A COURSE SYLLABUS – DOCTORAL SCHOOL

REGARDING THE QUALIFICATION CYCLE FROM 2020 TO 2024

GENERAL INFORMATION ABOUT COURSE	
Course title	**Anthropometry in scientific research**
Name of the unit running the course	Doctoral School at University of Rzeszów
Type of course *(obligatory, optional)*	Compulsory subject, facultative, interdisciplinary, to be chosen
Year and semester of studies	IInd year, summer semester
Discipline	Health sciences
Language of Course	Polish language
Name of Course coordinator	Lidia Perenc, MD
Name of Course lecturer	Lidia Perenc, MD
Prerequisites	Before starting the course, a doctoral school student has the knowledge, skills and competences from the completed level 7 of the Polish Qualifications Framework.

BRIEF DESCRIPTION OF COURSE
(100-200 words)

The subject of anthropometry in scientific research acquaints students of the doctoral school with the nomenclature used in anthropometry, with selected instruments and measurement methods used in anthropometry, with selected methods of assessing the morphological development of children and adolescents, with the possibilities of using anthropometric methods in health sciences and interdisciplinary research. The aim of the classes is to improve the ability to initiate discussions on the possibility of applying anthropometric methods in health sciences, in interdisciplinary research, and to actively conduct this discussion. In addition, it enables the acquisition of the ability to develop a project (in the form of a multimedia presentation) including: a brief presentation of the analysis of the literature indicating the usefulness of anthropometry in scientific research, preparation of theoretical assumptions and a research plan using anthropometric methods, preparation of an anthropometric test card for the above-mentioned study in Polish and English. research plan, in addition, the acquisition of the skills of oral presentation with the use of specialized nomenclature.

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 of programme outcomes (symbol)	Learning Format (Lectures, classes,...)	Method of assessment of learning outcomes (e.g. test, oral exam, written exam, project,...)
Knowledge (no.)	**Student knows and understands**			
1.	World achievements covering the theoretical foundations and general issues as well as the main development trends for the health sciences discipline	P8S-WG/1 P8S-WG/2	Lab classes	Project
Skills (no.)	**Student is able to**			
1.	Make a critical analysis and evaluation of the results of scientific research, expert activities and other creative works and their contribution to the development of knowledge	**P8S-UW/2**	Lab classes	Project
2.	Define the purpose and subject of research, develop research methods	**P8S-UW/1**	Lab classes	Project

	and techniques, and make conclusions based on research results			
3.	Communicate on specialist topics to a degree enabling active participation in the international scientific environment	**P8S-UK/1**	Lab classes	Project
4.	Initiate a debate	**P8S-UK/3**	Lecture	Credit
5.	Participate in the scientific discourse	**P8S-UK/4**	Lecture	Credit
6.	Use a foreign language at the B2 level of the European Language Education System to a degree enabling participation in the international scientific and professional environment	**P8S-UK/5**	Lab classes	Project
7.	Plan classes or groups of classes and carry them out with the use of modern tools and methods	**P8S-UU/2**	Lab classes	Project
Social competence (no.)	**Student is ready to**			
1.	Critically evaluate the achievements in the discipline of health sciences	**P8S-KK/1**	Lab classes	Project
2.	Recognize the importance of knowledge in solving cognitive and practical problems	**P8S-KK/3**	Lab classes	Observation
3.	Initiate public interest activities	**P8S-KO/2**	Lab classes	Observation

LEARNING FORMAT – NUMBER OF HOURS

Semester (no.)	Lectures	Seminars	Lab classes	Internships	others	ECTS
IV	5	10	-	-	2	2

METHODS OF INSTRUCTION

E.G, LECTURE: A PROBLEM-SOLVING LECTURE/A LECTURE SUPPORTED BY A MULTIMEDIA PRESENTATION/ DISTANCE LEARNING CLASSES: TEXT ANALYSIS AND DISCUSSION/PROJECT WORK (RESEARCH PROJECT, IMPLEMENTATION PROJECT, PRACTICAL PROJECT)/ GROUP WORK (PROBLEM SOLVING, CASE STUDY, DISCUSSION)/DIDACTIC GAMES/ DISTANCE LEARNING LABORATORY CLASSES: DESIGNING AND CONDUCTING EXPERIMENTS)

COURSE CONTENT

1. **Lectures/ Seminars:**

1. Presentation of the form of completing the course. Getting to know the content of the curriculum. Providing applicable literature.
2. Determination of the orientation of the body in space. Starting positions for anthropometric research.
3. Phases of ontogenetic development. Age classes.
4. Selected anthropometric instruments and methods.
5. Getting acquainted with the definitions of anthropometric kephalometric points and measurements.
6. Getting acquainted the definitions of somatometric anthropometric points and measurements.
7. Designing an anthropometric measurement card.
8. Measurement of body weight. Body composition measurement.
9. Selected methods of assessing the process of children's and youth's growth. Reference frames.
10. Selected methods of assessing the differentiation of the body proportions of children and adolescents. Reference frames.
11. Presentation of exemplary research studies in the discipline of health science and interdisciplinary works with the use of anthropometric methods. Initiating and conducting discussions.

2. Seminars / Lab classes/ others:

1. Presentation of the form of completing the course. Getting to know the content of the curriculum. Providing applicable literature.
2. Finding kephalometric points on the head - practical part.
3. Finding somatometric points on the body - practical part.
4. Designing an anthropometric measurement card - theoretical and practical part.
5. Performing anthropometric measurements on the head. Supplementing the measurement card - practical part.
6. Performing anthropometric measurements on the body. Supplementing the measurement card - practical part.
7. Constructing and calculating proportion indicators. Creating a definitions based on anthropometric data.
8. Presentation of independently developed projects.

COURSE ASSESSMENT CRITERIA

Active participation in classes: lectures and lab classes.

Lecture: oral test, during the test, the initiation of the discussion (P8S-UK/3) and active participation in it (P8S-UK/4) on the topics presented in the lecture will be assessed. The student receives a final credit if he passes each of the above-mentioned effects with a grade 3.0.

Is able to initiate a debate (P8S-UK/3)

5.0 - the student spontaneously and correctly initiates a discussion,
4.5 - the student initiates a discussion with a little help from the teacher,
4.0 - the student initiates a discussion after minor comments, encouragement or corrections made by the teacher,
3.5 - the student initiates a discussion based on numerous tips from the teacher,
3.0 - the student initiates a discussion based on numerous tips from the teacher, however, making mistakes,
2.0 - the student does not initiate the discussion, despite numerous comments from the teacher, or makes gross errors in initiating it.

Participates in the scientific discourse (P8S-UK/4):

5.0 - the student conducts the discussion spontaneously and correctly.
4.5 - the student conducts a discussion with a little help from the teacher
4.0 - the student conducts a discussion after minor comments, encouragement or corrections made by the teacher,
3.5 - the student conducts a discussion based on numerous tips from the teacher,
3.0 - the student conducts a discussion based on numerous tips from the teacher, however, making mistakes,
2.0 - the student does not conduct a discussion, despite numerous comments from the teacher, or makes gross errors in initiating it. He is unable to prepare the conducted documentation.

Lab classes: preparation of a project (in the form of a multimedia presentation) including: a short presentation of the analysis of the literature proving the usefulness of anthropometry in scientific research (P8S-UW/2), taking into account the main developmental trends in health sciences (P8S-WG / 1, P8S-WG / 2) and a critical evaluation of the achievements within the discipline of health science (P8S-KK / 1), define of the subject of exemplary research using anthropometric methods (P8S-UW / 1), preparation of theoretical assumptions and a research plan using anthropometric methods (P8S-UU/2), preparation in Polish and English, anthropometric measurement cards for the above-mentioned research plan (P8S-UK/5), oral performance of a presentation using specialized nomenclature (P8S-UK/1). The student receives a final credit if he passes each of the above-mentioned effects with a grade 3.0. The final credit grade is equal to the average of the individual grades presented below (**P8S-WG/1, P8S-WG/2, P8S-KK/1, P8S-UW/2, P8S-UW/1, P8S-UU/2, P8S-UK/5, P8S-UK/1, P8S-KK/3, P8S-KO/2).**

Brief presentation of the literature analysis proving the usefulness of anthropometry in scientific research (P8S-UW/2)

5.0 - the student independently and correctly presents the analysis of the literature proving the usefulness of anthropometry in scientific research,
4.5 - the student makes a single mistake in the analysis of the literature proving the usefulness of anthropometry in scientific research, for example, omits a reference to the literature or unclearly presents a

single example out of the five analyzed sources of literature,
4.0 - the student makes two mistakes in the analysis of the literature proving the usefulness of anthropometry in scientific research, for example, omits the reference to the literature and unclearly presents a single example out of the five analyzed sources of literature,
3.5 - the student makes three mistakes in the analysis of the literature proving the usefulness of anthropometry in scientific research, for example, omits two references to the literature and unclearly presents one example out of the five analyzed sources of literature,
3.0 - the student makes four mistakes in the analysis of the literature proving the usefulness of anthropometry in scientific research, for example, omits two references to the literature and unclearly presents two examples from the five analyzed sources of literature,
2.0 - the student makes more than four mistakes in the analysis of the literature proving the usefulness of anthropometry in scientific research.

Brief presentation of the literature analysis taking into account the main development trends in health sciences (P8S-WG / 1, P8S-WG / 2)
5.0 - the student independently and correctly presents the analysis of the literature taking into account the main developmental trends in health sciences,
4.5 - the student makes a single mistake in the analysis of the literature taking into account the main developmental trends in health sciences, for example, omits a reference to the literature or vaguely presents a single example from the five analyzed sources of literature,
4.0 - the student makes two mistakes in the analysis of the literature taking into account the main developmental trends in health sciences, for example, omits the reference to the literature and vaguely presents a single example of the five analyzed sources of literature,
3.5 - the student makes three mistakes in the analysis of the literature taking into account the main developmental trends in health sciences, for example, omits two references to the literature and vaguely presents one example of the five analyzed sources of literature,
3.0 - the student makes four mistakes in the analysis of the literature taking into account the main developmental trends in health sciences, for example, omits two references to the literature and vaguely presents two examples from the five analyzed sources of literature,
2.0 - the student makes more than four mistakes in the analysis of the literature taking into account the main developmental trends in health sciences.

Brief presentation of the analysis of the literature taking into account a critical assessment of the achievements within the discipline of health sciences (P8S-KK / 1)
5.0 - the student independently and correctly presents the analysis of the literature taking into account a critical assessment of the achievements within the discipline of health sciences,
4.5 - the student makes a single mistake in the analysis of the literature taking into account a critical assessment of achievements within the discipline of health sciences, for example, omits a reference to the literature or vaguely presents a single example from the five analyzed sources of literature,
4.0 - the student makes two mistakes in the analysis of the literature taking into account a critical assessment of achievements within the discipline of health sciences, for example, omits the reference to the literature and vaguely presents a single example of the five analyzed sources of literature,
3.5 - the student makes three mistakes in the analysis of the literature taking into account a critical assessment of the achievements in the field of health sciences, for example, omits two references to the literature and vaguely presents one example of the five analyzed sources of literature,
3.0 - the student makes four mistakes in the analysis of the literature taking into account a critical assessment of achievements within the discipline of health sciences, for example, omits two references to the literature and vaguely presents two examples from the five analyzed sources of literature,
2.0 - the student makes more than four mistakes in the analysis of the literature taking into account a critical assessment of the achievements within the discipline of health sciences.

Definition of the subject of exemplary research using anthropometric methods (P8S-UW / 1)
5.0 - the student correctly defined the purpose (subject) of the exemplary research using anthropometric methods,
4.5 - the student defined the subject of the exemplary research using anthropometric methods, one sentence is unclear, which makes it impossible to fully understand the term presented
4.0 - the student defined the subject of the exemplary research using anthropometric methods, one sentence is

unclear and there was a single mistake in the anthropometric nomenclature, which makes it impossible to fully understand the presented term
3.5 - the student defined the subject of the exemplary research using anthropometric methods, two sentences are unclear and there was a single mistake in the anthropometric nomenclature, which makes it impossible to fully understand the term presented
3.0 - the student defined the subject of the exemplary research using anthropometric methods, two sentences are unclear and there were two mistakes in the anthropometric nomenclature, which makes it impossible to fully understand the presented term
2.0 - the student defined the subject of the exemplary research using anthropometric methods, three sentences are unclear and there were two mistakes in the anthropometric nomenclature, which makes it impossible to fully understand the presented term.

Preparation of theoretical assumptions and a research plan using anthropometric methods (P8S-UU/2)
5.0 - the student correctly prepared the theoretical assumptions and a research plan using anthropometric methods,
4.5 - the student has prepared theoretical assumptions and a research plan using anthropometric methods, individual sentences are unclear, but the goal is defined and methodologically selected assumptions adequately to the chosen goal,
4.0 - the student has prepared theoretical assumptions and a research plan using anthropometric methods, the goal is imprecise and methodological assumptions are adequately selected to the chosen goal,
3.5 - the student has prepared theoretical assumptions and a research plan using anthropometric methods, the goal is imprecise and methodological assumptions are adequately selected to the chosen goal, although there is a single inaccuracy in the methodological assumptions,
3.0 - the student has prepared theoretical assumptions and a research plan using anthropometric methods, the goal is imprecise and methodological assumptions are adequately selected to the chosen goal, although there are two inaccuracies in the methodological assumptions,
2.0 - the student has prepared theoretical assumptions and a research plan using anthropometric methods, the goal is imprecise and methodologically selected assumptions adequately to the chosen goal, although there are three inaccuracies in the methodological assumptions or the goal is imprecise and inadequately selected methodological assumptions for the chosen purpose.

Preparation of an anthropometric measurement card in Polish and English for the above-mentioned research plan (P8S-UK/5)
5.0 - the student correctly prepared the anthropometric measurement card for the research plan of his choice,
4.5 - the student has prepared an anthropometric measurement sheet for a scientific research plan of his choice, there is one error in the specialist nomenclature, the sheet is carefully prepared,
4.0 - the student has prepared an anthropometric measurement card for a scientific research plan of his choice, there are two errors in the specialist nomenclature,
3.5 - the student has prepared an anthropometric measurement sheet for the research plan of his choice, there are two errors in the specialist nomenclature, the test sheet has a careless graphic solution that makes it difficult to complete,
3.0 - the student has prepared an anthropometric measurement sheet for the research plan of his choice, there are three errors in the specialist nomenclature, the test sheet has a careless graphic solution that hinders its completion,
2.0 - the student has not prepared an anthropometric measurement sheet or there are more errors than mentioned.

Oral performance of the presentation using specialized nomenclature (P8S-UK/1).
5.0 - the student spontaneously and correctly conducts the oral performance of the presentation using specialized nomenclature,
4.5 - the student, with a little help from the tutor, gives an oral presentation using specialized nomenclature,
4.0 - the student conducts an oral performance of the presentation using a specialized nomenclature, after minor comments, encouragement or corrections made by the teacher,
3.5 - the student conducts an oral performance of the presentation with the use of specialized nomenclature based on numerous tips from the teacher,
3.0 - the student conducts an oral performance of the presentation using a specialized nomenclature, based on numerous tips from the teacher, but making mistakes,

2.0 - the student does not provide an oral presentation with the use of specialized nomenclature, despite numerous comments from the teacher, or makes gross errors in initiating it. He is unable to record the conducted documentation.

Observation of the student during classes: recognizing the importance of knowledge in solving cognitive and practical problems (P8S-KK / 3), initiating activities for the public interest (P8S-KO / 2).

Recognizing the importance of knowledge in solving cognitive and practical problems (P8S-KK/3)
5.0 - the student always and spontaneously emphasizes the importance of knowledge in solving cognitive and practical problems,
4.5 - very often and spontaneously the student emphasizes the importance of knowledge in solving cognitive and practical problems,
4.0 - usually and spontaneously the student emphasizes the importance of knowledge in solving cognitive and practical problems,
3.5 - the student rarely but spontaneously emphasizes the importance of knowledge in solving cognitive and practical problems,
3.0 - rarely and under the influence of guidance by the teacher, the student emphasizes the importance of knowledge in solving cognitive and practical problems,
2.0 - the student negates the importance of knowledge in solving cognitive and practical problems

Initiating activities for the public interest (P8S-KO / 2).
5.0 - the student always and spontaneously initiates activities for the public interest,
4.5 - the student very often and spontaneously initiates activities for the public interest,
4.0 - usually and spontaneously, the student initiates activities for the public interest,
3.5 - the student rarely but spontaneously initiates activities for the public interest,
3.0 - rarely and under the influence of guidance by the teacher, the student initiates activities for the public interest,
2.0 - the student does not initiate activities for the public interest.

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)	2
Non-contact hours – student`s own work (preparation for classes or examinations, project, etc.)	15
Total number of hours	32
Total number of ECTS credits	2

INSTRUCTIONAL MATERIALS

Compulsory literature:	1. Red. L. Perenc: Różnorodność problemów klinicznych i badawczych w naukach o zdrowiu. Tom I. Wydawnictwo Uniwersytetu Rzeszowskiego 2021, p-ISBN 978-83-7996-901-2. 2. Red. L. Perenc: Różnorodność problemów klinicznych i badawczych w naukach o zdrowiu. Tom II. Wydawnictwo Uniwersytetu Rzeszowskiego 2021, p- ISBN 978-83-7996-902-9. 3. Red. L. Perenc: Współczesne kierunki badań w naukach o zdrowiu. Wydawnictwo Uniwersytetu Rzeszowskiego, 2020, p-ISBN: 978-83-7996-814-5 4. Perenc L.: Wybrane problemy auksologii i antropometrii rozwojowej. Wydawnictwo Uniwersytetu Rzeszowskiego, 2019, p-ISBN 978-83-7996-649-3. 5. Malinowki A., Bożilow M. – Podstawy antropometrii – metody, techniki, normy. PWN Warszawa 1997.
Complementary	1. Podgórska-Bednarz J., Perenc L., Drużbicki M., Guzik A.: Nutritional Disorders in a Group

literature:	of Children and Adolescents with Syndromes or Diseases Involving Neurodysfunction. Nutrients 2021: Vol. 13, iss. 6, id. art. 1786, p-ISSN: 2072-6643. 2. Guzik A., Perenc L., Drużbicki M., Podgórska-Bednarz J. Abnormal cranium development in children and adolescents affected by syndromes or diseases associated with neurodysfunction. Scientific Reports 2021: Vol. 11, iss. 1, id. art. 2908, p-ISSN: 2045-2322. 3. Perenc L., Guzik A., Podgórska-Bednarz J., Drużbicki M. Microsomic and macrosomic body structure in children and adolescents affected by syndromes or diseases associated with neurodysfunction. Scientific Reports 2021 : Vol. 11, iss. 1, id. art. 6349, p-ISSN: 2045-2322. 4. Perenc L., Guzik A., Podgórska-Bednarz J., Drużbicki M.: Abnormal Head Size in Children and Adolescents with Congenital Nervous System Disorders or Neurological Syndromes with One or More Neurodysfunction Visible since Infancy Journal of Clinical Medicine: 2020 : Vol. 9, no. 11, id. art. 3739, p-ISSN: 2077-0383 5. Perenc L., Podgórska-Bednarz J., Skiba K.: The length of the lower limbs, the index of length and muscularity of the lower limbs, and the results of the "Timed Up and Go" test in school-age children : a pilot study. (Długość kończyn dolnych, wskaźnik długości i umięśnienia kończyn dolnych a wyniki testu "Timed Up and Go" u dzieci w wieku szkolnym - badanie pilotażowe) Medical Studies-Studia Medyczne 2020 : Vol. 36, nr 3, s. 181-188, p-ISSN: 1899-1874, e-ISSN: 2300-6722. 6. Perenc L., Baran J., Baryła A., Beer K., Bęben M., Brach A., Budzik A., Maciewicz A., Marynicz A., Sowa K.: Zróżnicowanie proporcji i składu ciała u młodych kobiet W: Rehabilitacja 2019 / pod. red nauk. Teresy Pop. Wydawnictwo Uniwersytetu Rzeszowskiego, 2020, s. 21-35, p-ISBN: 978-83-7996-764-3. 7. Grzegorczyk J., Wołoszyn N.A., Perenc L.: Comparison of selected body composition parameters in woman using DXA and anthropometric method. Journal of Research in Medical Sciences. 2019: Vol. 24, iss. 1, Art. no. 70, p-ISSN: 1735-1995, e-ISSN: 1735-7136. 8. Perenc L., Zajkiewicz K., Drzał-Grabiec J., Majewska J., Cyran-Grzebyk B. H., Walicka-Cupryś K.: Assessment of body adiposity in preterm children at the beginning of school age. Scientific Reports 2019 : Vol. 9, iss. 1, , id. art.: 6207, p-ISSN: 2045-2322. 9. Perenc L., Guzik A., Podgórska-Bednarz J., Drużbicki M. Growth disorders in children and adolescents affected by syndromes or diseases associated with neurodysfunction. Scientific Reports 2019: Vol. 9, id. art. 16436, p-ISSN: 2045-2322. 10. Perenc L., Zaprutkiewicz M., Wojtuń P., Drżał N., Inglot M., Kieraś Kinga, Koczera A., Kokoszka J., Kruk S., Łapa S., Młocek A., Rzeszutek A., Szczurek A., Wieczorek P. Ocena rozwoju somatycznego dzieci i młodzieży z chorobami układu nerwowego o charakterze wrodzonym lub zespołami neurologicznymi, których objawy ujawniły się w okresie niemowlęcym. W: Rehabilitacja 2017 / pod red. nauk. Teresy Pop. Wydawnictwo Bonus Liber Sp. z o.o., 2018, p-ISBN: 978-83-65931-15-3.