A COURSE SYLLABUS – DOCTORAL SCHOOL

REGARDING THE QUALIFICATION CYCLE FROM2024/2025 TO 2027/2028

GENERAL INFORMATION ABOUT COURSE	
Course title	**DOCTORAL SEMINAR**
Name of the unit running the course	Doctoral School at the University of Rzeszów
Type of course *(obligatory, optional)*	obligatory subject
Year and semester of studies	year I -IV, semester: I - VII
Discipline	Medical sciences
Language of Course	Polish/English
Name of Course coordinator	**Dr David Aebisher, Professor at the University of Rzeszów**
Name of Course lecturer	**Dr David Aebisher, Professor at the University of Rzeszów**
Prerequisites	Possession of a professional medical degree or advanced education in medicine – uniform master's degree programme. Knowledge of specialised English enabling fluent reading of scientific texts and conducting scientific discussions in this language.

BRIEF DESCRIPTION OF COURSE
(100-200 words)

The aim of the Doctoral Seminar course is to prepare doctoral students to conduct independent scientific activity. Based on the acquired knowledge, social competences and skills, doctoral students will participate in scientific life in a mature and active manner. Based on the available global literature, they will define research problems, properly formulate hypotheses and research objectives (general and specific), and adequately select research methods and techniques to solve scientific problems. Based on the experimental data obtained in the laboratory, they will acquire the ability to draw accurate conclusions, which will translate into writing scientific papers and a doctoral dissertation in Polish and English, as well as presenting their own research results (multimedia presentation) and conducting scientific discussions also in English. The aim of the seminar is also to convince doctoral students of the importance of establishing scientific cooperation with various research and scientific centres.

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	He has extensive theoretical knowledge supported by global research in the field of medical science and has general knowledge of related disciplines in his area of scientific interest. He is perfectly versed in current global scientific achievements.	**P8S_WG**	seminar	oral statement, discussion
P8S_WG2	He is well versed in the latest global developments and scientific discoveries in the field of medical science and related disciplines, thematically related to the doctoral student's scientific research.	**P8S_WG**	seminar	oral statement, discussion

P8S_WG3	Communicates using specialist terminology used in the discipline of medical sciences and related disciplines, in Polish and in a foreign language in the scientific and professional environment.	**P8S_WG**	seminar	oral statement, discussion
Skills (no.)	can			
P8S_UW1	Based on their extensive interdisciplinary knowledge, doctoral students identify and solve research problems, define the purpose and subject of scientific research, formulate research hypotheses, select and modify research methods, techniques and tools, and draw conclusions based on the results obtained.	**P8S_UW**	seminar	oral statement, discussion
P8S_UW2	With the support of available global scientific literature, doctoral students accurately diagnose and solve research problems and implement innovative measures in connection with their scientific work. They are also able to apply the appropriate tools to create new elements of scientific output.	**P8S_UW**	seminar	oral statement, discussion
P8S_UW3	The doctoral student is able to independently expand their analytical skills based on the knowledge they acquire, and is able to stimulate critical sensitivity to recognise dilemmas when conducting scientific research and performing the role of an academic teacher and social activist.	**P8S_UW**	seminar	oral statement, discussion
P8S_UK6	In the national and international scientific and professional environment, they are able to exchange scientific ideas using a foreign language at level B2 of the Common European Framework of Reference for Languages.;	**P8S_UK**	seminar	oral statement, discussion
Social competence (no.)	is ready to			
P8S_KK1	The doctoral student is prepared to face critical assessment of their achievements within their chosen scientific discipline:	**P8S_KK**	seminar	oral statement, discussion

	medical sciences, and critical evaluation of the contribution of their own research to the development of this discipline.			
P8S_KK3	They are prepared to recognise the importance of their knowledge of medical sciences in solving practical and theoretical problems.	**P8S_KK**	seminar	oral statement, discussion

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

- SCIENTIFIC DISCUSSION,
- MULTIMEDIA PRESENTATION,
- ANALYSIS OF AVAILABLE LITERATURE – WORKING WITH TEXTS,
- DATA ANALYSIS – SELECTION OF APPROPRIATE ANALYTICAL TOOLS,
- DEVELOPMENT OF A SCIENTIFIC PROJECT,
- WORK ON A DOCTORAL THESIS

COURSE CONTENT

Seminar:

Semester I
Topic: Analysis of literature related to the subject of the doctoral dissertation using available medical publication databases, e.g. PubMed Scopus, Web of Science – selection of the most relevant English-language articles and development of the theoretical foundations of the doctoral dissertation.
Topic: Analysis of literature related to the topic of the doctoral dissertation, selection of the most relevant English-language articles and development of the theoretical foundations of the doctoral dissertation.
Semester II
Topic: Formulation of a research hypothesis and research objectives (general objectives, specific objectives)
Topic: Critical evaluation of research techniques and methods that can be used to answer the formulated research questions – selection of an appropriate research methodology.
Topic: Evaluation of research techniques and methods used to answer the research questions.
Semester III
Topic: Analysis of own research – graphic and statistical elaboration with interpretation.
Topic: Analysis of own research – graphic and statistical processing with appropriate interpretation.
Semester IV
Topic: Presentation of own research – multimedia presentation with scientific discussion.
Topic: Presentation of own research – multimedia presentation with scientific discussion in English.
Semester V
Topic: Preparation of scientific manuscripts in Polish.
Topic: Preparation of scientific manuscripts in English.
Semester VI
Topic: Continuation of the analysis of own research.
Topic: Analysis of own research – graphic and statistical preparation with adequate interpretation.
Topic: Presentation of own research – multimedia presentation with scientific discussion in Polish.
Semester VII
Topic: Presentation of own research – multimedia presentation with scientific discussion in English.
Topic: Final graphic and statistical presentation of research results, attempt at interpretation, preparation of doctoral dissertation.
Topic: Preparation of doctoral dissertation.

COURSE ASSESSMENT CRITERIA

The doctoral student's continuous work in each semester and academic year is assessed in terms of: literature

studied, knowledge expansion, research implementation, commitment and progress in the preparation of the doctoral thesis. Possible semester grades are: 2.0, 3.0, 3.5, 4.0, 4.5, 5.0.

Percentage requirements for the grading scale:

- up to 50% - unsatisfactory (the doctoral student is not making progress in scientific research, is not expanding their knowledge, is not studying the literature, is not participating in substantive discussions, is not fulfilling their scientific obligations);
- 51% - 60% - satisfactory (the doctoral student makes negligible progress in scientific research, expands their knowledge, studies basic literature, the discussion is limited to a narrow range of substantive knowledge, fulfils basic scientific duties);
- 61% - 70% - satisfactory plus (the doctoral student makes progress in scientific research, expands their knowledge, studies basic literature, participates substantively in discussions, fulfils their scientific duties);
- 71% - 80% - good (the doctoral student makes significant progress in scientific research, expands their knowledge, studies basic and supplementary literature, participates substantively in discussions, fulfils all scientific duties);
- 81% - 90% - good plus (the doctoral student makes significant progress in scientific research, systematically expands their knowledge, studies basic and supplementary literature, participates substantively in discussions, fulfils all scientific duties);
- 91% - 100% - very good (the doctoral student makes significant progress in scientific research, systematically expands their knowledge, studies basic and supplementary literature as well as literature beyond the required scope, participates substantively in discussions, fulfils all scientific obligations);

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)	**10**
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	**305**
Total number of hours	**420**
Total number of ECTS credits*	**14**

INSTRUCTIONAL MATERIALS

Compulsory literature:	Medical databases (PubMed, Scopus, Web of Science) Handbook of Low-Level Laser Therapy by Michael R. Hamblin, Tanupriya Agrawal, Marcelo de Sousa, Jenny Stanford Publishing 2016
Complementary literature:	Michael R. Hamblin, Imaging in Photodynamic Therapy, Wydawnictwo Taylor & Francis Inc, luty 2017

*(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