

DOCTORAL SCHOOL AT THE MEDICAL UNIVERSITY OF BIALYSTOK
In the discipline of pharmaceutical sciences, medical sciences and health sciences

**DOCTORAL SCHOOL'S PLAN – academic year 2024/2028 – according to the educational cycle
2024-2028**

No.	Module/subject name	Class times			ECTS	Form of credits	
		Year 1					
		Total	including:				
Lectures	Seminars		Classes				
1.	Health and Safety principles in scientific and didactic work	4	2	-	2	-	Credit
	<i>University Health and Safety Inspector (Department of Hygiene, Epidemiology and Ergonomics)</i>		2	-	-		
	<i>University unit in which the doctoral student conducts scientific research</i>		-	-	1		
	<i>University unit in which the doctoral student conducts didactic research</i>		-	-	1		
2.	Biostatistics in scientific research - basic statistical methods <i>Department of Biostatistics and Medical Informatics</i>	20	6	-	14	2	Exam
3.	Specialist English - developing academic language skills <i>Department of Foreign Languages</i>	30	-	-	30	2	Credit
4.	Bioethics and law in biomedical research	10	-	10	-	1	Credit
	<i>Department of Psychology and Philosophy</i>		-	2	-		
	<i>Department of Medicinal Chemistry</i>		-	4	-		
	<i>Physiology and Experimental Pathophysiology Department</i>		-	4	-		
5.	Basics of entrepreneurship	12	-	12	-	1	Credit
	<i>Department of Medicinal Chemistry</i>		-	3	-		
	<i>University Units designated by the Doctoral School Director</i>		-	9	-		
6.	Methods of obtaining grants <i>University Units designated by the Doctoral School Director</i>	4	-	4	-	1	Credit
7.	Progress in scientific research methodology I (2 topics to be selected - 10 h)	10	-	-	10	2*	Credit
	Research methods in assessing biological activity of new compounds (in vitro research) <i>Department of Medicinal Chemistry</i>	5	-	-	5		
	Methods of molecular imaging in diagnostics and therapy <i>Department of Medicinal Chemistry</i>	5	-	-	5		
	Preventive method <i>Department of Population Medicine and Lifestyle Diseases Prevention</i>	5	-	-	5		
	Population studies - methodology, interpretation <i>Department of Population Medicine and Lifestyle Diseases Prevention</i>	5	-	-	5		
	Application of qualitative methods in health sciences <i>Department of Obstetrics, Gynaecology and Maternity Care</i>	5	-	-	5		
	Methods of collecting and analysing data in epidemiological research for the purposes of reparative medicine <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5		
	Methods of collecting and analysing data in epidemiological research for the purposes of health promotion and disease prevention <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5		
8.	Facultative classes (2 topics to be selected - 20 hours) – Principles of elaborating and preparing presentations of scientific study results (10 h)	20	-	20	-	2**	Credit

	<i>Department of Toxicology</i> – From manuscript to published work (10 h) <i>Department of Toxicology</i> – Principles and methods of assessing safety of chemical substances, drugs and medical products (10 h) <i>Department of Toxicology</i> – Thinking in a business mode - Canvas business model (10 h) <i>University Units designated by the Doctoral School Director</i>						
9.	Methods of statistical planning and analysing scientific research <i>Department of Biostatistics and Medical Informatics</i>	20	10	-	10	2	Exam
10.	Doctoral seminar I Presentation of individual research plan <i>Doctoral School Director</i>	11	-	11	-	1	Credit
11.	Conduct of didactic classes. <i>Designated UMB unit</i>	60	-	-	60	2	Credit
12.	Doctoral LAB I (Realization of individual research plan of the doctoral student) <i>Designated UMB unit</i>	600	-	-	600	-	Credit
	Total	141 + 60 + 600	18	57	66 + 60 + 600	16	2 exa ms

* ECTS points in the volume of 2 will be granted after realizing 10 h of selected classes under the module “Progress in methodology of scientific research I”

** ECTS points in the volume of 2 will be granted after realizing 20 h of classes under the module “Facultative classes I”

Plan of approval on 04.01.2024 by the Programme Committee of the Doctoral School at UMB in accordance with the resolution no. 21/2020 of the Senate of the Medical University of Białystok from 16.01.2020

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DOCTORAL SCHOOL'S PLAN – academic year 2025/2028 – according to the educational cycle 2024-2028

No.	Module/subject name	Class times				ECTS	Form of credits
		Year II					
		Total	including:				
Lectures	Seminars		Classes				
1.	Specialist English - developing academic language skills <i>Knowledge of foreign languages</i>	30	-	-	30	2	Exam
2.	Biostatistics in scientific research - advanced statistical methods <i>Department of Biostatistics and Medical Informatics</i>	20	8	-	12	2	Exam
3.	Progress in scientific research methodology II (1- 2 topics to be selected - 10 h)	10	-	-	10	2*	
	Modern analytical techniques in biomedical and pharmaceutical research <i>Department of Inorganic and Analytical Chemistry</i>	10	-	-	10		Credit
	Advanced analytical techniques in omics research <i>Department of Inorganic and Analytical Chemistry</i>	10	-	-	10		Credit
	Histomorphological techniques in assessing the functionality of cells in physiology and pathological states <i>Department of Histology and Cytophysiology</i>	5	-	-	5		Credit
	Modern design methods and drug synthesis <i>Department of Synthesis and Technology of Drugs</i>	5	-	-	5		Credit
	Proteomics techniques in diagnostics of nervous system diseases <i>Department of Neurodegeneration Diagnostics</i>	5	-	-	5		Credit
	Personalized medicine <i>Department of Population Medicine and Lifestyle Diseases Prevention</i>	5	-	-	5		
	Planning and interpreting descriptive epidemiology research - cross-sectional studies, correlation studies, studies of trends and inequalities <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5		Credit
	Planning and interpreting analytical epidemiology studies - cohort studies <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5		Credit
Planning and interpreting analytical epidemiology studies - clinical-control studies <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5	Credit		
4.	Foreign expert lecture <i>Department of Neurodegeneration Diagnostics</i>	4	4	-	-	1	Credit
5.	Interdisciplinary summer school in the scope of civilization diseases <i>Doctoral School Director</i>	10	-	10	-	1	Credit
6.	Law in medicine <i>Department of Medical Law and Medical Deontology</i>	5	5	-	-	1	Credit
7.	Interdisciplinary lecture <i>Doctoral School Director/invited expert</i>	5	5	-	-	1	Credit

8.	Didactic faculty (2 topics to be selected - 10 hours): – Interpersonal and environmental communication (5h) <i>Department of Psychology and Philosophy</i> – Methodology and assessment of learning results (5h) <i>Department of Psychology and Philosophy</i> – Didactics directed at educational success of students (5 h) <i>Department of Psychology and Philosophy</i> – Psychopedagogy (5h) <i>Department of Psychology and Philosophy</i> – Psychopedagogical diagnostics (5h) <i>Department of Psychology and Philosophy</i> – Design thinking in theory and experimental practice (5h) <i>Department of Bromatology</i> – Education focused on the students, the so-called Student Cantered Learning (5h) <i>Department of Bromatology</i> – Professionalism in medicine (5h) <i>Department of Psychology and Philosophy</i>	10	-	10	-	1**	Credit
9.	Doctoral seminar II Presentation of individual research plan realization <i>Doctoral School Director</i>	10	-	10	-	1	Credit
10.	Conduct of didactic classes. <i>Designated UMB unit</i>	60	-	-	60	2	Credit
11.	Doctoral LAB II (Realization of individual research plan of the doctoral student) <i>Designated UMB unit</i>	800	-	-	800	-	Credit
	Total	104 + 60 + 800	22	30	52 + 60 + 800	14	2 exams

* ECTS points in the volume of 2 will be granted after realizing 10 h of selected classes under the module “Progress in methodology of scientific research II”

** ECTS points in the volume of 1 will be granted after realizing 10 h of classes under the module “Didactic Faculty”

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DOCTORAL SCHOOL'S PLAN – academic year 2026/2028 – according to the educational cycle 2024-2028

No.	Module/subject name	Class times				ECTS	Form of credits
		Year III					
		Total	including:				
Lectures	Seminars		Classes				
1.	Progress in scientific research methodology III (3- 4 topics to be selected - 20 h)	20	-	-	20	3*	
	Metabolomics in identifying biomarkers of diseases and pharmacotherapy grip points <i>Department of Pharmaceutical and Biopharmaceutical Analysis</i>	10	-	-	10		Credit
	Application of in-vivo confocal microscopy in biomedical research and in pursuit of new drugs <i>Department of Biopharmacy</i>	5	-	-	5		Credit
	Application of immunoblotting techniques in biomedical-pharmaceutical tests <i>Department of Immunology</i>	5	-	-	5		Credit
	Receptor tests in isolated organs <i>Department of Experimental Physiology and Pathophysiology</i>	5	-	-	5		Credit
	Flow cytometry - possibilities of application in biomedical and pharmaceutical research <i>Department of Pharmaceutical Biochemistry</i>	5	-	-	5		Credit
	Application of the method of isoelectrofocusing in diagnosing neurodegenerative diseases <i>Department of Neurodegeneration Diagnostics</i>	5	-	-	5		Credit
	Clinical and experimental epidemiology <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5		Credit
	Construing an epidemiological research protocol <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5		Credit
Meta analysis <i>Department of Hygiene, Epidemiology and Ergonomics</i>	5	-	-	5	Credit		
2.	Foreign expert lecture <i>Department of Neurodegeneration Diagnostics</i>	4	4	-	-	1	credit
3.	Facultative classes II (1 or 2 topics to be selected - 10 hours) – Civilization diseases as an interdisciplinary problem (5h) <i>Department of Medicinal Chemistry</i> – Immunology aspects of biomedical-pharmaceutical research (5h) <i>Department of Immunology</i> – Progress in molecular biology (5h) <i>Department of Medicinal Chemistry</i> – Biotechnological methods in biomedical-pharmaceutical research (5h) <i>Department of Biotechnology</i> – Pharmacotherapy of cancer diseases (5h) <i>Department of Medicinal Chemistry</i>	10	-	10	-	2**	Credit

	<ul style="list-style-type: none"> – Pre-clinical tests of new compounds with potential importance for pathophysiology of the circulatory system (5h) <i>Department of Experimental Physiology and Pathophysiology</i> – Interactions of medications with food (5h) <i>Department of Bromatology</i> – Metabolomics (5h) <i>Clinical Research Centre</i> – Planning, realizing and assessing the effects of programmes concerning population health (10h) <i>Department of Hygiene, Epidemiology and Ergonomics</i> – How to achieve scientific success in an international area (5h) <i>Department of Psychology and Philosophy</i> 						
4.	Doctoral seminar III Methodology of tests conducted under realization of individual research plans <i>Doctoral School Director</i>	15	-	15	-	1	Credit
5.	Conduct of didactic classes. <i>Designated UMB unit</i>	60	-	-	60	2	Credit
6.	Doctoral LAB III (Realization of individual research plan of the doctoral student) <i>Designated UMB unit</i>	800	-	-	800	-	Credit
	Total	49 + 60 + 800	4	25	20 + 60 + 800	9	-

* ECTS points in the volume of 3 will be granted after realizing 20 h of selected classes under the module “Progress in methodology of scientific research III”

** ECTS points the volume of 2 will be granted after realizing 10 h of classes under the module “Facultative classes II”

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No.	Module/subject name	Class times			ECTS	Form of credits	
		Year 4					
		Total	including:				
Lectures	Seminars		Classes				
1.	Doctoral seminar IV Presentation of doctoral dissertation outcomes <i>Doctoral School Headmaster</i>	10	-	10	-	1	Credit
2.	Conduct of didactic classes. <i>Designated UMB unit</i>	60	-	-	60	2	Credit
3.	Doctoral LAB IV (Realization of individual research plan of the doctoral student) <i>Designated UMB unit</i>	350	-	-	350	-	Credit
	Total	10 + 60 + 350	-	10	60 + 350	3	-

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