

COURSE DESCRIPTION CARD

Course name	Research laboratory				
Course type	obligatory	Course code	----	ECTS credits	-
Forms and number of hours	Seminar: 10h	Scientific discipline	all	Semester	1-8
Course objectives	<p>The research laboratory (individually, with a supervisor) aims to prepare a doctoral dissertation, including collecting scientific achievements entitling to apply for a doctoral degree</p> <p>Skills: equipping PhD students with skills necessary to prepare a dissertation.</p> <p>Competences: equipping PhD students with competences with regard to preparation of doctoral dissertations.</p>				
Course content	<p>During work, a PhD student acquires advanced, theoretically founded knowledge: related to:</p> <ul style="list-style-type: none"> - the area of research, - research methodology, - legal and ethical aspects of scientific activity, - methods of preparing publications and presenting research results, - aspects of practical application of research results (e.g. through commercialization). <p>Gains skills in integrating knowledge from various sources, perceiving, formulating and solving complex tasks and problems with the represented scientific discipline.</p> <p>Develops competences to think and act independently and creatively.</p> <p>The final effect of the work is the preparation of a doctoral dissertation.</p>				
Teaching methods	Methods based on observation and measurement, method of analysis and criticism of the literature, method of analysis and logical construction, discussion.				
Assessment method	A semester credit by the tutor.				
Symbol of learning outcome	Learning outcomes		Reference to the learning outcomes for the field of study for the 8th level of Polish Qualification Framework (PRK)	Methods of assessing the learning outcomes	
LO1	PhD student: has a theoretically well founded detailed knowledge related to the area of research, the source of which are, in particular, scientific publications, including the latest scientific achievements in the area of research		SD_W1	observation of the PhD student's work	
LO2	has knowledge of the methodology of conducting scientific research, has basic knowledge of technology transfer and commercialization of research results, especially issues related to the protection of intellectual property		SD_W1, SD_W2	presentation	
LO3	is able, making best use of knowledge, to make a critical evaluation of results of research and		SD_U1	cooperation with a	

	other creative works – of his/her own and of other creators - and their contribution to the development of the represented discipline; in particular, can assess the usefulness and the possibility of using the results of theoretical work in practice		supervisor
LO4	is able to communicate effectively using various techniques in the international scientific and professional environment, also in a foreign language; has the ability to present his achievements and concepts in an understandable way and to present solid arguments in scientific discussions	SD_U2	cooperation with a supervisor
LO5	is able to plan and implement complex tasks and research problems related to the represented scientific discipline	SD_U3	cooperation with a supervisor
LO6	is aware of the social role of a doctoral school graduate, understands the need to provide the society with information and opinions on the achievements of science and technology	SD_U4, SD_K1, SD_K2	cooperation with a supervisor
LO7	can think and act independently and creatively, shows initiative in creating new ideas and searching for innovative solutions; shows initiative in identifying new areas of research	SD_U4, SD_K3	cooperation with a supervisor

Basic references	Literature selected individually depending on the area and scope of research
Supplementary references	Literature selected individually depending on the area and scope of research
Author of the programme	Professor Oleksandr Jewtuszenko Assoc. Prof. Katarzyna Halicka, DSc, PhD, Eng
Date of issuing the programme	04.03.2021