

**A COURSE SYLLABUS – DOCTORAL SCHOOL
REGARDING THE QUALIFICATION CYCLE FROM 2021 TO 2025.**

GENERAL INFORMATION ABOUT COURSE				
Course title	Nutrition in disorders of the intestinal microbiota			
Name of the unit running the course	Doctoral School at University of Rzeszow			
Type of course (<i>obligatory, optional</i>)	Optional			
Year and semester of studies	2023/2024, sem. V			
Discipline	Health Sciences			
Language of Course	Polish			
Name of Course coordinator	Dr Sara Jarmakiewicz-Czaja			
Name of Course lecturer	Dr Sara Jarmakiewicz-Czaja			
Prerequisites	Knowledge of human nutrition, food components, and metabolic processes occurring in the human body.			
BRIEF DESCRIPTION OF COURSE (100-200 words)				
<p>Disorders, both in the number and diversity of microorganisms that reside in the human gastrointestinal tract, can lead to the development of many diseases. The intestinal microbiota can change depending on many factors, including nutrition. The main objective of the topic is to identify potential food components that show beneficial effects on the intestinal microbiome. The specific objectives of the subject include coverage of the composition of the microbiota in different sections of the gastrointestinal tract and a discussion of markers of intestinal barrier disorders. Intestinal dysbiosis may be one of the factors predisposing to inflammatory bowel diseases (Crohn's disease, ulcerative colitis), so it is important to support the treatment of the underlying disease with the help of modulation of the intestinal microbiota with nutritional factors, among others.</p>				
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)			
1.	Theoretical basis and general issues and selected specific issues of nutrition in intestinal microbiota disorders.	P8S-WG/1	Lectures	Test
2.	Current trends in the development of gut microbiota research.	P8S-WG/2	Lectures	Test
3.	Research methodology in the field of gut microbiota.	P8S-WG/3	Classes	Project
Skills (no.)	(Able to)			
1.	Use knowledge from various scientific fields to identify and innovatively address complex issues on the topic of nutrition in disorders of the gut microbiota.	P8S-UW/1	Classes	Project

2.	Critically analyse and evaluate the results of scientific research on the topic of nutrition in disorders of the intestinal microbiota.	P8S-UW/2	Classes	Project		
3.	Can communicate on specialist topics and initiate debate.	P8S-UK/1 P8S-UK/3	Classes	Observation during classes, self-esteem		
4.	Can disseminate the results of scientific works, also in popular forms	P8S-UK/2	Classes	Observation during classes, self-esteem		
5.	Participate in scientific discourse.	P8S-UK/4	Classes	Observation during classes, self-esteem		
Social competence (no.)	(Ready to)					
1.	Recognise the importance of knowledge in solving cognitive and practical problems.	P8S-KK/3	Classes	Observation during classes, self-esteem		
2.	Is ready to critically evaluate the achievements within the health science discipline.	P8S-KK/2	Classes	Observation during classes, self-esteem		
3.	Is ready to act for the public interest	P8S-KO/2	Classes	Observation during classes, self-esteem		
LEARNING FORMAT – NUMBER OF HOURS						
Semester (no.)	Lectures	Seminars	Lab classes	Internships	others	ECTS
V	5	10	-	-	-	0
METHODS OF INSTRUCTION						
LECTURE/OTHERS: A SUPPORTED BY A MULTIMEDIA PRESENTATION, TEXT ANALYSIS AND DISCUSSION, PROJECT WORK (PRACTICAL PROJECT), GROUP WORK (PROBLEM SOLVING, CASE STUDY, DISCUSSION).						
COURSE CONTENT						
Lectures: Examples of methods to study the gut microbiome. Microbiota of the gastrointestinal tract. Markers of intestinal barrier disorders. Classes Characterisation of the intestinal microbiota at different times in life. Characterisation of the intestinal microbiota in selected disease entities. Nutritional factors that affect changes in the intestinal microbiota.						
COURSE ASSESSMENT CRITERIA						
Grading Criteria:						

Classes:

1. full participation and activity of the student during the class,
2. evaluation of preparation for class,
3. discussion during class,
4. testing of knowledge during class,
5. analysis of professional literature,
6. preparation of projects;

Knowledge assessment:

Test

Grading:

A* 100- 95%

A= 94- 90%

B* = 89- 85%

B= 84- 80%

C* = 79- 75%

C= 74- 70%

D* = 69- 65%

D= 64- 60%

F > 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	15
Other contact hours involving the teacher (consultation hours, examinations)	-
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	-
Total number of hours	15
Total number of ECTS credits	0

INSTRUCTIONAL MATERIALS

Compulsory literature:	<ol style="list-style-type: none"> 1. Current scientific publications covering the topic of the gut microbiota. 2. Mikrobiota przewodu pokarmowego. Anatol Panasiuk and Joanna Kowalińska. Wydawnictwo Lekarskie PZWL. 2019. 3. Dysbioza jelitowa : znaczenie, diagnostyka, terapia Gałęcka, Mirosława. Wydawnictwo Lekarskie PZWL. 2021
Complementary literature:	<ol style="list-style-type: none"> 1. Mikrobiom a zdrowie człowieka. Jan Fiedurek. 2014. Lublin : Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej. 2. Żywnienie w zaburzeniach mikrobioty jelitowej. Ewa Stachowska. PZWL, 2021.