

Course: The History of Sciences and Science Ethics		Credit 3
A tanóra típusa ¹ : ea. / szem. / gyak. / konz. és száma: előadás (10 óra nappali tagozat; 5 óra levelező tagozat)		
A számonkérés módja (koll. / gyj. / egyéb ²): koll.		
A tantárgy tantervi helye (hányadik félév): 2nd semester		
Előtanulmányi feltételek (ha vannak): ---		
Course description: The Philosophical Foundations, History, and Epistemology of "Western Science" ♣ Hellenism (7th–4th Century BCE) • Natural philosophies – Sophistry – Geocentric paradigm – Ontology • Epistemology – Metaphysical questions – Logic (Organon) – Concepts • Ethical rationalism – Syllogism ♣ Christian Middle Ages • Theology and Scholasticism – Aristotelian dogma system • Neoplatonist thought – Thomistic and Augustinian value systems ♣ Renaissance Worldview – New Cosmology (Copernic, Kepler) – Heliocentric paradigm • Anthropic principle – Natural philosophy and Empiricism • View of society (N. Machiavelli, T. More, H. Grotius) – New philosophy – Transcendence of metaphysics • Pantheism and Deism (G. Bruno) – Empiricism (G. Galilei, Harvey, Vesalius) – Rationalism, the New Organon (F. Bacon) ♣ Early Modern Period • Humanism – Reformation – Rationalist social theories (Hobbes, Locke, Montesquieu, Voltaire) – Secularization • Critical epistemologies (17th–18th Century) "Sapere Aude!" – Substances and dual reality – Idealism (Descartes, B. Spinoza, I. Kant) • Newtonian worldview: Naturalism – Materialism – Determinism (Rousseau) • Encyclopedism and the emergence of specialized sciences (Multidisciplinarity) • Natural law, ideologies, and political idealism (E. Burke, A. Tocqueville, Marx) – Philosophies of the state, legal theory, human rights • Theories of progress and development (Hegel, Spencer, Darwin) ♣ Modernist Worldview – Crisis Philosophies (F. Nietzsche, Heidegger)		

¹ Ftv. 147. § *tanóra*: a tantervben meghatározott tanulmányi követelmények teljesítéséhez oktató személyes közreműködését igénylő foglalkozás (előadás, szeminárium, gyakorlat, konzultáció)

² pl. évközi beszámoló

- Impact of physical discoveries – "Finite-Infinite" paradoxes, uncertainty principle: Quantum physics, relativity, atomic physics, astrophysics, thermodynamics (J. Maxwell, M. Planck, A. Einstein, Heisenberg)
- System theory (Poincaré), Emergency concept, Chaos theories, Cybernetics (A. Turing), Genetics, Neuroscience
- Research theories (K. Popper, K. Gödel, Vienna Circle, Th. S. Kuhn) – Axioms, paradigms, positivism, theories of truth
- Technological evolution, Dataism, Network science

♣ Contemporary Challenges: Interdisciplinarity – Philosophy of Science – Religion and Science

♣ Ethical norms in science (Hungarian Academy of Sciences, National University of Public Service)

Competence: She/He

- can interpret the relationships between the development of philosophy, theology, and science in a historical context.
- understands the doctrines and theories of the philosophy of science, as well as the development of scientific logic.
- comprehends the emergence of scientific taxonomy and the evolution of interactions between different scientific fields and disciplines.
- understands the dynamics of social, intellectual, economic, and political forces that influence scientific development.
- can interpret the basic concepts and norms of scientific ethics.

A 3-5 legfontosabb kötelező, illetve ajánlott **irodalom** (jegyzet, tankönyv) felsorolása bibliográfiai adatokkal (szerző, cím, kiadás adatai, oldalak, ISBN)

Introduction to History and Philosophy of Science (Hakob Barseghyan, Nicholas Overgaard, and Gregory Rupik) Open Library E-Campus Ontario, Canada
file:///D:/Munka/Downloads/Introduction-to-History-and-Philosophy-of-Science-1559572706_print%20(1)-1.pdf

Frascati Manual 2015

<https://www.oecd.org/innovation/frascati-manual-2015-9789264239012-en.htm>

Thomas S. Kuhn: *The Structure of Scientific Revolutions*, University of Chicago Press, Chicago, 1970. I.-VII. chapters

Karl Popper: *The Logic of Scientific Discovery* (1935)

<http://philotextes.info/spip/IMG/pdf/popper-logic-scientific-discovery.pdf>

Code of Ethics of Ludovika University

<https://en.uni-nke.hu/about-ludovika-ups/ethics-committee>

The Science Ethics Code of Hungarian Academy of Sciences

<https://mta.hu/english/statutes-105952>

Tantárgy felelőse (<i>név, beosztás, tud. fokozat</i>): Norbert Kis, professor PhD
Tantárgy oktatásába bevont oktató(k) , ha vannak (<i>név, beosztás, tud. fokozat</i>)