A COURSE SYLLABUS – DOCTORAL SCHOOL

REGARDING THE QUALIFICATION CYCLE FROM 2024/2025 TO 2028/2029

GENERAL INFORMATION ABOUT COURSE	
Course title	***DOCTORAL SEMINAR***
Name of the unit running the course	Doctoral School at University of Rzeszów
Type of course *(obligatory, optional)*	obligatory subject
Year and semester of studies	year I -IV, semester: I - VII
Discipline	biotechnology
Language of Course	Polish/English language
Name of Course coordinator	Prof. dr hab. Andriy Sybirnyy
Name of Course lecturer	Prof. dr hab. Andriy Sybirnyy
Prerequisites	Knowledge resulting from the study program in biological sciences and/or biotechnology, knowledge of English to an extent that allows the use of sources of scientific information, skills and social competencies at level 7 of the Polish Qualification Framework

BRIEF DESCRIPTION OF COURSE
(100-200 words)

The objective of the doctoral seminar is:
- preparation of the doctoral student to conduct scientific work in the subject of the realized doctoral project, which is realized through the formation of skills and social competencies in:
- formulation of the research problem and the resulting hypotheses;
- defining the scope of the research, including through the selection of responsive methods, techniques and research tool;
- research planning;
- analysis of the literature in the scope of the dissertation, as well as its critical analysis;
- development of the dissertation;
- creation of scientific papers, including respecting intellectual property rights;
- preparing the doctoral student to present the results of his/her own research using modern information technology tools;
- preparing the doctoral student to develop scientific projects and submit research grant proposals in relevant competitions.

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,...)
Knowledge (no.)	knows and understands, has knowledge			
P8S_WG1	The theoretical foundations of the dissertation topic, understands the purposefulness of the research topic being pursued, and correctly identifies directions for further development within the topic being pursued in the discipline of biotechnology.	**P8S_WG**	seminar	Analysis of the literature on the subject of the dissertation topic
P8S_WG2	Recent developments in the topic of the realized doctoral	**P8S_WG**	seminar	Development of the

	dissertation, including techniques, methods and research tools used to achieve the established research hypotheses.			research methodology
P8S_WG3	Correctly identifies Polish and English-language terminology used in the discipline of biotechnology and related disciplines, and understands the need to constantly update it.	**P8S_WG**	seminar	Preparation of the oral presentation
Skills (no.)	can			
P8S_UW1	Precisely define the purpose of the conducted scientific research, formulate the relevant research hypotheses and, on the basis of his own results and a thorough analysis of the scientific literature, carry out their proper verification.	**P8S_UW**	seminar	Development of the theoretical basis, as well as the methodology of the doctoral dissertation Development of the oral presentation Development of the scientific project
P8S_UW2	Based on the latest literature on the subject, he is able to demonstrate the validity of the conducted research within the scope of the topic of the doctoral dissertation and propose possibilities for its practical implementation.	**P8S_UW**	seminar	Development of an oral presentation Development of a scientific project Development of a manuscript of a scientific article Develop an oral presentation Develop a scientific project Develop a scientific article manuscript
P8S_UW3	Based on the available literature on the subject, critically analyze the results of scientific research	**P8S_UW**	seminar	Development of an oral presentation

	of experts and own research.			Development of a scientific project Development of a manuscript of a scientific article Develop an oral presentation Develop a scientific project Develop a scientific article manuscript
P8S_UK6	Publicly present the results of his/her scientific research and actively participate in discussions on scientific and professional issues in an international environment, using a foreign language at the B2 level according to the Common European Framework of Reference for Languages.	**P8S_UK**	seminar	Elaboration of oral presentation
Social competence (no.)	is ready to			
P8S_KK1	To critically analyze one's own research achievements and to contrast the results obtained with those of other research groups working on similar topics in the context of one's dissertation.	**P8S_KK**	seminar	Developing an oral presentation Developing a manuscript of a scientific article
P8S_KK3	Systematically update his/her knowledge by following the latest scientific literature in the dissertation topic.	**P8S_KK**	seminar	Developing an oral presentation Developing a manuscript of a scientific article

LEARNING FORMAT – NUMBER OF HOURS

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

METHODS OF INSTRUCTION

- multimedia presentation

- work with text
- analysis of research results
- discussion
- research project

COURSE CONTENT

Program content implemented in the seminar throughout the educational cycle (semester I - VII):
Seminar:
1. Analysis of the available literature in the dissertation topic.
2. Definition of the research objective and hypotheses in the dissertation topic, including the overall research plan.
3. Planning the research methodology, as well as determining the techniques and tools through which it will be possible to achieve the objectives planned in the dissertation and verify the research hypotheses.
4. analysis of own research results with discussion based on the results available in the latest scientific literature
5. procedures for dissemination of own research results - principles of reliability of scientific research.
6. Review of available grant programs - discussion of the principles of preparing a scientific project.

COURSE ASSESSMENT CRITERIA

Ocenie podlega ciągła praca doktoranta w każdym semestrze i roku akademickim w zakresie: realizacji badań, poszerzania wiedzy, studiowania literatury, zaangażowania oraz postępów w przygotowaniu rozprawy doktorskiej. Możliwe oceny semestralne to: 2.0, 3.0, 3.5, 4.0, 4.5, 5.0.

- I semestr: Analiza literatury naukowej w tematyce pracy doktorskiej, określenie przedmiotu, celów i hipotez pracy doktorskiej
- II semestr: Kontynuowanie analizy literatury, opracowanie szczegółowego planu badawczego, realizacja badań naukowych, analiza wyników badań własnych w oparciu o dostępną literaturę naukową
- III semestr: Kontynuowanie analizy literatury, realizacja badań naukowych, prezentowanie wyników badań własnych na konferencji naukowej, przygotowanie i złożenie projektu badawczego
- IV semestr: Kontynuowanie analizy literatury, realizacja badań naukowych, prezentowanie wyników badań własnych na konferencji naukowej, przygotowanie manuskryptu artykułu naukowego

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	**7 x 15 hrs - 105 hrs.**
Other contact hours involving the teacher (consultation hours, examinations)	**6**
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	**309**
Total number of hours	**420**
Total number of ECTS credits*	**14**

INSTRUCTIONAL MATERIALS

Compulsory literature:	PubMed biomedical journal database (https://pubmed.ncbi.nlm.nih.gov/)
Complementary literature:	PubMed biomedical journal database (https://pubmed.ncbi.nlm.nih.gov/)

*(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