

PHILOSOPHICAL PRINCIPLES OF SCIENTIFIC ACTIVITY:

1. SCIENTIFIC WORLDVIEW AND ETHICAL CULTURE OF THE SCIENTIST

2. PHILOSOPHICAL GNOSEOLOGY AND EPISTEMOLOGY

Syllabus

Requisites of the discipline

Level of high education	<i>PhD</i>
Field of knowledge	<i>18</i>
Specialty	<i>184</i>
Educational program	<i>PhD Geoengineering</i>
Status of the discipline	<i>Mandatory</i>
Learning form	<i>Full-time (day-time)/ Full-time (part-time) /Distance/Mixed</i>
Semester	<i>1st course, autumn, spring</i>
Course scope	Освітній компонент 1: 2 кредити ЕКТС / 60 hours (13 lectures, 13 seminars) Освітній компонент 2: 4 кредити ЕКТС / 120 hours (18 lectures, 36 seminars)
Semester control / control measures	<i>autumn: Test, supervised task, current education control</i> <i>spring: Exam, abstract</i>
Schedule	https://aspirantura.kpi.ua/?p=3443
Language	<i>English</i>
Information about course supervisor and lecturers	<i>Lecturer: Doctor of philosophical sciences, docent Ilya Devterov</i> <i>Seminars: Ph.D., Lecturer Mstyslav Kazakov</i> https://fsp.kpi.ua/ua/department/philosophy/
Course placement	<i>Google Classroom</i>

Curriculum of the discipline

1. Description of the discipline, its purpose, subject of study and learning outcomes

The subject of the discipline is fundamental philosophical knowledge about the worldview and ethical principles of research and teaching activities that determine the figure of the scientist, his worldviews and ethical culture in the development of Ukraine's innovation system in the context of international cooperation; fundamental philosophical knowledge of basic concepts that reveal the essence and features of knowledge production in science, characteristic of the modern stage of its development, modern cognitive processes, reveal the development of methodology as a component of modern science, provide basic philosophical knowledge about the nature of scientific and scientific-technical creativity, reveal the role of science as the core of the national innovation system and reveal the impact of science on rationality in society and the development of modern social strategies.

The purpose of the discipline the formation higher competencies:

- ability to critically analyze, evaluate and synthesize new and complex ideas;
- ability to abstract thinking, analysis, synthesis and evaluation of modern scientific achievements, generating new knowledge in solving research and practical problems;
- ability to adhere to the moral and ethical rules of conduct, research ethics, characteristic of the participants of the academic environment, as well as the rules of academic
- integrity in scientific research.

As a result of studying the discipline, higher education students acquire the following general program results:

- ability to apply knowledge of the basics of analysis and synthesis in various subject areas, critical thinking and

solving research problems; understand the philosophical concepts of the scientific worldview, the role of science, explain its impact on social processes; ability to formulate and test hypotheses;
- use appropriate evidence to substantiate the conclusions, in particular, the results of theoretical analysis, experimental research and mathematical and / or computer modeling, available literature data; know the methodology of scientific research in the subject area and modern methods of planning and setting up experiments; follow the rules of academic integrity; know and follow the basic principles of academic integrity in scientific and educational (pedagogical) activities.

2. Prerequisites and post-requisites of the discipline (place in the structural and logical scheme of education according to the relevant educational program)

The discipline "Philosophical principles of scientific activity" is the basis for training doctors of philosophy, so it provides educational and scientific training of the second (bachelor's) and third (master's) level of students of higher education and summarizing it. The discipline has an interdisciplinary nature and integrates according to its subject special knowledge from other educational and scientific fields. It is preceded by general education disciplines from the block of philosophical, historical, psychological, pedagogical and legal disciplines.

Postrequisites is the discipline "Organization of scientific and innovative activities", Pedagogical practice of graduate students.

3. The content of the discipline

SCIENTIFIC WORLDVIEW AND ETHICAL CULTURE OF THE SCIENTIST

Section 1. Philosophical principles of scientific activity: scientific worldview and ethical culture of the scientist.

Topic 1. The genesis of science and the philosophical justification of the scientific worldview.

Topic 2. Science as a holistic phenomenon and general scientific philosophical concept of scientific worldview.

Topic 3. Worldview principles of scientific and innovative activity and solution of significant scientific and technological problems taking into account economic, political, socio-cultural, ecological and legal aspects.

Topic 4. Philosophical understanding of the development of science, its ideological role and impact on modern social processes.

Topic 5. Ethics - the philosophical science of morality in relation to scientific and professional ethics.

Topic 6. Norms and principles of scientific ethics, legislation in the field of responsibility for professional decisions in the legal, social and environmental context.

Topic 7. Ethical culture of the scientist and adherence to the principles of academic integrity in research and innovation.

PHILOSOPHICAL GNOSEOLOGY AND EPISTEMOLOGY

Chapter 1. PHILOSOPHICAL GNOSEOLOGY AND EPISTEMOLOGY: MAIN COMPONENTS AND STAGES OF DEVELOPMENT

Topic 1. Basic theories, ideas and directions of classical gnoseology

Topic 2. From classical gnoseology - to modern philosophical gnoseology and epistemology

Topic 3. Communicative turn in modern gnoseology and epistemology

Topic 4. Linguistic turn in the study of cognitive processes

Topic 5. Sociological turn in the study of cognitive processes

Topic 6. Information component of modern philosophical gnoseology and epistemology

Chapter 2. FEATURES OF COGNITIVE ACTIVITY IN MODERN SCIENCE

Topic 7. Modern transformations of the image of cognition

Topic 8. The problem of ontology and metaphysics in modern science

Topic 9. Epistemological dimension of modern science

Topic 10. Veretistic foundations of cognitive activity. The problem of truth in science

Topic 11. Epistemological activity of a scientist in the field of knowledge

Topic 12. Methodological activity of the scientist

Topic 13. Scientific text

Topic 14. The specifics of technical and technological knowledge. Scientific and scientific and technical creativity

Topic 15. Cognitive features of scientific and scientific and technical creativity

Topic 16. Knowledge and information

Topic 17. Information component of scientific research.

Topic 18. Cognitive-communicative component of project activities.

Chapter 3. PHILOSOPHICAL-ANTHROPOLOGICAL AND COGNITIVE FUNDAMENTALS OF COGNITIVE ACTIVITY

- Topic 19. *Perceptual information*
- Topic 20. *Sensory cognition*
- Topic 21. *Basic approaches to the formation of perception*
- Topic 22. *Cognitive perception and its features*
- Topic 23. *Dialectics of the sensory and rational*
- Topic 24. *Cognitive science and philosophy of cognitive activity*
- Topic 25. *Features of human information processing*
- Topic 26. *Cognitive abilities*
- Topic 27. *Philosophical principles of the study of thinking*
- Topic 28. *Subjective component of thinking*
- Topic 29. *Cognitive aspects of thinking*
- Topic 30. *Thinking and information*
- Topic 31. *Scientific thinking*
- Topic 32. *Technical thinking and its features*
- Topic 33. *Visual thinking*
- Topic 34. *Analytical thinking*
- Topic 35. *Intuition and its features*

4. Learning materials and resources

Basic literature, which should be used to master the discipline, is developed independently to prepare for practical classes and in the context of distance learning. It is suggested to use additional literature and

Internet resources to perform modular tests, prepare reports, presentations, write essays based on the results of independent work.

1. Dennet D.C. *Consciousness Explained*. Boston; Little, Brown, 1991. P. 450.
2. *Epistemology with a Knowing Subject*. January 1979. Review of *Metaphysics* 33(2):309-335. [Electronic resource]. – Access mode : https://www.researchgate.net/publication/291744327_Epistemology_with_a_Knowing_Subject_1979
3. Feyerabend Paul. *Physics and Philosophy (Philosophical Papers, Volume 4)*, S. Gattei & J. Agassi (eds.), Cambridge: Cambridge University Press, 2016.
4. Feyerabend Paul. *Philosophy of Nature*, New Jersey: Wiley-Blackwell, 2016.
5. Foucault Michel. *Archaeology of Knowledge*. By. Published May 9, 2002 by Routledge 256 Pages.
6. Kuhn T. *The Structure of Scientific Revolutions*: University of Chicago Press, 2012. - 264 p. [Electronic resource]. – Access mode : <https://www.amazon.com/Structure-Scientific-Revolutions-50th-Anniversary/dp/0226458121>
7. Pitt D., "Mental Representation", *The Stanford Encyclopedia of Philosophy (Spring 2007 Edition)*, Edward N. Zalta (ed.), [Electronic resource]. – Access mode : <http://plato.stanford.edu/archives/spr2007/entries/mental-representation/>
8. Popper, Karl R. , *Evolutionary Epistemology // in Evolutionary Theory: Paths into the Future*, (ed.) J. W. Pollard, London: John Wiley & Sons Ltd. 1984.
9. Sellars W. *The Metaphysics of Epistemology*. Ed. Pedro Amaral, 2016. - 635 p.
10. Sellars W. *Science and Metaphysics. Variation on Kantian Themes/ Kindle Edition*, 2014. - 239 p.
11. Sellars W. *Naturalism and Ontology*. Kindle Edition, 2013. - 182 p.
12. Sellars W. *Science, Perception, and Reality*. Kindle Edition, 2012. - 366 p.
13. *Stanford Encyclopedia of Philosophy*.

Educational content

5. Methods of mastering the discipline (educational component)

SCIENTIFIC WORLDVIEW AND ETHICAL CULTURE OF THE SCIENTIST

Lecture 1. Genesis of science and philosophical substantiation of scientific worldview

Planned: The concept of worldview, different methods of definition and typification criteria. Historical forms of worldview. Philosophical principles of formation of scientific worldview in the genesis of sciences.

Theme of independent work of students: Differentiation and classification of sciences in the development of knowledge: the reasons for the diversity of sciences and the historical stages of the emergence of individual sciences

Seminar`s themes 1. Worldview principles of the genesis of science. Origin and formation theoretical knowledge of pre-scientific consciousness.

Lecture 2. Science as a holistic phenomenon and general scientific philosophical concept of scientific worldview

Planned: The concept of science and the variety of forms of its existence (as a system of knowledge, type of activity, social system of institutions, forms of culture, etc.). Criteria of scientificity: pseudoscience and antiscience, protoscience and science. The problem of unity of sciences. Integrative processes in science and the separation of the scientific worldview in the nineteenth century, differences in its understanding, controversy over its definition.

Topic of independent work of students: Science as a productive force of society and socio-cultural phenomenon.

Seminar`s themes 2. Science as a holistic phenomenon and forms of science`s existence in society.

Lecture 3. Worldview principles of scientific and innovative activity and solution of significant scientific and technological problems taking into account economic, political, socio-cultural, ecological and legal aspects

Planned: Disciplinary and branch organization of science, specialization of scientists and professionalization of scientific activity. Philosophy in the system of sciences. Scientific worldview and the Manifesto of the Vienna Circle. Problems of application of scientific knowledge in various subject areas and engineering activity, critical comprehension of ways of solving research and innovation problems.

Topic of independent work of students: Expanding the boundaries and rethinking the existing theoretical knowledge, scientific achievements and professional practices in the XX-XI centuries.

Seminar`s themes 3. Philosophy and science. Scientific worldview: features and approaches to definition

Lecture 4. Philosophical understanding of the development of science, its ideological role and influence on modern social processes

Planned: Driving forces of science development. Internal and external factors of scientific progress. Succession and change, evolution and revolution, traditions and innovations in the development of science. Scientific revolutions in the history of knowledge. Models of science dynamics in postpositivism. The role of the scientific worldview in solving significant socio-economic, cultural-historical, ethical, environmental, innovative and other problems of our time.

The topic of independent work of students: Worldview and philosophical principles of forecasting both general trends in scientific and technological development and in the professional field.

Seminar`s themes 4. Philosophical understanding of the laws of science and its role in society.

Lecture 5. Ethics - the philosophical science of morality in relation to scientific and professional ethics

Planned: Practical philosophy of morality as a social phenomenon. Genesis, structure and functions of morality. History of the relationship between science and ethics. Causes of moral and ethical problems in science: history and modernity. The content of the concepts "scientific ethics" and "professional ethics".

The topic of independent work of students: Codes of scientific ethics: basic principles and provisions, the imperative of compliance.

Seminar`s themes 5. Ethics as the philosophical science of morality. Ethics and science.

Lecture 6. Norms and principles of scientific ethics, legislation in the field of responsibility for professional decisions in the legal, social and environmental context

Planned: Status and rank of scientist. Basic rights and responsibilities of researchers. Moral and ethical problems in modern research and innovation. The culture of scientific creativity in the context of innovative economics: the transition from Homo economicus and Homo ecologicus to Homo ethicus.

The topic of independent work of students: Ethical norms and criteria for choosing methods and tools, application of innovative approaches to solve modern complex problems in research and / or innovation.

Seminar`s themes 6 Scientific ethics and ethical culture of the scientist.

Lecture 7. Ethical culture of the scientist and adherence to the principles of academic integrity in research and innovation

Planned: Professional ethics and responsibility of a scientist. Academic culture and integrity. Academic Integrity Promotion Project in Ukraine. Norms of communication in the scientific community. Scientist development and leadership.

The topic of independent work of students: Ethical principles of effective interaction in the professional environment, the scientific community and society as a whole and / or the effective work of the scientist individually and as a team member in an international context.

Семінарське заняття 7. Ethics of science in the system of professional ethics and communication.

PHILOSOPHICAL GNOSEOLOGY AND EPISTEMOLOGY

Lectures

Lecture 1. Modern philosophical gnoseology and epistemology. Features of cognitive processes.

1. Features of consideration of cognitive attitude in classical and non-classical philosophy. Basic directions and principles.
2. Communicative and linguistic turn in the development of epistemology.
3. Structural features of the cognitive relationship in modern theory of cognition.
4. Cognition and information processing. Classification of types of information.
5. Levels of information processing in the information society.

Lecture 2. Scientific knowledge and scientific thinking. Information component of scientific thinking.

1. Features of scientific knowledge and its levels. Modern forms of knowledge production in science.
2. Scientific thinking and its types.
3. Types of information in research and methods of its processing. The place and role of science information in the development of modern science.
4. Features and types of scientific and scientific-technical information and its significance for the development of science, research and society.

Lecture 3. Philosophical problems of cognition research. Epistemology and philosophy of science.

1. Ontology in philosophy and science. Scientific realism.
2. Metaphysics and antimetaphysics in the philosophy of science.
3. Phenomenological research of cognitive activity.
4. Hermeneutics in science. Cognition and understanding.

Lecture 4. The relationship of scientific thinking and knowledge to reality

1. Features of the relationship of scientific thinking and knowledge to reality in terms of classical, non-classical and post-non-classical rationality.
2. The role of language in relation to knowledge and thinking to reality. Linguistic turn in the modern science. Text, discourse, narrative and grand narrative.
3. Problems of reference.
4. Communicative turn in the theory of cognition.

Lecture 5. Sensory cognition and information processing

1. Ontological foundations of information processing in sensory cognition. Primary and secondary information. Discrete and iconic information.
2. Visual information. Visual processing of text information.
3. Perception and processing of information. Cognitive perception.

Lecture 6. Technical thinking and development of scientific and scientific-technical creativity

1. Development of technical thinking as creative thinking.
2. Cognitive features of scientific and scientific-technical creativity.
3. Development of cognitive abilities.
4. Features of cognitive activity of scientists in the field of knowledge.

Lecture 7. Cognitive philosophy as a methodology for studying cognitive processes. Specifics of human information processing

1. The main provisions of cognitive philosophy on the human dimension of cognitive processes.
2. The concept of cognitive information and basic approaches to the study of its specification and processing.
3. Cognitive information and system identification area.
4. The role of mental and social representations.
5. Cognitive schemes, mental stereotypes.

Lecture 8. Cognitive-communicative component of project activity

1. Project organization of scientific research and features of the collective subject in the conditions project activities.

2. Subjective component of thinking. Psychological, existential, phenomenological and modern cognitive approaches to thinking.
3. Communicative interactions in the knowledge environment. Cognitive communication. Correlation individual and group cognition.
4. Intellectual resources. Metacognitive mechanisms of control of intellectual activity. Stress management.

Lecture 9. Non-classical epistemology and epistemology. The role of the information component in cognitive attitude.

1. Targeted, praxeological and axiological approaches to information retrieval.
2. The role of the subject component in the extraction and processing of information.
3. Representativeism, constructivism, phenomenism.
4. The significance of the problem of understanding.
5. Transitive reflexive attitude. The ratio of purpose - values.
6. Cognitive information processing technologies.

Seminars

Topic 1. Theory of cognition: classics and modernity

Seminar: Theory of cognition: classical and non-classical. The principle of recognizability of the world. Skepticism. A priori. Transcendentalism. Evolution of the subject of the theory of cognition and epistemology. Communicative approach. Linguistic approach. Theory of cognition in the modern social interior. Production of knowledge and modern science. Human dimension of social processes and practices. The growing importance of human component and the development of opportunities for human cognition at the present stage of development of society.

Topic 2. Cognitive attitude, its structure and features

Seminar: Cognitive attitude and its structure. Cognitive attitude as a kind of subject-object interaction.

The structure of the cognitive attitude. Methodological significance of the epistemological approach. The concept of the subject. Single, collective and universal subject. The presence of the universal subject in the cognitive activity of individual and collective subjects. Object, types of objects. The ratio of the system (natural, social, technical) that under investigation, and the object. The relationship between the object and research methods. Means of cognition. Classical, non-classical and post-classical rationality about the role of means knowledge.

Topic 3. Scientific knowledge and scientific thinking

Seminar: The main features of scientific thinking. Objectivity, systematicity, logical provability, validity.

The importance of narrative, multimedia and intersubjectivity for development modern scientific thinking. Empirical and theoretical thinking. The structure of empirical thinking. The main forms of theoretical thinking. Relationship between empirical and theoretical thinking. Empiricism, rationalism, inductivism and counterinductivism. Scientific thinking and scientific knowledge. Cognitive structures of scientific thinking. Explicit and implicit thinking. The role of implicit thinking in the evolution of science. Declarative and procedural thinking. Objective and personal thinking. Ontologism. Axiology. Value component of scientific thinking. Relationship between values and social position of a scientist. Ukrainian values. Universal values.

Topic 4. Technical thinking and development of scientific and scientific-technical creativity

Seminar: Technical thinking as a type of scientific activity. The role of the scientific component, abstraction and idealization in technical thinking. The role of technical thinking in the formation of current, morphological and functional diagrams of the technical object. Technical thinking and scientific and technical creativity. Technical thinking: the meaning of inventions. Technical scheme, technical idea. Constructive technical thinking. Constructiveness and constructivism. Problem constructivism in modern philosophy. Radical and social constructivism. The role of social component in the constructiveness of technical thinking. The importance of social needs in development technical knowledge and technical creativity. Technical thinking and rationality. Instrumentalism. Search for new tools for transforming reality. Man, technique, technology. Functional approach. Technical systems and functions. Engineering approach to creating new features. Technical thinking and design. The value of social functionality in the development of modern design

Topic 5. The relationship of scientific thinking and knowledge to reality

Seminar: Epistemological relation and its characteristics. The concept of truth, types of truth and basic theories the truth. Image, copy, ideal, prototype. Ontologism and scientific realism in relation to the scientific thinking and knowledge of reality. The truth of the main forms of empirical and theoretical knowledge. The problem of truth in post-classical science. Nonclassical theory of knowledge about the relationship of knowledge to reality. The value of language in establishing attitudes toward reality.

Reference

Topic 6. Sensory cognition and information processing

Seminar: Ontological bases of sensory information processing. Primary and secondary information. Discrete and iconic information. Visual processing of text information. Perception and processing of information. Cognitive perception.

Topic 7. Subjective component of thinking

Seminar: Thinking as a process and a result. Productivity thinking. Subject, subjectivity, authorship. Psychological, existential, phenomenological and modern cognitive approaches to thinking. Metacognitive mechanisms of control of intellectual activity. Stress management.

Topic 8. Types of thinking

Seminar: Scientific thinking and its characteristics. Theoretical thinking. Analytical thinking. Declarative and procedural thinking. Figurative and visual thinking. Visual development culture.

Topic 9. Epistemological component of scientific thinking. Basic forms of knowledge

Seminar: Epistemological and epistemological components of thinking. The role of the epistemological component thinking in the knowledge of the object. Problem statement. Formulation of ideas. Development concept. Working with existing in science and creating new forms of empirical and theoretical knowledge.

Topic 10. Non-classical gnoseology and epistemology

Seminar: The main components of non-classical epistemology and epistemology. Ontology in philosophy and science. The problem of metaphysics in modern philosophy of science. Linguistic turn in science. Development of scientific discourse. Discourse, narrative and grand narrative. The text and its interpretation. Scientific text. Internal and external prerequisites for scientific knowledge.

Topic 11. Methodological component of scientific knowledge

Seminar: Methodological regulation of scientific knowledge. Levels of methodology. Philosophical methods and their general characteristic. General scientific methods. Methodological and methodological component of scientific research. Conceptual foundations of philosophical and general scientific methodology. Synergetic approach as a transdisciplinary paradigm of modern science. Complex and nonlinear thinking.

Topic 12. Cognitive philosophy and modern science

Seminar: Conceptual foundations of cognitive philosophy. Cognitivism and connectionism about thinking and knowledge. The doctrine of the naturalized mind. Computing, information, network, heterophenomenological and dynamic approaches to thinking. representativeism. Physical approach. Cognitive science. Cognitive word processing technologies.

Topic 13. Cognitive and communicative component of project activities

Seminar: Project organization of scientific research and features of the collective subject in the conditions project activities. Joint cognitive activity. The ratio of individual and group cognition. Communicative interactions in the knowledge environment. Cognitive communication. Formation teams: the role of the rational and sensory component and the problem of identity.

Topic 14. Human information processing

Seminar: The role of experience and mental representations in information processing. The concept of cognitive information. Cognitive information and area of identification. Cognitive abilities. Cognitive evolution. Cognitive and metacognitive mechanisms of control of intellectual activity.

Topic 15. Intellectual resources

Seminar: The problem of productivity of scientific research and features of the collective subject in the conditions project activities. Resource approach. Types of resources. Intellectual and cognitive resources. The subjective component of thinking. Psychological, existential, phenomenological and modern cognitive approaches to thinking. Communicative interactions in the knowledge environment. Cognitive communication. The ratio of individual and group cognition. Intellectual resources. Metacognitive mechanisms of control of intellectual activity.

Topic 16. Information and cognitive processes in the information society

Seminar: Types of information. Levels of information processing. Information activities in the information sphere. Information products in the information space. The role of information in the information society. Communication of information with the object. Information, materialization, objectification. Information revolutions. Problems of information security in the context of infoglobalization.

Topic 17. Extraction of information

Seminar: Targeted, praxeological and axiological approaches to information retrieval. The role of the subject component in the extraction and processing of information. Representativeism, constructivism, phenomenalism. The significance of the problem of understanding. Transitive reflexive attitude. Goal ratio-values. Cognitive information processing technologies. Subjective approach to information processing on based on values. Types of values. Information processing and interpretation. The role of verbal and value in interpretation. Relationship of interpretation to the cognitive domain of system identification. Thinking as information processing. Types of information and types of thinking. Discrete and iconic information. Primary and secondary information. Materialization, objectification, interpretation. Integrity and fragmentation of information. Information that is the

focus of attention and determines semantic structure of the message. Objective and non-objective information. Withdrawal information from its objectified forms. Explicit and implicit information. Thinking as elaboration information.

Topic 18. Information component of scientific research

Seminar: Withdrawal of information from the object. Formation of information base of research. Visual information in scientific activity. Text information. Formation of theoretical and source base research. Information flows and information processing. Science as an information system. Science in information society.

Distance learning platform:

To increase the effectiveness of communication and opportunities for remote work, better mastering the material of the discipline "PHILOSOPHICAL PRINCIPLES OF SCIENTIFIC ACTIVITY" uses e-mail, the distance learning platform "Sikorsky" based on the Google Classroom system and the platform for online meetings Googl-meet, for by which:

- simplifies the placement of guidelines and exchange of educational material;
- feedback is provided to graduate students on educational tasks and educational content disciplines;
- performed tasks are checked and evaluated;
- records are kept of the graduate students' fulfillment of the curriculum plan, compliance with the schedule of submission of educational tasks and their evaluation.

6. Independent work of the graduate student

Types of independent work are preparation for classroom classes and participation in the discussion of issues, self-control of acquired knowledge, processing of sources from the list of additional literature, creating presentations for visual support of the report, writing an essay on the topic of independent work of the student, preparation for the test, writing an abstract.

Перелік питань для підготовки до МКР надано у додатку А.

Перелік питань для підготовки до залікової контрольної роботи надано у додатку Б.

Рекомендований список тем рефератів надано у додатку В.

Перелік питань для підготовки до екзамену надано у додатку Г.

Policy and control

7. Policy of the discipline (educational component)

The organization of the educational process, the presentation of all topics and their discussion are based on policy integrity, copyright and intellectual property protection; compliance with the rules citing scientific sources and make appropriate references to those printed works and information sources used in teaching and research activities. Students should follow the rules of attending classes. The classes provide for the activity of graduate students, inclusion in interactive forms and methods of teaching.

The system of requirements for graduate students consists of:

- Mandatory attendance of lectures and practical classes. Absence and attendance are not assessed in points, but because they teach theoretical material, provide guidance and develop the skills needed to performance of control tasks, the visit affects the results of classroom and independent work of the graduate student, preparation for supervised task and test.
- Evaluation of reports at seminars and participation in the discussed issues of the topic and / or discussion.
- Implementation of the test, abstract.

Students should follow the rules of attending classes.

The classes provide for the activity of graduate students, inclusion in interactive forms and methods of teaching. A significant part of the graduate student's rating is formed due to active participation in practical classes. The evaluation system is focused on obtaining points for preparation for classroom activities, report and activity of the graduate student in discussing the topic. Therefore, skipping a practical lesson does not give the graduate student the opportunity to get points in the semester rating.

In case of detection of academic dishonesty during the modular test - the results of the test are not taken into account.

Rewriting the test is not allowed.

The abstract is tested for signs of plagiarism.

Missed control measures

If the control measures are missed for good reasons (illness or serious life circumstances), the student is given the opportunity to complete the control task within the next week.

Postgraduate students who were absent from the MCR for no good reason are given the opportunity to perform the MCR in an unscheduled class, but in this case the result will be penalized.

Incentive and penalty points

Incentive points

Writing abstracts, articles, participation in international, national and / or other events or competitions on the subject of the discipline + 5 points
Writing an essay on the topic of individual work + 5 points

Penalty points

Untimely writing of the supervised task (on the scheduled lesson) – 5 points

Academic integrity

The policy and principles of academic integrity are set out in Section 3 of the Code of Honor of National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Details: <https://kpi.ua/code>

Norms of ethical behavior

Norms of ethical behavior of students and employees are defined in section 2 of the Code of Honor National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Details: <https://kpi.ua/code>

8. Types of control and rating system for evaluation of learning outcomes

SCIENTIFIC WORLDVIEW AND ETHICAL CULTURE OF THE SCIENTIST

The graduate student's rating for the educational component consists of points that he receives during the semester for:

- 1) Participation in seminars (7 seminars);
- 2) Execution of supervised task.

Seminars: (max 70 points):

The report at the seminar is estimated at a maximum of 8 points (a total of 56 points can be obtained for 7 seminars). You can get 2 points for participating in the discussion of the topic and additions (you can get 14 points for a total of 7 seminars).

The results are announced to each graduate student separately in presence or remotely (in the Classroom, Campus or by e-mail)

Supervised task (2 questions of 15 points - max 30 points):

- 15-14 points – Correct (at least 95% required information);
- 13...11 points – Minor errors in the answer (at least 75% required information);
- 10...9 points – There are shortcomings in the answer and some mistakes (at least 60% required information);
- 0 points – No answer or incorrect answer.

Залік:

The sum of rating points obtained during the semester is transferred to the final grade according to the table.

If the sum of points is less than 60, the student performs a test. In this case, the points obtained by the graduate student for the semester are canceled, and the amount of points obtained for the test, is transferred to the final grade according to the table.

A graduate student who received more than 60 points in the semester, but wants to improve his score, can take part in the test. In this case, the final result consists of points obtained on the test.

The test consists of 4 questions, for each of which you can get 25 points (max 100 points):

- 25-23 points – Correct (at least 95% required information);
- 22...19 points – Minor errors in the answer (at least 75% required information);
- 18...15 points – There are shortcomings in the answer and some mistakes (at least 60% required information);
- 0 points – No answer or incorrect answer.

The sum of points obtained for the test is transferred to the final grade according to the table.

PHILOSOPHICAL GNOSEOLOGY AND EPISTEMOLOGY

Rating system has a *starting (max 55 points)* and *examination (max 45 points)* components.

Starting component: express-survey at lectures (9 lectures), participation in seminars (18 classes), abstract.

Exam component: exam answers.

Express control: For each task consisting of 1 question, 1 point is provided depending from the quality and completeness of the answer. The total number of points for express control on all topics of lectures - 9 points.

Seminars: The maximum number of points in all practical classes (seminars) is 2 points x 18 = 36 points.

Abstract:

10 points - the graduate student reveals the content of the problem, set out in scientific sources selected them for abstracting, identifies the main aspects of the problem and draws general conclusions.

9-8 points - the content of scientific sources selected for abstracting, disclosed, but the work is small flaws; some issues need clarification.

7-6 points - the graduate student did not fully disclose the topic; the material needs substantial additions and clarifications; there are comments on the design of the material.

5-0 points - the graduate student is not guided in the submitted material; the topic is not disclosed.

Conditions for admission to the exam: the minimum positive grade for the abstract - 6 points and a semester rating - from 33 points. for the abstract - 6 points and a semester rating - from 33 points.

Exam (max 45 points)

The exam ticket consists of 3 questions, for each of which you can get 15 points:

15-14 points - a complete answer to the question of the exam ticket; student free is guided in the submitted material.

13...11 points - the answer needs small clarifications.

10...9 points - the answer needs additions, insufficient mastery of the material; graduate student no can answer clarifying or additional questions.

0 points - the answer is not according to the content of the exam ticket, or an extremely limited answer.

Table of correspondence of rating points to grades on a university scale:

Rating points, RD	Assessment on a university scale
100-95	Excellent
94-85	Very good
84-75	Good
74-65	Satisfactory
64-60	Unsatisfactory
RD < 60	Not allowed

9. . Additional information on the discipline (educational component)

Distance Learning:

In the conditions of the distance mode the organization of educational process is carried out with use of technologies of distance learning: platforms of distance learning "Sikorsky" and "Campus KPI". The learning process in the remote mode is carried out in accordance with the approved schedule of classes. Lectures and seminars are held using modern resources for online meetings (organization of video conferences).

Syllabus:

Compiled by

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Approved by the Department of Philosophy (Protocol № 1 from 31.08.2021)

Approved by the Methodical council of Igor Sikorsky Kyiv Polytechnic Institute (Protocol № 1 from 16.09.2021)

Additional information on the discipline

Appendix A. List of questions to prepare for the test

- 1) Historical forms of social consciousness: myth.
- 2) Historical forms of social consciousness: religion.
- 3) Historical forms of social consciousness: pre-science.
- 4) Historical forms of social consciousness: science.
- 5) Ethical problems of the atomistics of Leucippus and Democritus.
- 6) Natural-scientific ideas of Antiquity (anthropocentrism, intersubjectivity, universality, substantiality, ideal modeling of reality).
- 7) Philosophical and scientific awareness of the world.
- 8) The categorical dialectic of Plato and Aristotle.
- 9) Aristotle's organ (criteria of scientific knowledge).
- 10) Philosophy of antiquity as a moral doctrine of norms and rules of human behavior (Socrates, Plato, Aristotle, Epicurus).
- 11) Theocentrism of medieval thinking.
- 12) The teachings of Aurelius Augustine on nature and man.
- 13) Ethical problems of Scholasticism.
- 14) Nominalism and realism: disputes about the nature of universals. (P. Abelard, A. Canterbury, I. Scott).
- 15) The teachings of Thomas Aquinas on the relationship of faith and reason.
- 16) The concept of double truth.
- 17) The specifics of medieval rationality.
- 18) Moral values of the Middle Ages.
- 19) Ethics of the Renaissance.
- 20) Empiricism of F. Bacon, sensualism of T. Hobbes, rationalism of R. Descartes.
- 21) The concept of substance in B. Spinoza.
- 22) Monadology by G. Leibniz.
- 23) Metaphysicality and mechanism of French materialism (Lametri, Diderot, Helvetius, Holbach).
- 24) Registration of science as a social institution of the seventeenth and eighteenth centuries. (formation of scientific societies, academies).
- 25) Axiological conditions for the formation of a scientific society.
- 26) Value orientations in science.
- 27) Ethics of the cognitive process and the humanization of science.
- 28) Professional ethics and responsibility of the scientist.

Appendix B. The list of questions for test control work

- 1) The concept of worldview, different methods of definition and typification criteria.
- 2) Historical forms of worldview.
- 3) Philosophical principles of formation of the scientific worldview in the genesis of sciences.
- 4) The concept of science and the variety of forms of its existence.
- 5) Criteria of scientificity: pseudoscience and antiscience, protoscience and science.
- 6) The problem of unity of sciences.
- 7) Integrative processes in science and the separation of scientific worldview in the nineteenth century.
- 8) Science as a productive force of society and a socio-cultural phenomenon.
- 9) Disciplinary and branch organization of science, specialization of scientists and professionalization of scientific activity.
- 10) Philosophy in the system of sciences.
- 11) Scientific worldview and the Manifesto of the Vienna Circle.
- 12) Problems of application of scientific knowledge in various subject areas and engineering activity, critical comprehension of ways of the decision of research and innovative problems.
- 13) The driving forces of science. Internal and external factors of scientific progress.
- 14) Continuity and change, evolution and revolution, traditions and innovations in the development of science.
- 15) Scientific revolutions in the history of knowledge.
- 16) Models of the dynamics of science in postpositivism.
- 17) The role of the scientific worldview in solving significant socio-economic, cultural-historical, ethical, environmental, innovative and other problems of our time.
- 18) Practical philosophy of morality as a social phenomenon.
- 19) Genesis, structure and functions of morality.
- 20) History of the relationship between science and ethics.
- 21) The causes of moral and ethical problems in science: history and modernity.
- 22) The meaning of the concepts "scientific ethics" and "professional ethics".

- 23) The culture of scientific creativity in the context of innovative economy.
- 24) Professional ethics and responsibility of the scientist.
- 25) Academic culture and integrity.

Appendix C. Recommended list of essay topics for graduate students:

- 1) Modern philosophical gnoseology.
- 2) Linguistic turn in epistemology.
- 3) Features of cognitive activity in modern science.
- 4) The structure of the cognitive relationship.
- 5) The problem of the subject in classical and modern theory of cognition.
- 6) Features of nonlinear and post-classical science.
- 7) Skepticism and agnosticism.
- 8) Sensualist tradition in the theory of cognition.
- 9) Empiricism: classics and modernity.
- 10) Rationalism in classical and modern theory of knowledge.
- 11) Cognitive philosophy and the science of human cognitive activity.
- 12) Basic approaches to the study of cognitive abilities.
- 13) The conceptual apparatus of the theory of cognition.
- 14) Basic theories of truth and features of their application in modern science.
- 15) Interaction of sensory and rational cognition.
- 16) Perception. Main features, formation and dynamics.
- 17) Perceptual information, perceptual sphere, perceptual experience.
- 18) Technoscience and its development.
- 19) Types of thinking and their characteristics.
- 20) Thinking as a process.
- 21) Development of creative thinking and formation of creative personality.
- 22) Technical thinking.
- 23) Scientific and technical creativity.
- 24) Cognitive processes in scientific and scientific and technical creativity.
- 25) Collective subjects: the ratio of individual and group cognition.
- 26) Evolutionary epistemology.
- 27) Constructive scientific and technical creativity.
- 28) Objects in modern science.
- 29) Socio-cultural dimension of cognition.30. Knowledge, rationality and values.
- 30) Modern transformations of epistemology.
- 31) Sociological approach and research of cognitive processes.
- 32) Naturalized mind.
- 33) Information society as a society of knowledge.
- 34) The problem of understanding.
- 35) Cognitive component in modern epistemology.
- 36) Axiological dimension of cognitive processes.
- 37) Evolutionary epistemology as a new cognitive paradigm.
- 38) Realism and anti-realism in the evolutionary approach to cognition.
- 39) Radical constructivism as an interdisciplinary solution to a skeptical problem.
- 40) Cognitive evolution.
- 41) Linguistic turn in the study of cognitive processes.
- 42) Reductionism and anti-reductionism in modern science.
- 43) The problem of monism and the unification of modern science.
- 44) Prognostic possibilities of nonlinear thinking.
- 45) Interaction of cognitive and aesthetic attitudes.
- 46) Philosophical and methodological dimensions of meaning.
- 47) Transdisciplinarity of scientific discourse.
- 48) Paradigmatic dimension of modern science.
- 49) Dynamics of interdisciplinary connections.
- 50) Scientific text.
- 51) Scientific theory as a form of development of modern science.
- 52) Experiment. Theory. Practice.
- 53) Productivity of scientific thinking.
- 54) Production of knowledge and social development strategies.
- 55) Constructivism.
- 56) Intellectual resources.
- 57) Information and cognitive processes.
- 58) Modern concepts of the subject.

- 59) Cognitive attitude and its transformation.
- 60) Research of cognitive processes in non-classical epistemology.
- 61) Modern scientific discourse.
- 62) The role of metaphor in cognition.
- 63) Basic science.
- 64) Methodological interior of modern science.
- 65) Cognitive processes and development of knowledge environments.
67. Technoscience in the knowledge society.
- 66) The doctrine of the epistem.
- 67) Personal knowledge.
- 68) Cognitive capitalism.
- 69) Cultural resources of thinking.
- 70) Cognitive technologies in cognitive processes.
- 71) Information component of scientific research.
- 72) Intellectual activity: planning and control.
- 73) Science in the information society.
- 74) The main directions of modern theory of knowledge.
- 75) Axiological dimension of scientific activity.
- 76) Transdisciplinarity in modern science.
- 77) Perceptual experience of a specialist.
- 78) Methodological component of scientific research.
- 79) Basic principles of the theory of cognition.
- 80) Scientific style of thinking.
- 81) Transdisciplinary research strategies.
- 82) Communicative approach in epistemology.
- 83) Post-classical practices.
- 84) Development of science and social foresight.
- 85) Social constructivism.
- 86) Scientific picture of the world.
- 87) Theoretical thinking.
- 88) Knowledge as a process.
- 89) Types of information.
- 90) Interaction of theoretical and empirical.
- 91) Methodologists of modern science.
- 92) Complex thinking.
- 93) Scientific and technical potential.
- 94) Science and sociology of knowledge.
- 95) The problem of the relationship between knowledge and object.
- 96) Information and network approaches.
- 97) Levels of information.
- 98) Information component of object research.

Appendix D. Examination questions

- 1) Components of cognitive attitude and its structure.
- 2) The transition from classical epistemology to non-classical epistemology.
- 3) Basic theories of information society and levels of information processing.
- 4) Types of information and their characteristics.
- 5) The main forms of theoretical knowledge and their role in modern science.
- 6) Epistemological activity of the scientist in the field of knowledge.
- 7) Conceptual definitions of modern science. Describe its features.
- 8) Interaction of empirical and theoretical.
- 9) Sensory cognition. The role of sensory cognition in the formation of perceptual experience of the scientist.
- 10) Types of thinking and their characteristics.
- 11) Specifics of technical thinking.
- 12) Specifics of the technical object.
- 13) Feature of technical and technological knowledge.
- 14) Information component of scientific research.
- 15) Describe the subject and object. Describe the classical, non-classical and post-classical concept.
- 16) Problems of truth in modern science.
- 17) Basic theories of truth and their characteristics.
18. The main components of the methodology and their characteristics.
- 18) Features of the application of philosophical and general scientific methods.
- 19) Features of modern cognitive processes.
- 20) Philosophy of science: the main stages of development and current status.
- 21) Conceptual definitions of modern science: nonlinear science, post-classical science.

- 22) A priori. Agnosticism.
- 23) Transcendental dimension of classical and non-classical epistemology and epistemology.
- 24) Linguistic turn in the development of science. Text. Discourse. Narrative.
- 25) Cognitive-communicative component of project activity.
- 26) Features of human information processing.
- 27) The problem of ontology and metaphysics in the development of science.
- 28) The main elements of knowledge in the scientific text and their characteristics.
- 29) Information component of perception.
- 30) Give a general description of the evolution of the subject of philosophical epistemology.
- 31) Features of knowledge production in modern science.
- 32) Cognitive processes and their characteristics.
- 33) Describe the structure of the cognitive relationship.
- 34) Reveal the main directions of the classical theory of cognition.
- 35) Describe skepticism and clarify the role of the skeptical argument.
- 36) Reveal the content of the problem of cognition of the world.
- 37) Reveal the essence of transcendental philosophy of cognition.
- 38) Describe information, network and heterophenomenological approaches to thinking.
- 39) Show the role of information in cognitive processes and the information society.
- 40) Describe the types of information.
- 41) Analyze the internal and external prerequisites for cognition.
- 42) Reveal the information component of scientific research.
- 43) Analyze information processes and their levels.
- 44) Identify the specifics of human information processing.
- 45) Describe representativeism.
- 46) Analyze the problem of reference. Mind and history.
- 47) Reveal the role of the epistem.
- 48) Describe evolutionary epistemology.
- 49) Analyze the methodological component of research.
- 50) Give a comparative description of the levels of methodology.
- 51) Give a comparative description of the main philosophical methods.23. Describe the types of subjects of science and their functions.
- 52) Give a comparative description of the main forms of theoretical knowledge.
- 53) Describe the main stages of development of scientific rationality.
- 54) Reveal the main characteristics of post-classical rationality.
- 55) Reveal the relationship of knowledge to the object, to characterize the image, copy, ideal, prototype.
- 56) Describe the epistemological processes in scientific and technical creativity.
- 57) Analyze intellectual resources.
- 58) Reveal cognitive communication.
- 59) Describe critical rationalism.
- 60) Reveal the meaning of the problem of ontology in science and philosophy.
- 61) Give a comparative description of metaphysics and modern metaphysics in modern philosophy science.
- 62) Describe the types of thinking.
- 63) Analyze the basic theories of truth and features of their application in scientific practice.
- 64) Reveal sensory cognition.
- 65) Give a comparative description of types of thinking.
- 66) Describe the linguistic turn in science.
- 67) Reveal a scientific text as a carrier of scientific knowledge.
- 68) Give a comparative description of cognition and understanding.
- 69) Reveal the hermeneutic approach to science.
- 70) Describe methodological anarchism and methodological pluralism.
- 71) Compare empiricism classical and modern.
- 72) Describe the main directions of cognitive philosophy.
- 73) Reveal the existential approach to creativity.