

DOCTORAL STUDIES COURSE UNIT DESCRIPTION

Name of subject	Field of science, code	Faculty / Center	Institute / Department
Reductionism in Contemporary Philosophy	H 001	Faculty of Philosophy	Institute of Philosophy

Student's workload	Credits	Student's workload	Credits
Lectures		Consultations	1
Independent study	4	Seminars	

Course annotation

Ontological aspects of reductionism: the status of abstract objects and prospects of their nominalist reduction; controversy between realism and nominalism. Phenomenalistic reduction of physical objects. Materialist and physicalist ontology; microreduction; reduction of objects in natural science to physical objects; the problem of reduction of aesthetic properties, colour spectrum, etc. to physical properties; ontological problems of materialist theories of mind. Identity theory materialism and the notion of supervenience.

Epistemological aspects of reductionism: reductive analysis in the context of the realism-anti-realism controversy. The problem of reduction of knowledge by acquaintance to knowledge by description. A reductive interpretation of *a priori* knowledge and modal intuitions. Possibilities of analytical reduction (by definition and by derivation). The problem of naturalistic interpretation of meaning.

Reductionism in logic and philosophy of mathematics: reduction of intensional expressions to extensional ones. Frege's and Russell's logicism, Hilbert's formalism. Reduction of number theory to set theory. Problems of reductionism in mathematics – Gödel's proof of incompleteness, chaos theory.

Reductionism in philosophy and methodology of science: the problem of unified scientific methodology. Holism and individualism in the social sciences. E. Nagel's model of theory reduction, its shortcomings and alternatives. The problem of reducing chemistry, biology and psychology to physics. Relationship between Mendelian and molecular genetics. Reduction of theoretical terms to observational terms; the theorist's dilemma. Operationalist reduction. Holistic criticism of reductionism; The anti-reductionism of Kuhn and Feyerabend.

Reductionism in the philosophy of mind: functionalist, materialist and eliminative theories of mind. Problems of phenomenal properties and qualia; anti-reductionist arguments: knowledge argument, inverted spectrum, dancing qualia, etc. Anomalous and non-reductive monism; problems of multiple realization, supervenience and mental causation. Mind-brain identity theory and the problem of the metaphysical possibility of zombies.

Reductionism in ethics and legal theory: naturalistic ethical theories; the nature of moral norms and normative decisions and the problem of their reductive interpretation. The problem of reference of ethical and legal concepts.

Theories of personal identity - problems of psychological and physical reduction.

In-class sessions are held on demand.

The exam requirements are set in connection to the student's topic of doctoral research and determined individually.

Reading list

1. Armstrong, D. (1978) *Universals and Scientific Realism*. Cambridge: Cambridge University Press.
2. Benacerraf, P. and Putnam, H. (eds) (1964) *Philosophy of Mathematics: Selected Readings*. Cambridge: Cambridge University Press.
3. Carnap, R (1966) *Philosophical Foundations of Physics: An Introduction to the Philosophy of*

Science. Ed. by M. Gardner. New York: Basic Books.
4. Carruthers, P. (1992) Human Knowledge and Human Nature. Oxford: Oxford University Press.
5. Causey R.L. (1977) Unity of Science. Dordrecht: Reidel.
6. Chalmers, D. (1996) The Conscious Mind. Oxford: Oxford University Press.
7. Churchland, P. (1986) Neurophilosophy. Cambridge MA: MIT Press.
8. Frege, G. (1884) Die Grundlagen der Arithmetik: Eine logisch mathematische Untersuchung über den Begriff der Zahl. Oxford: Basil Blackwell, 1968.
9. Healey, R. (1981) Reduction, Time and Reality – Studies in the Philosophy of the Natural Sciences. Cambridge: Cambridge University Press.
10. Jackson, F. (1998) From Metaphysics to Ethics: A Defence of Conceptual Analysis. Oxford: Oxford University Press.
11. Primas, H. (1983) Chemistry, Quantum Mechanics and Reductionism. Berlin, New York: Springer-Verlag.

The names of consulting teachers	Science degree	Main scientific works published in a scientific field in last 5 year period
Jonas Dagys	PhD	<ol style="list-style-type: none"> Berniūnas, R., Dagys, J., Dranseika, V., (2017). „Proper names, rigid designation, and empirical studies on personal identity“ // Topoi. An International Review of Philosophy. ISSN: 0167-7411. Dagys, Jonas, Pastabos apie Rolando Pavilionio neverbalinio kontinuumo idėją. Problemos 2014 priedas, ISSN 1392-1126 p. 18-28. Dagys, Jonas, Dranseika, Vilius, Grenda, Vytautas, Vasilionytė, Ieva, Reduktyvizmo raiška šiuolaikinėje analitinėje filosofijoje. Problemos 2014, t. 85, ISSN 1392-1126 p. 141-152. Dagys, Jonas, Šiuolaikinė psichofizinio reduktvizmo ir antireduktvizmo polemika ir jos metodologinės išdavos. Problemos 2012 priedas, ISSN 1392-1126 p. 22-36. Dagys, Jonas, Nekrašas, Evaldas, Analitinė kalbos ir mokslo filosofija Lietuvoje. Problemos / Vilniaus universitetas. 2010, t. 78. ISSN 1392-1126 p. 43-51. Dagys, Jonas, Putnamian anti-envattor ver. 3.00: new features - same results. Problemos / Vilniaus universitetas. 2010, t. 77. ISSN 1392-1126 p. 39-48.

Certified during Doctoral Committee session on 2019-10-22. Protocol No. 250000-KI-41

Committee Chairman prof. Marius Povilas Šaulauskas