

**A COURSE SYLLABUS – DOCTORAL SCHOOL**  
**REGARDING THE QUALIFICATION CYCLE FROM 2023 TO 2027**

GENERAL INFORMATION ABOUT COURSE				
Course title		<i><b>DOCTORAL SEMINAR</b></i>		
Name of the unit running the course		Doctoral School at University of Rzeszów		
Type of course ( <i>obligatory, optional</i> )		Compulsory		
Year and semester of studies		Year I - IV/ semester I - VII		
Discipline		Biological sciences		
Language of Course		Polish language		
Name of Course coordinator		dr hab. Roma Durak, prof. UR		
Name of Course lecturer		dr hab. Roma Durak, prof. UR		
Prerequisites		Completion of biology studies, second level		
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, shaping the skills of formulating and solving research problems and the ability to present scientific work. The issues addressed in the course and the projects carried out will also serve to prepare the doctoral student for the preparation of the dissertation and the presentation of the research results obtained. In addition, the doctoral seminar will aim to develop in the doctoral student the ability to search for important, from the point of view of content and scientific value, publications in the field of the implemented research topic.				
COURSE LEARNING OUTCOMES AND METHODS OF EVALUATING LEARNING OUTCOMES				
Learning outcome	The description of the learning outcome defined for the course	Relation to the degree programme outcomes (symbol)	Learning Format (Lectures, classes,...)	Method of assessment of learning outcomes (e.g. test, oral exam, written exam, project,...)
<b>Knowledge (no.)</b>	knows and understands, has knowledge			
1. P8S_WG1 P8S_WG2	a broad theoretical knowledge, of current scientific knowledge, including world developments and trends in insect behavioural and biochemical responses to environmental stresses, as well as general issues in related disciplines;	P8S_WG	seminar	presentation, discussion
2. P8S_WG3	knows, understands and is able to apply professional terms used in the discipline of biological sciences and related disciplines in native and foreign language;).	P8S_WG	seminar	presentation, discussion
<b>Skills (no.)</b>	can			
1. P8S_UW1 P8S_UW2	use knowledge from various fields of science to formulate research questions and hypotheses.	P8S_UW1	seminar	presentation, discussion

	apply/propose appropriate methods, techniques and research tools, and correctly draw conclusions on the basis of the obtained results;			
2. P8S_UW3	use their knowledge to critically analyse and evaluate scientific findings, forming opinions on this basis, including critical opinions on their contribution to knowledge;	P8S_UW	seminar	presentation, discussion
3. P8S_UK6	use a foreign language at B2 level of the Common European Framework of Reference for Languages, is able to speak in public to present the results of scientific research and to participate in discussions on scientific and professional issues in an international environment;	P8S_UK	seminar	presentation, discussion
<b>Social competence (no.)</b>	is ready to			
1. P8S_KK1	critically evaluate the achievements within the presented scientific discipline and research issues;	P8S_KK	seminar	presentation, discussion
2. P8S_KK3	recognise the importance of knowledge in solving cognitive and practical problems;	P8S_KK	seminar	presentation, discussion

#### LEARNING FORMAT – NUMBER OF HOURS

Semester (no.)	Lectures	Seminars	Lab classes	Internships	others	ECTS
I - VII	-	-	-	-	7 x 15 hrs. - 105	14

#### METHODS OF INSTRUCTION

Multimedia presentation, discussion

#### COURSE CONTENT

The programme contents carried out in semesters I to VII, are related to the research problem of the doctoral student:

1. Literature review and establishment of the current state of knowledge in the field of insect responses to environmental stresses.
2. Review of research methods.
3. Discussion of the dissertation concept.
4. Preparation for research implementation - selection of literature and research methods.
5. Implementation of research.
- 6) Preparation of research results and their presentation. 7) Discussion of research results and presentation.
7. Discussion of research results and their summary.

## COURSE ASSESSMENT CRITERIA

Credit for the course after each semester based on the level of prepared presentations and activity in discussion of the issues presented and demonstration of specialised knowledge, related to the research topic.

Detailed knowledge assessment:

- 5.0 - demonstrates knowledge of each learning content at a level of 90%-100%
- 4.5 - demonstrates knowledge of each learning content at a level of 84%-89%
- 4.0 - demonstrates knowledge of each educational content at a level of 77%-83%
- 3.5 - shows knowledge of each educational content at a level of 70%-76%
- 3.0 - shows knowledge of each educational content at a level of 61%-69%
- 2.0 - shows knowledge of each educational content below 60%

### TOTAL PhD STUDENT WORKLOAD REQUIRED TO ACHIEVE THE INTENDED LEARNING OUTCOMES – NUMBER OF HOURS AND ECTS CREDITS

Activity	Number of hours
Scheduled course contact hours	<b>7 x 15 hrs - 105 hrs.</b>
Other contact hours involving the teacher (consultation hours, examinations)	<b>75</b>
Non-contact hours – student's own work (preparation for classes or examinations, project, etc.)	<b>240 hrs.</b>
<b>Total number of hours</b>	<b>420 hrs.</b>
<b>Total number of ECTS credits</b>	<b>14</b>

### INSTRUCTIONAL MATERIALS

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

\*(1 ECTS CREDIT CORRESPONDS TO 25 - 30 HOURS OF THE TOTAL WORKLOAD OF A DOCTORAL STUDENT, NEEDED TO ACHIEVE THE ESTABLISHED EFFECTS).

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Date and signature of the Course lecturer

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Approved by the Head of the Department or an authorised person