

A COURSE SYLLABUS – DOCTORAL SCHOOL
REGARDING THE QUALIFICATION CYCLE FROM 2024/2025 TO 2028/2029

GENERAL INFORMATION ABOUT COURSE				
Course title	DOCTORAL DISSERTATION			
Name of the unit running the course	Doctoral School at University of Rzeszów			
Type of course (<i>obligatory, optional</i>)	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)				
<p>The purpose of the doctoral program is:</p> <ul style="list-style-type: none"> - preparation of the doctoral student to conduct scientific work in the subject of the doctoral project being carried out, which is achieved through the formation of knowledge, skills and social competencies in: - planning scientific research in the topic of the doctoral dissertation carried out by the doctoral student, - conducting scientific research, - developing research results, including with the use of statistical analysis, - confronting the results of own research with literature data, - critical analysis of the literature in the field of the doctoral dissertation, - development of the doctoral dissertation 				
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 assumptions of the dissertation, and understands the purpose of the research topic pursued, and knows the latest developments in the dissertation topic on the production of high-value substances by unconventional yeast.	P8S_WG	exercises	Research project
P8S_WG2	The directions of development in the discipline of biotechnology, and also has knowledge of the relevance of his research results obtained in	P8S_WG	exercises	Research project

	confrontation with the latest research results available in the scientific literature on the production of useful substances including riboflavin.			
P8S_WG3	Polish and English terminology used in the discipline of biotechnology and related disciplines and is able to use it correctly in the field of biotechnology of unconventional yeast.	P8S_WG	exercises	Research project
P8S_WG4	Tools, methods and techniques appropriate to the planned research objectives and understands the necessity of their proper selection especially in the field of molecular genetics of yeast.	P8S_WG	exercises	Research project
Skills (no.)	can			
P8S_UW1	Critically analyze the results of one's own scientific research, as well as evaluate them based on the available scientific literature in the field of unconventional yeast biotechnology.	P8S_UW	exercises	Research project Analysis of scientific literature
P8S_UW2	Select and use the scientific literature to properly diagnose and solve research problems and innovative activities in connection with the scientific work conducted, and use the appropriate research workshop to generate new developments in the scientific output.	P8S_UW	conversation:	Research project Analysis of scientific literature Preparation of article manuscripts
P8S_UW3	Critically analyze the results of own research based on the available literature on the production of high-value substances in yeast.	P8S_UW	conversation:	Research project Analysis of scientific literature Preparation of article manuscripts
Social competence (no.)	is ready to			
P8S_KK1	Critically analyze his research achievements, as well as his own scientific achievements.	P8S_KK	conversation:	Research project Analysis of scientific literature Preparation of article manuscripts

LEARNING FORMAT – NUMBER OF HOURS						
Semester (no.)	Lectures	Seminars	exercises /conversation:	Internships	others	ECTS
I - VIII	-	-	8 x 30 hrs. – 240 hrs.	-	-	24
METHODS OF INSTRUCTION						
<ul style="list-style-type: none"> - research project - performance of scientific research, analysis of research results, preparation of dissertation - analysis of scientific literature - preparation of manuscripts of scientific articles 						
COURSE CONTENT						
Curricular content implemented in the semester from I to VIII, exercises /conversation:						
<ol style="list-style-type: none"> 1. Principles of reliability and specificity of scientific research in the field of biotechnology. 2. Analysis of the available literature in the dissertation topic. 3. Definition of the purpose of research and hypotheses in the dissertation topic, including the overall research plan. 4. development of the concept, methodology and research plan 5. statistical analysis of the results of own research.... 6. Interpretation of the obtained research results based on the literature. 7. Preparation of manuscripts of scientific articles. 8. preparation of the dissertation. 						
COURSE ASSESSMENT CRITERIA						
The prerequisite for credit is observation during laboratory work, analysis of the progress of research work in the topic of the future dissertation.						
Credit with a grade after each semester. Possible semester grades are: 2.0, 3.0, 3.5, 4.0, 4.5, 5.0.						
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				8 x 30 hrs - 240 hrs.		
Other contact hours involving the teacher (consultation hours, examinations)				10		
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)				470		
Total number of hours				720		
Total number of ECTS credits*				24		
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