expert work and other scientific studies, and is able to formulate opinions, including critical judgements. | **P8S_UW** | seminar | oral presentation, discussion, presentation |
| **P8S_UK6** | Is able to speak in public to present scientific research results and participate in discussions on scientific and professional topics in an international environment, using a foreign language at level B2 of the Common European Framework of Reference for Languages. | **P8S_UK** | seminar | oral presentation, discussion |
| **Social competence: (no.)** | ***is ready to*** | | | |
| **P8S_KK1** | Is prepared to critically evaluate achievements within the scientific discipline of biological sciences and to critically evaluate the contribution of their own research results to the scientific development of the discipline in which they are studying. | **P8S_KK** | seminar | oral presentation, discussion |

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| **P8S_KK3** | Thanks to their extensive knowledge, they solve various cognitive and practical problems. | **P8S_KK** | seminar | oral presentation, discussion |

**LEARNING FORMAT – NUMBER OF HOURS**

| Semester (no.) | Lectures | Seminars | Lab classes | Placements | other | ECTS |
|---|---|---|---|---|---|---|
| **I - VII** | - | - | - | - | **7 x 15 godz. -105 godz.** | **7 x 2 ECTS – 14 ECTS** |

**METHODS OF INSTRUCTION**

***- ACADEMIC DISCUSSION*****,**
***- MULTIMEDIA PRESENTATION*****,**

**COURSE CONTENT**

**Topics covered in classes, divided into semesters:**

**Semester I**

Topic 1: Review of literature and determination of the current state of knowledge on the behavioural responses of insects to environmental stresses.
Topic 2: Review of literature and determination of the current state of knowledge on the biochemical responses of insects to environmental stresses.
Topic 3: Review of research methods needed to complete the doctoral thesis**.**

**Semester II**

Topic 1: Review of research methods needed to complete the doctoral thesis.
Topic 2: Discussion of the doctoral thesis concept.
Topic 3: Preparation for research – selection of literature and research methods.

**Semester III**

Topic 1: Conducting research – research hypotheses, thesis objectives.
Topic 2: Conducting research – planning experiments, discussing results and difficulties encountered during their implementation.
Topic 3: Conducting research – planning experiments, discussing results and difficulties encountered during their implementation.

**Semester IV**

Topic 1: Conducting research – methods of data collection and analysis.
Topic 2: Conducting research – programmes needed for data analysis.
Topic 3: Conducting research – programmes needed for data analysis.

**Semester V**

Topic 1: Compiling and presenting research results.
Topic 2: Compiling and presenting research results.
Topic 3: Compiling and presenting research results.

**Semester VI**

Topic 1: Discussing and summarising research results.
Topic 2: Discussing and summarising research results.
Topic 3: Discussion and summary of research results.

**Semester VII**

Topic 1: Preparation of scientific publications.
Topic 2: Preparation of scientific publications.
Topic 3: Preparation of scientific publications.

| COURSE ASSESSMENT CRITERIA |
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| The assessment covers the doctoral student's continuous work in each semester and academic year in the following areas: conducting research, expanding knowledge, studying literature, commitment and progress in preparing the doctoral dissertation.<br><br>The course ends after each semester of implementation:<br>**pass – pass,**<br>**fail – fail.**<br><br>Requirements<br>The following percentage of points obtained is used in the assessment of the course:<br>- up to 60% - fail - the doctoral student is not making progress in scientific research, is not expanding their knowledge, is not studying scientific literature, is not participating in substantive discussions, is not fulfilling their scientific obligations;<br><br>- 61% - 100% - pass - the doctoral student is making progress in scientific research, expanding their knowledge, studying basic and supplementary literature, participating in substantive discussions, fulfilling all scientific duties. |

| TOTAL DOCTORAL STUDENT WORKLOAD REQUIRED TO ACHIEVE THE EXPECTED LEARNING OUTCOMES – NUMBER OF HOURS AND ECTS CREDITS | |
|---|---|
| Activity | Number of hours |
| Scheduled course contact hours | **7 x 15 hrs. – 105 hrs.** |
| Other contact hours involving the instructor (duty hours, examinations) | **6 hrs.** |
| Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.) | **309 hrs.** |
| **Total number of hours** | **420 hrs.** |
| **Total number of ECTS credits** | **7 x 2 ECTS – 14 ECTS** |

| INSTRUCTIONAL MATERIALS | |
|---|---|
| Compulsory literature: | Artykuły naukowe w języku polskim i obcym z zakresu entomologii, fizjologii i biochemii owadów.<br><br>Nation James L. 2022. Insect Physiology and Biochemistry. 4nd edn, CRS Press Taylor & Francis Group. New York.<br><br>Gilbert L Ed. 2012. Insect molecular biology and biochemistry. Academic Press Elsevier, UK, USA. |
| Complementary literature: | Weiner J., 2008. Technika pisania i prezentowania przyrodniczych prac naukowych. Wyd. Naukowe PWN, Warszawa.<br><br>Włodzimierz Meissner W., 2014. Metody statystyczne w biologii. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk. |

***(1 ECTS POINT CORRESPONDS TO 25–30 HOURS OF TOTAL WORK BY THE DOCTORAL STUDENT REQUIRED TO ACHIEVE THE INTENDED RESULTS)**

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Date and signature of the Course instructor

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Approved by the Head of the Department or an authorised person