Course title:	Error and the Learnability of Science: Critical Thinking in the Interparadigmatic Space
Course title in Polish:	Błąd i wyuczalność nauki. Krytyczne myślenie w prze-strzeni międzyparadygmatycznej
Course for discipline:	Education sciences

Semester:	7	**Status of course:**	faculty	**Language:**	english
Academic year:		**Catalog number:**			

Coordinator of course:	dr hab.Dariusz stępkowski prof.SGGW
Lecturer od course:	dr hab.Dariusz stępkowski prof.SGGW
Executing unit:	Departament of Education sciences
Ordering unit:	Doctoral School SGGW
Assumptions, goals and description of the course:	The course has a theoretical–workshop format and includes the analysis of selected scientific paradigms, work on participants' own research projects, and problem-oriented discussions. Its overarching aim is to support doctoral candidates in moving from the reproduction of established models toward the con-scious co-creation of scientific knowledge. The course encom-passes three dimensions: epistemic (understanding what science is and whether it can be learned), meta-reflective (analyzing norms, criteria, and errors across different paradigms), and formative (developing research autonomy). The point of departure is the question of the learnability of sci-ence and the role of critical thinking in shaping independent scholarship. Within a framework of paradigm complementarity, diverse conceptions of knowledge and scientific validity are examined, with particular attention to error as an effect of adopted assumptions. Participants learn to identify the para-digmatic conditions of their own research and to navigate be-tween paradigms without falling into relativism or dogmatism.
Didactic form, number of hours:	10 hours
Teaching methods:	problem-based: conceptual mini-lecture; - dialogical: Socratic dialogue, problem-oriented debate, moder-ated discussion; - reflective-critical: analysis of one's own research project, com-plementary analysis.
Limit of people in the group:	

Learning outcomes

KNOWLEDGE - the graduate knows and understands:	**SKILLS - the graduate is able to:**	**COMPETENCES - the graduate is ready to:**
To the extent enabling to revise the existing pradigms in the field/discipline - the world achievments, gathering theoretical background as well as general and selected detailed issues	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	Critically evaluate the achievments in the field/discipline represented
Major general development trends in the field/discipline		Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect
		Support the ethos of scientific circles and conduct independent research

The method of verification of learning outcomes:	final written assignment (essay): self-evaluation of one's own cognitive development; comparison of two scientific paradigms; active participation in a Socratic dialogue / problem-oriented debate / moderated discussion.
Form of documentation of achieved learning outcomes:	conceptual essay entitled "My Epistemic Position"; oral presentation or analytical brief; individual activity record sheet.
Elements and weights of the final grade:	1. Paradigmatic awareness – 1-5 points. 2. Analysis of normative assumptions – 1-5 points. 3. Understanding of the category of error – 1-5 points. 4. Interparadigmatic competence – 1-5 points. 5. Formulation of one's own epistemic position – 1-5 points. Assessment focuses on the quality of reflection, argumentation, and independent thinking rather than on conformity to a partic-ular theoretical framework. Grading Scale: - 23–25 points – very good - 19–22 points – good plus - 15–18 points – good - 11–14 points – satisfactory - below 11 points – fail
Place of the course:	didactic class

Basic and supplementary literature

Dietrich Benner, Zarys ogólnej dydaktyki nauki. Podstawy i orientacje dla nauczania akademickiego, kształcenia nauczycieli i badań edukacyjnych, Oficyna Wydawnicza „Impuls", Kraków 2021.

Mikołaj Brykczyński, Mit nauki: paradygmaty i dogmaty. Ene-teia Wydawnictwo Psychologii i Kultury. Warszawa 2011.
Karl Popper, Nieustanne poszukiwania. Autobiografia intelektu-alna. Wydawnictwo Znak. Kraków 1997.

Comments:	

Estimated number of hours of work of the doctoral student necessary to achieve the assumed learning outcomes:	15

Leraning outcomes reference to the second degree characteristics of the National Qualification Framework (level 8) covering doctoral competences:		
Symbol:	**Learning outcomes:**	**8 level NQF**
SD1_KW01	To the extent enabling to revise the existing pradigms in the field/discipline - the world achievments, gathering theoretical background as well as general and selected detailed issues	P8S_WG
SD1_KW02	Major general development trends in the field/discipline	P8S_WG
SD1_KU05	Carry out critical assessment of the scientific research findings and expert activities and their contribution to the knowledge development in the field/discipline	P8S_UW
SD1_KK01	Critically evaluate the achievments in the field/discipline represented	P8S_KK
SD1_KK03	Recognise knowledge in solving cognitive and practical problems characteristic for the area of research (field/discipline) and in an interdisciplinary aspect	P8S_KK
SD1_KK08	Support the ethos of scientific circles and conduct independent research	P8S_KR