Subject card

Subject name and code	Elements of logic and epistemology, PG_00045329
Field of study	Data Engineering

Date of commencement of studies	October 2022	Academic year of realisation of subject	2022/2023
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Humanistic-social subject group
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English
Semester of study	1	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment

Conducting unit	Department of Social Sciences and Philosophy -> Faculty of Management and Economics

Name and surname of lecturer (lecturers)	Subject supervisor	dr Jakub Gużyński
	Teachers	dr Jakub Gużyński

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	30	2.0	18.0	50

Subject objectives	This course serves as an introduction to the problems of epistemology and logic.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U14] can apply knowledge from the field of humanities or social sciences to solve problems.	Realizes to which extent so called "natural attitude" is based on mostly unconscious fundamental epistemologic prejudgments.	[SU2] Assessment of ability to analyse information
	[K6_W13] Knows legal norms as well as ethical and cognitive rules that determine the functioning of social structures	Knows basic epistemological problems and conceptions, uses properly relevant terminology.	[SW1] Assessment of factual knowledge
	[K6_K02] is aware of the role of a technical university graduate in the society; reflects on ethical, scientific and social aspects of the performed work; understands the necessity of participation in social projects and complies with copyright law, taking into account economic, legal and technical aspects.	Knows basic theoretical controversies related to the concept of consciousness, knows phenomenology and its conceptual apparatus.	[SK5] Assessment of ability to solve problems that arise in practice
	[K6_U10] correctly uses legal norms as well as ethical and cognitive rules in solving specific socio-economic problems.	Analyzes, recognizes and applies in practise basic logical operations such as: classification, definition, inference etc.	[SU4] Assessment of ability to use methods and tools

Subject contents	1. Introduction to the course. Requirements and class etiquette. What is philosophy, what is logic, what is epistemology? 2. Introduction to logic. Basic concepts of logic. 3. Propositional calculus. Basic logic functions. Tautologies. Proof by contradiction. Exercises. 4. Logical rules of inference. Paradoxes of material implication. Introduction to the predicate calculus. 5. Exercises in predicate calculus. Logical relations. Common logical mistakes. 6. Unearthing the old epistemological dispute on the source of knowledge. Platos rationalism and Aristotles empiricism. 7. Modern turn to epistemology. Rationalism of Descartes and Leibnitz. British empiricism of Bacon and Locke. Birth of modern science. 8. Idealism vs realism. *A priori* vs *a posteriori* in cognition and knowledge. Kants answer to David Humes scepticism. Kants critical (transcendental) idealism and novelty of his approach. 9. Correspondence theory of truth. Scepticism and sceptic arguments in epistemology. Problem of perception, argument from illusion. Do we reflect external world directly in our consciousness/mental representations? Semantic, pragmatic and coherent theories of truth. 10. Contemporary epistemology. Knowledge as justified belief. Sources of knowledge: perception, memory, introspection, testimony. Gettiers challenge. Structures of justification (foundational, coherent, infinitism). Externalism vs internalism. 11. Introduction to the philosophy of the mind: major controversies. Body-mind problem. Consciousness, *qualia*, supervenience. Conceptions of naturalized mind and the influence of evolutionary psychology. Turing on machines and Searles Chinese room argument. Hilary Putnam and brains in vat. 12. Linguistic turn. Ludwig Wittgenstein: from examining the consciousness to the philosophy of language. Austin: we do things with words! The essence of American neopragmatism: Richard Rorty. 13. Philosophy of science. Demarcation problem. Neopostitivism and protocol sentences. Problem of induction. Quine-Duhem theorem applied to sciences. Karl Poppers falsification program. Henri Poincaré and Kazimierz Ajdukiewicz on conventionalism. 14. Thomas Samuel Kuhn on scientific revolution. Concept of paradigm. Classical and non-classical sociology of knowledge. Science and technology studies. Bruno Latour on technology and non-human agency. Expert and layman knowledge. 15. Summary and final test.
Prerequisites and co-requisites	No recommendations

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Participation in the classes	50.0%	40.0%
	Final test	50.0%	60.0%

Recommended reading	Basic literature	Plato. 1992. *Republic*, trans. G. M. A. Grube, C. D. C. Reeves. Hackett Publishing. René Descartes. 2006. *A Discourse on the Method of Correctly Conducting Ones Reason and Seeking Truth in the Sciences*, trans. Ian Maclean. Oxford University Press. Immanuel Kant. 2004. *Prolegomena to Any Future Metaphysics That Will Be Able to Come Forward as Science with Selections from the Critique of Pure Reason*, trans. Gary Hatfield. Cambridge University Press. John R. Searle. 1980. *Minds, brains, and programs*. The Behavioral And Brain Sciences 3, 417-457. John. L. Austin. 1962. *How to Do Things with Words*. Oxford University Press. Karl Popper. 2002. *The Logic of Scientific Discovery*. Routledge.
	Supplementary literature	Ernest Sosa, Jaegwon Kim, Jeremy Fantl, Matthew McGrath. 2008. *Epistemology. An Anthology*. Blackwell Publishing. Patrick J. Hurley, Lori Watson. 2018. *A Concise Introduction to Logic*. Cengage Learning.
	eResources addresses	Adresy na platformie eNauczanie: Elements of logic and epistemology - Nowy - Moodle ID: 26611 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26611

Example issues/ example questions/ tasks being completed	1. What is apriorism.
	2. Find out if given formula is a tautology of a Propositional Calculus.
	3. Examine given sentences and find out if conclusion follows from the premises.
	4. Describe the internalism-externalism controversy.
	5. What is correspondence theory of truth.
Work placement	Not applicable