

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ ЕКОНОМІЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ СЕМЕНА КУЗНЕЦЯ

ЗАТВЕРДЖЕНО

на засіданні кафедри
міжнародних відносин, політичних наук і
практичної філософії
Протокол № 13 від 24.06.2024 р.

ПОГОДЖЕНО

Проректор з навчально-методичної роботи



Карина НЕМАШКАЛО

ФІЛОСОФІЯ НАУКИ
робоча програма навчальної дисципліни (РПНД)

Галузь знань	07 Управління та адміністрування
Спеціальність	073 Менеджмент
Освітній рівень	Третій (освітньо-науковий) рівень
Освітня програма	Менеджмент

Статус дисципліни	обов'язкова
Мова викладання, навчання та оцінювання	англійська

Розробники:
д.філос.н., проф.

Олег КУЗЬ

к.філос.н., доцент

Ігор БІЛЕЦЬКИЙ

Завідувач кафедри
міжнародних відносин,
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Олег КУЗЬ

Гарант програми

Василь ОТЕНКО

Харків
2024

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF
ECONOMICS**

APPROVED

at the meeting of the department of
international relations, political sciences
and practical philosophy
Protocol № 13 of 24.06.2024

AGREED

Vice-rector for educational and methodical
work



Karina NEMASHKALO

**PHILOSOPHY of SCIENCE
Program of the course**

Field of knowledge
Speciality

**07 Management and administration
073 Management**

Study cycle
Study programme

the third (educational and scientific)
Management

Course status

mandatory

Language

English

Developers:

Doctor in Philosophy
Professor

Oleh KUZ

PhD (Philosophy), Associate
Professor

Igor BILETSKY

Head of the department of
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practical philosophy

Oleh KUZ

Head of Study Programme

Vasyl OTENKO

**Kharkiv
2024**

INTRODUCTION

Philosophy of science is an integrative system of knowledge that considers science as a holistic phenomenon, internal and external aspects of the development of science, introduces the basics of general scientific and social-humanitarian methodology, scientific rationality, worldview and terminology, teaches the basics of analysis of scientific theories and methods, as well as basic socio-humanitarian aspects of the influence of science and scientific technologies on the evolution of man, society and culture. The philosophy of science as an educational discipline is aimed at forming the consciousness and competences of the future professional scientist in terms of the ability to solve complex problems of the economy on the basis of a systematic scientific worldview and a general cultural outlook in compliance with the principles of professional ethics and academic integrity; to determine new trends and trends in the development of socio-economic phenomena and processes, to identify cause-and-effect relationships with the use of creative technologies in the implementation of scientific research; to propose new solutions, develop and scientific projects that make it possible to rethink existing and create new integral knowledge and/or professional practice and solve significant and fundamental and applied problems of economic science, taking into account social, economic, environmental and legal aspects; to ensure the commercialization of the results of scientific research and the observance of intellectual property rights.

The subject of the course is scientific knowledge.

The subject matter of study of the course is the general logical and methodological regularities of the development of science and its social functions in modern civilization.

The purpose of teaching the course "Philosophy of Science" is the formation in the holders of the educational and scientific degree of Doctor of Philosophy of a modern scientific worldview, the mastery of the plural methodology of research programs and the awareness of systemic and methodological (cultural, political, socio-economic, cognitive-cognitive, etc.) problems that directly or indirectly related to the progress of science and technology and the development of man-made civilization as a whole.

The program of the course "Philosophy of Science" is compiled in accordance with the educational and scientific program for the preparation of doctors of philosophy in the specialty 073 Management.

The learning outcomes and competence formed by the course are defined in the table. 1.

Table 1

Learning outcomes and competences formed by the study course

Competencies	Learning outcomes
GC 01	LO 05
GC 02	

GC 01. The ability to identify, pose and solve problems; formulate and experimentally test scientific hypotheses, apply acquired knowledge in practice; continuous self-development and self-improvement in professional and/or scientific-pedagogical activities.

GC 02. The ability to search, process and analyze information from various sources, to abstract thinking, philosophical interpretation, substantiation and economic proof of the obtained results and understanding of the essence of the studied socio-economic phenomena, substantiation, formulation and modeling of problems.

LO 05. Deeply understand the general principles and methods of management sciences, as well as the methodology of scientific research, apply them in one's own research in the field of management and in teaching practice; to know the content and functions of science as a social institution, the general laws of the development of science, the structure and levels of scientific knowledge; consciously formulate the problems and tasks of specific scientific research in the professional field; to have methodological techniques for proposing scientific hypotheses, their verification and building a scientific theory.

COURSE CONTENT

Content module 1. Science as a cultural phenomenon

Topic 1. Science as a cultural and civilizational phenomenon

What is science: definition and essence. History of science. The emergence of prerequisites for scientific knowledge in the ancient world. The origin and development of classical science. Non-classical science. Post-classical science. Science and practice. Science and society.

Diversity of forms of knowledge. Scientific and non-scientific knowledge. Peculiarities of science compared to other forms of cognitive activity. Scientific knowledge as a system, its features and structure. Classification of sciences and the problem of periodization of the history of science. Heredity, unity of quantitative and qualitative changes in the development of science. Differentiation and integration of sciences, interaction of sciences and their methods. Strengthening the mathematization, theorization and dialectization of science. Dynamics of scientific knowledge. Natural, humanitarian, formal, technical sciences.

Science as a sociocultural phenomenon. Science, man, everyday life. Science as a response to human needs. Ethics of science. Philosophical portrait of a scientist. Professional and social responsibility of a scientist.

Topic 2. Genesis and evolution of science

Philosophy of science. The relationship between philosophy and science. Formation of science as a professional activity. Emergence of disciplinary and organized science. The subject area of the philosophy of science. Emergence of the philosophy of science as a direction of modern philosophy. Stages of development of the philosophy of science. The emergence and development of the philosophy of science in the 19th century. Positivism. Empiriocriticism. Neopositivism and the methodology of science. Post-positivist theories of science. Peculiarities of the philosophy of science of the late 20th - early 21st centuries.

Methodology of humanitarian sciences.

Topic 3. Science as a social institution. Sociology and culturology of science

Different approaches to defining the social institution of science. Historical development of methods of transmission of scientific knowledge (from handwritten editions to the modern computer). Historical development of institutional forms of scientific activity. Scientific communities and their historical types: the republic of scientists (XVII–XVIII centuries), scientific communities of the era of disciplinary organized science (XIX–XX centuries); formation of interdisciplinary societies of science of the 20th century. Scientific schools. Training of scientific personnel.

Computerization of science and its social consequences. Science and economy. Science and power. The problem of secrecy and secrecy of scientific research and state regulation of science. Politicized science. Theory of information civilization.

Topic 4. Sociocultural determination of scientific and technological knowledge

Natural, humanitarian, socio-economic theories. The problem of truth and rationality in the social and humanitarian sciences. The text as a special reality and "unit" of methodological and semantic analysis of socio-humanitarian knowledge. Hermeneutics and the circle of hermeneutics. Social verification of scientific knowledge in socio-humanitarian, technological and natural sciences. Explanation, understanding, interpretation in social sciences and humanities. Explanation and understanding in sociology, historical, economic and legal sciences, psychology, philology, cultural studies.

Philosophical methodology and its application in the field of social and humanitarian knowledge.

Information technologies and information culture. The concept of transhumanism and the evolutionary future of man.

Content module 2. Logical-methodological structure of science

Topic 5. Logic and methodology of science

Scientific theory and its components. Scientific concept and terms. Laws and principles.

Method and methodology. Classification of methods. Basic models of the relationship between philosophy and special sciences. Functions of philosophy in scientific knowledge. General scientific methods and methods of research. Normative nature of methodological principles of science. General scientific methodological principles as requirements for scientific theory. The requirement of verifiability or the principle of observation. The requirement of maximum generalization of the theory or its explanatory power. The requirement of the predictive power of the theory. The requirement of fundamental simplicity of the theory. Understanding and explanation.

The main methodological programs of our time: inductivism, falsificationism, conventionalism, historicism. Criticism and rationality in the concept of K. Popper.

Relativity of norms of cognitive activity (M. Polanyi). Evolutionary epistemology and evolutionary program Art. Toulmina. Historical-evolutionary direction (T. Kuhn). Logical-normative model of knowledge growth in the research program of I. Lakatos. Pluralism in epistemology by P. Feyerabend. Thematic analysis of science (J. Holton).

Styles of scientific thinking and methodological problems of specific sciences. The style of scientific thinking as a concrete-historical way of existence of the ideals and norms of scientific research, which corresponds to the scientific picture of the world of its time. Methodological principles as a component of the style of scientific thinking, the historical character of methodological principles of specific sciences, their heuristic role.

Topic 6. Epistemology. Specifics of socio-economic cognition

Classical and non-classical rationality: mind and culture. The diversity of forms of rationality. Rationality as a way of a person's attitude to the world. The structure and typology of rationality. Determinants of the development of scientific rationality. Historical types of scientific rationality. Global scientific revolutions and the change of historical types of scientific rationality.

The classical ideal of rationality and its embodiment in the historical type of rationality of classical science. Revealing the limitations of the classical ideal of rationality during the scientific revolution of the beginning of the 20th century. Non-classical and post-classical scientific rationality. Classical theory of truth. Coherent, conventional and fideistic theories. Pragmatic theory of truth.

Scientific knowledge as a complex, developing system. Variety of types of scientific knowledge. Empirical and theoretical levels, criteria for their distinction. Peculiarities of the empirical and theoretical language of science. The structure of empirical knowledge. Experiment and observation. Empirical facts. Fact formation procedures. The problem of the theoretical load of the fact.

The structure of theoretical knowledge. Theoretical models as an element of the internal organization of the theory. Limitation of the hypothetical-deductive concept of theoretical knowledge. The role of constructive methods in the deductive development of the theory. Paradigm. Mathematization of theoretical knowledge. Research ideals and norms and their sociocultural dimension.

The scientific picture of the world, its functions: the picture of the world as an ontology, as a form of systematization of knowledge, as a research program. The role of philosophical ideas and principles in the justification of scientific knowledge. Integral theory of K. Wilber. Phenomenological theories of truth.

Rationality in cognitive and social systems. Sociocultural and existential prerequisites of the crisis of scientific rationality. Science as a form of domination and a factor of alienation. The problem of establishing a connection between science and the human life world.

Scientific rationality and technology. Mechanization and the world of life. The rationalist project of modernism and its criticism. Modern philosophy of science on the way to a new understanding of scientific rationality.

Topic 7. Ontology of science

The dualistic content of the category "ontology of science". Subject-object dichotomy through the prism of M. McLuhan's theory. Causality, determinism, synergy. Synergetics in natural and social sciences.

Matter, energy and information as fundamental categories of science. General characteristics of the evolution of the concepts of determinism. Philosophical foundations of the study of self-organizing systems. The role of nonlinear dynamics and synergy in the development of modern ideas about historically developing systems. Global evolutionism as a synthesis of evolutionary and systemic approaches. Multiple universe theory.

Nature of values and their classification. Value concepts of I. Kant, V. Dilthey, H. Rickert. The principles of K. Popper's "logic of social sciences". Value judgments in science and the need for "value neutrality" in social research. Non-scientific criteria of validity and provenance of scientific knowledge: principles of beauty and simplicity in socio-humanistic knowledge.

Topic 8. Evolutionary epistemology (dynamics and patterns of growth of scientific knowledge)

The main characteristics of modern post-non-classical science. Modern processes of differentiation and integration of sciences. Connection of disciplinary and problem-oriented research. The problem of science and technology as a source of existential risk. Post-classical science and worldview guidelines of man-made civilization. Connection of disciplinary and interdisciplinary research. Involvement of social values in the process of selecting research strategies. The problem of humanitarian control in science and high technologies. The crisis of the ideal of value-neutral research and the problem of ideologized (politicized) science. Changing worldview guidelines of man-made civilization. Scientism and anti-scientism. Science and parascience. Scientific rationality and the problem of cultural dialogue. The role of science in overcoming modern global crises.

The role of social and humanitarian sciences in social transformations. Social and humanities as a cultural phenomenon. Convergence of scientific and natural and social and humanitarian knowledge. Social and humanitarian sciences and power. Social and humanitarian sciences and morality. Social responsibility of the scientist. Participation of social and humanitarian sciences in the examinations of social projects and programs. Prospects of their development in modern society.

Types of economy: gift economy and benefit economy. Paradigms of economic theory and philosophy of money. The concept of "homo economicus" and its alternatives - the economy of competition and the economy of cooperation. The phenomenon of potlach in archaic and modern societies.

The list of practical (seminar) studies in the course is given in table 2.

Table 2

List of practical (seminar) studies

Topics	Content
Topic 1.	Discussion at a practical session on the question "What is science?"
Topic 2.	Mini-lecture: Karl Marx and Max Weber vis-à-vis
Topic 3.	Mini-lecture "Social stratification in the academic community"

Topic 4.	"How do the value foundations of science correlate with the requirement of its objectivity?": work in small groups
Topic 5.	Discussion at a practical session on the question "Quid est veritas?"
Topic 6.	Mini-lecture on the question "Why there are no "pure" facts and what to do with the irresistibility of metaphysics?"
Topic 7.	Debate at the practical lesson: "Myth has done much more than science - it has created culture"
Topic 8.	Work in small groups to prove or disprove the thesis "Ars longa, vita brevis"

The list of self-studies in the course is given in table 3.

Table 3

List of self-studies

Topics	Content
Topics 1 - 8	Studying lecture material
Topics 1 - 8	Preparation for practical (seminar) classes
Topics 1 - 8	Execution of individual tasks
Topics 4; 6	Preparing for debates
Topic 6	Writing an essay on "Quid est veritas?" and/or "Why are there no "pure" facts and what to do with the irresistibility of metaphysics?"
Topics 1 - 8	Preparing for the control test

The number of hours of lectures, practical (seminar) studies and hours of self-study is given in the technological card of the course.

TEACHING METHODS

When teaching the discipline "Philosophy of Science", traditional methods of information-receptive and reproductive orientation are used, as well as modern methods of activating the educational and cognitive activities of applicants for the educational and scientific degree of Doctor of Philosophy, which involve the use of such educational technologies as: problem lectures, mini-lectures, discussions, debates, work in small groups.

Verbal (lecture (Topic 1-8), problematic lecture (Topic 7–8), mini-lecture (Topic 2, 4)).

In person (demonstration (Topic 1-8)).

Practical (practical work (Topic 1 – 8), essay (Topic 4), seminar-discussion (Topic 1, 3, 6, 7, 8)).

FORMS AND METHODS OF ASSESSMENT

The University uses a 100-point cumulative system for assessing the learning outcomes of students.

Current control is carried out during lectures, practical and seminar classes and is aimed at checking the level of readiness of the student to perform a specific job and is evaluated by the amount of points scored:

– for courses with a form of semester control as grading: maximum amount is 100 points; minimum amount required is 60 points.

The final control includes current control and assessment of the student.

Semester control is carried out in the form of a semester exam or grading.

The final grade in the course is determined:

– for disciplines with a form of grading, the final grade is the amount of all points received during the current control.

During the teaching of the course "Philosophy of Science" (form of semester control – *grading*), the following control measures are used:

– *express survey* on the content of the topics covered – 4 times per semester in seminars, orally. The maximum mark is 5 points (5-point grading system, 20 points per semester), which can be obtained if the answer is reasoned, shows depth and originality of thinking; contains the assimilated theoretical material in full;

– *a scientific report* (analytical report) on a given topic – 2 times per semester in seminars, orally. The maximum mark for a report is 10 points (10-point grading system, 20 points per semester), which can be obtained if the report has a logical structure, conclusions are well-reasoned, and theoretical material is presented fluently with an understanding of the main concepts;

– *essay* checks on a given topic – once per semester, the defence is conducted in seminars in a mixed form (imitation of a public speech plus its text). The maximum mark is 24 points (12-point grading system with a coefficient of $\times 2$; 24 points per semester);

– *oral debates* – 2 times per semester, orally, on the proposed topics in seminar classes. The maximum grade for participation in the debate is 12 points (12-point grading system, 24 points per semester);

– *written test* – once per semester, during the final seminar. The maximum mark is 12 points.

The assessment systems used are described below.

More detailed information on the assessment system is provided in technological card of the course.

5-point grading system

Degree of execution	points
The answer is reasoned, reveals the depth and originality of thinking. Contains learned theoretical / practical material in full	5
The answer is generally well-argued, reproduces independent thinking, but lacks systematization. Minor mistakes were made when working with theoretical / practical material	4
The answer reveals the student's awareness of the problem of the question, but there is a lack of reasoned conclusions, certain mistakes were made when defining categories, semantic connections, etc.	3
There is only a partial coverage of the content of the question; certain difficulties were found when operating theoretical / practical material	2
The answer reveals only a general familiarization of the student with the problem of the question; independent thinking and conclusions are absent	1

10-point grading system

Degree of execution	points
The answer is reasoned, reveals the depth and originality of thinking. Contains learned theoretical / practical material in full	10
The answer is reasoned, reveals the depth and originality of thinking. Minor mistakes were made when working with theoretical / practical material	9
The answer is generally well-argued, reproduces independent thinking, but lacks systematization. Minor mistakes were made when working with theoretical / practical material	8
The answer is generally correct, but there is a lack of reasoned conclusions, certain mistakes were made when defining categories, semantic connections, etc.	7
The answer reveals the student's awareness of the problem of the question, but there is a lack of reasoned conclusions, certain mistakes were made when defining categories, semantic connections, etc.	6
The answer reveals the student's awareness of the problem of the question, but there is a lack of reasoned conclusions; certain difficulties were found when operating theoretical / practical material	5
There is only a partial coverage of the content of the question; certain difficulties were found when operating theoretical / practical material	4
When answering questions, significant mistakes were made that affect the content; independence of thinking is revealed only partially	3
The answer reveals only a general familiarization of the student with the problem of the question; independent thinking and conclusions are absent	2
The answer actually does not intersect with the content of the question	1

12-point grading system

Degree of execution	points
The answer is reasoned, reveals the depth and originality of thinking. Contains learned theoretical / practical material in full	12
The answer is reasoned, shows depth and originality of thinking. There are minor errors in the use of theoretical/practical material	11
The answer is generally well-reasoned, reflects independent thinking, but lacks systematisation. Minor errors are made in the use of theoretical/practical material	10
The answer is generally correct, but there is a lack of reasoned conclusions, certain mistakes were made when defining categories, semantic connections, etc.	9
The answer reveals the student's awareness of the problem of the question, but there is a lack of reasoned conclusions, certain mistakes were made when defining categories, semantic connections, etc.	8
When answering questions, significant mistakes were made that affect the content; independence of thinking is revealed only partially	7
The answer reveals only a general familiarization of the student with the problem of the question; independent thinking and conclusions are absent	6
The answer reveals the student's practical lack of independent thinking; the ability to make generalizations and theoretical / practical conclusions is absent; knowledge application skills are absent	5
The answer does not reveal independent thinking; the ability to make generalizations and theoretical / practical conclusions is absent; stereotyped knowledge is not reproduced	4

The answer reveals the student's practical lack of independent thinking; the ability to make generalisations and theoretical / practical conclusions is absent	3
The answer does not show independent thinking; the ability to make generalisations and theoretical/practical conclusions is absent; stereotypical knowledge is not reproduced	2
The answer actually does not intersect with the content of the question	1

RECOMMENDED LITERATURE

Main

1. Кузь О. М., Чешко В. Ф. Філософія науки: навчальний посібник [Електронне видання]. Харків: ХНЕУ ім. С. Кузнеця, 2017. 172 с. Режим доступу: <http://www.repository.hneu.edu.ua/jspui/handle/123456789/17865>

2. Philosophy of Science [Electronic resource]: textbook / O. Kuz, V. Cheshko, I. Biletsky, P. Otenko; Simon Kuznets Kharkiv national university of economics. Kharkiv: S. Kuznets KhNUE, 2024. 162 p. Режим доступу: <http://repository.hneu.edu.ua/handle/123456789/33109>

Additional

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Informational resources

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