A COURSE SYLLABUS – DOCTORAL SCHOOL

REGARDING THE QUALIFICATION CYCLE FROM 2019 TO 2023

GENERAL INFORMATION ABOUT COURSE	
Course title	**Doctoral seminars**
Name of the unit running the course	Doctoral School at University of Rzeszów
Type of course *(obligatory, optional)*	obligatory
Year and semester of studies	I-IV/ semester I-VIII
Discipline	Medical sciences
Language of the Course	Polish
Name of the Course coordinator	Elżbieta Łuczyńska, PhD
Name of the Course lecturer	Elżbieta Łuczyńska, PhD
Prerequisites	1. Knowledge of basic human anatomy, physiology and pathophysiology. 2. Knowledge of basic diagnostic imaging methods, their applications and limitations 3. Knowledge of general principles of scientific work, scientific research and publishing of its results.

BRIEF DESCRIPTION OF THE COURSE
(100-200 words)

The doctoral seminar is aimed at individual, personalised support of the doctoral candidate's scientific development, expanding his/her knowledge, skills and competencies in scientific work, development of the scientific workshop and substantive care of conducted scientific research. Research methods will be discussed. The available literature will be critically assessed and the current state of knowledge in the field of planned research will be established. The research area will be defined. Available research tools, such as computer programs, analyse tools and laboratory methods will be reviewed. Methods of developing results and publishing them will be discussed. A periodic review of scientific work progress will be conducted. During the meetings, selected medical cases causing diagnostic difficulties will be analysed.

THE COURSE LEARNING OUTCOMES AND METHODS OF THEIR EVALUATION

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 learning outcomes assessment (e.g. test, oral exam, written exam, project,...)
Knowledge (no.)				
1	Knows and understands the worldwide achievements in radiology and diagnostic imaging, covering theoretical foundations and general and specific issues; competently cites the work of other authors, distinguishing between the types of scientific work and the ways they were published.	P8S-WG/1	Lecture/seminar	Oral exam, discussion, scientific article, chapters in the dissertation
2	Has advanced knowledge in the topics related to conducted research.	P8S-WG/2	Lecture/seminar	Oral exam, discussion, scientific article, chapters in the dissertation
3	Knows and understands the research methodology, how to	P8S-WG/3	Lecture/seminar	Oral exam, discussion, scientific

	make observations, how to draw conclusions and knows the available tools required to conduct research.			article, chapter in the dissertation
4	Knows and understands the principles of publication of scientific activity.	P8S-WG/4	Lecture/seminar	Oral exam
5	Knows and understands the regulations and principles of conducting scientific research, including ethics.	P8S-WK/2 P8S-WK/3	Lecture/seminar	Oral exam, discussion, scientific article, chapters in the dissertation
Skills (no.)				
1	Can classify scientific publishers and scientific achievements according to approved rules.	P8S-UW/1	Lecture/seminar	Oral exam, discussion, scientific article, chapters in the dissertation
2	Can use tools in accordance with technology and methodology of scientific research and critically evaluate the results of work and compare them with the results of other authors.	P8S-UW/2	Lecture/seminar	Discussion, scientific article, chapters in the dissertation
3	Can independently design and conduct scientific research.	P8S-UW/1	Lecture/seminar	Discussion, scientific article, chapters in the dissertation
4	Can interpret imaging examinations, measure and determine selected parameters. Can prepare data for statistical analysis. Can creatively interpret results and seek their application.	P8S-UW/2 P8S-UW/3	Lecture/seminar	Discussion, scientific article, chapters in the dissertation
Social competence (no.)				
1	Doctoral candidate is ready to prepare and deliver a presentation on the topic of the research in progress, the results of the research and to lead the discussion.	P8S-UK/1 P8S-UK/4	Lecture/seminar	Oral exam, discussion, scientific article, chapters in the dissertation, participation in a scientific conference
2	Can prepare a public presentation of the work results in the form of a scientific publication, a popular science paper or an oral or poster presentation.	P8S-UK/1 P8S-UK/2 P8S-UK/3 P8S-UK/4	Lecture/seminar	Oral exam, discussion, scientific article, chapters in the dissertation, participation in a scientific conference
3	Can collaborate in a research team.	P8S-UO	Lecture/seminar	Oral exam, discussion
4	Can independently assess skills and qualities, consider aims, plan and perform personal development and organize the development of others.	P8S-UU/1	Lecture/seminar	Oral exam, discussion
5	Can respond to reviewers' questions and support thesis with	P8S-KK/1 P8S-KK/2	Lecture/seminar	Oral exam, discussion,

	scientific evidence.	P8S-KK/3		participation in a scientific conference
6	Is aware of the social role of the scholar, understands the importance of the student-master relationship, follows the rules of intellectual property rights.	P8S-KR	Lecture/seminar	Oral exam, discussion

LEARNING FORMAT – NUMBER OF HOURS

Semester(no.)	Lectures	Seminars	Lab classes	Internships	others	ECTS
I-VIII	—	240	—	—	—	0

DIDACTIC METHODS

Seminars, preparation of the presentation, a summary of the results preparation, an article/parts of the article preparation, discussion and scientific debate.

COURSE CONTENT

Lectures/ seminars:

- Basics of imaging diagnostic methods, their applicability and limitations with special attention to magnetic resonance imaging.
- Application of magnetic resonance methods in the preoperative assessment of endometrial cancer staging.
- Application of new/advanced magnetic resonance sequences in imaging of pelvic organs.
- Literature review and analysis.
- Review of available research tools, computational methods and possibilities of applying modern analysis techniques.
- Determination of the area of research.
- Supervision of the scientific study, analysis and consultation of medical cases of patients.
- Development of research results and conclusions.
- Preparation of conclusions for publication.

COURSE ASSESSMENT CRITERIA

The realization of the assumed educational effects is evaluated by the teacher on the basis of activity and work in class as well as the student's own work. Oral answer/exam, preparation of presentation/publication.

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	240
Other contact hours involving the teacher (consultation hours, examinations)	0
Non-contact hours – student's own work (preparation for classes or examinations, project, etc.)	1000+
Total number of hours	1240+
Total number of ECTS credits	0

INSTRUCTIONAL MATERIALS

Compulsory literature:	1. *DIAGNOSTYKA OBRAZOWA. JAMA BRZUSZNA. MICHAEL P.FEDERLE, R.BROOKE JEFFREY, PAULA J.WOODWARD, AMIR A.BORHANI REDAKTOR WYDANIA POLSKIEGO PROF.DR HAB. M.BEKIESIŃSKA-FIGATOWSKA, DR HAB. A.CIESZANOWSKI, PROF.DR HAB. M.STUDNIAREK. ISBN 9788361104711* 2. *REZONANS MAGNETYCZNY. JAMA BRZUSZNA I MIEDNICA C.G. ROTH, S. DESHMUKH ISBN: 978-83-66067-17*
Complementary literature:	1. *NOUGARET S, HORTA M, SALA E ET AL.. ENDOMETRIAL CANCER MRI STAGING: UPDATED GUIDELINES OF THE EUROPEAN SOCIETY OF UROGENITAL RADIOLOGY. EUR RADIOL. 2019 FEB;29(2):792-805* 2. *BONATTI M, PEDRINOLLA B, CYBULSKI AJ ET AL. PREDICTION OF HISTOLOGICAL GRADE OF ENDOMETRIAL CANCER BY MEANS OF MRI. EUR J RADIOL. 2018 JUN;103:44-50* 3. *AHMED M, AL-KHAFAJI JF, CLASS CA, ET AL. CAN MRI HELP ASSESS AGGRESSIVENESS OF ENDOMETRIAL CANCER? CLIN RADIOL. 2018 SEP;73(9):833.E11-833.E18.* 4. *MEISSNITZER M, FORSTNER R. MRI OF ENDOMETRIUM CANCER - HOW WE DO IT. CANCER IMAGING. 2016 MAY 9;16:11.* 5. *LAVAUD P, FEDIDA B, CANLORBE G, ET AL. PREOPERATIVE MR IMAGING FOR ESMO-ESGO-ESTRO CLASSIFICATION OF ENDOMETRIAL CANCER. DIAGN INTERV IMAGING. 2018 JUN;99(6):387-396* 6. *SALEH M, VIRARKAR M, BHOSALE P, ET AL. ENDOMETRIAL CANCER, THE CURRENT INTERNATIONAL FEDERATION OF GYNECOLOGY AND OBSTETRICS STAGING SYSTEM, AND THE ROLE OF IMAGING. J COMPUT ASSIST TOMOGR. 2020 SEP/OCT;44(5):714-729.* 7. *YTRE-HAUGE S, DYBVIK JA, LUNDERVOLD A ET AL. PREOPERATIVE TUMOR TEXTURE ANALYSIS ON MRI PREDICTS HIGH-RISK DISEASE AND REDUCED SURVIVAL IN ENDOMETRIAL CANCER. J MAGN RESON IMAGING. 2018 DEC;48(6):1637-1647* 8. *BOUCHE C, GOMES DAVID M, SALLERON J, RAUCH P, LEUFFLEN L, BUHLER J, MARCHAL F. EVALUATION OF PRE-THERAPEUTIC ASSESSMENT IN ENDOMETRIAL CANCER STAGING. DIAGNOSTICS (BASEL). 2020 DEC 4;10(12):1045.* 9. *YAN BC, LI Y, MA FH, ET AL. RADIOLOGISTS WITH MRI-BASED RADIOMICS AIDS TO PREDICT THE PELVIC LYMPH NODE METASTASIS IN ENDOMETRIAL CANCER: A MULTICENTER STUDY. EUR RADIOL. 2021 JAN;31(1):411-422*