



PHILOSOPHICAL GNOSEOLOGY AND EPISTEMOLOGY

Syllabus

Requisites of the discipline

Level of high education	PhD
Field of knowledge	For all ¹
Specialty	For all
Educational program	PhD
Status of the discipline	Mandatory
Learning form	Full-time (day-time)/ Full-time (part-time) /Distance/Mixed
Semester	1 st course, autumn
Course scope	60 hours (13 lectures, 13 seminars)
Semester control / control measures	Examination
Schedule	
Language	Ukrainian
Information about course supervisor and lecturers	Lecturer: Doctor of philosophical sciences, full professor Olexandra Rubanets, e-mail: rubanets@gmail.com ; Doctor of philosophical sciences, full professor Borys Novikov, e-mail: 1948novikov@gmail.com Seminars: Doctor of philosophical sciences, full professor Olexandra Rubanets, e-mail: rubanets@gmail.com ; PhD, docent Svitlana Balakirova
Course placement	ECampus KPI

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 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 course is to master the basic concepts of philosophical gnoseology and epistemology, fundamental philosophical knowledge for the development of various types of scientific thinking, scientific and scientific-technical creativity and information processing.

Achieving this goal involves the provision of philosophical knowledge on the development of basic concepts of philosophy and methodology of modern science, revealing the specifics of modern science and helping to increase the efficiency of scientific, scientific, technical and innovative activities.

Program learning outcomes

Competencies:

- ability to apply fundamental philosophical knowledge of the theory of cognition to increase the effectiveness of cognitive activity;
- ability to use knowledge about the project organization of scientific research to carry out joint activities and individual research activities;

¹ В полях Галузь знань/Спеціальність/Освітня програма:

Для дисциплін професійно-практичної підготовки зазначається інформація відповідно до навчального плану.

Для соціально-гуманітарних дисциплін вказується перелік галузей, спеціальностей, або «для всіх».

- ability to use the acquired knowledge for the application of scientific, analytical, figurative and visual thinking;
- ability to apply knowledge of formation of cognitive cognitive abilities, to develop cognitive research culture;
- ability to process different types of information and use them to conduct research and increase the efficiency of professional activities.

KNOWLEDGE:

- basic concepts of the theory of cognition and their concepts; philosophical content of the main positions that reveal the cognitive attitude of man to the world (sensualism, empiricism, skepticism, rationalism, phenomenalism);
- features of knowledge production in modern science, social characteristics of university, branch, intrafirm science, science of TNCs, foundations, governmental and non-governmental organizations;
- features of philosophical gnoseology and epistemology and their components (communicative, cognitive, informational);
- features of linguistic and sociological turns in research of modern science;
- information component of scientific research, levels, methods and forms of information processing;
- basic theories and concepts of information society development; features of different types of information (discrete, iconic, cognitive, etc.), its extraction and representation;
- the influence of communicative and linguistic turns on the development of modern epistemology, features of scientific discourse, the structure of the scientific text and its components;
- the importance of the influence of social preconditions on the development of cognitive processes in modern science, features of the national structure of social organization of scientific research in different countries, as well as features of academic, branch, university and intrafirm science, science of TNCs and foundations; project organization of modern scientific research;
- features of cognitive processes in modern science, modern types of cognitive processes and types of scientific rationality; development of cognitive processes in the cognitive environments of organizations and corporations, types of objects, cognitive activity in the field of knowledge (problem statement, concept development, development of modern theories, significance of scientific hypotheses, etc.); know the features of the technical object, technical thinking, technical and technological knowledge, the role of scientific and technical creativity in the development of modern engineering;
- features of theoretical and empirical levels of scientific knowledge, empirical and theoretical research; basic forms of knowledge (theories, hypotheses, problems and concepts);
- features of methodology in modern science, the importance of interaction of philosophical, general scientific and special scientific levels of modern scientific methodology; development of methodological activity of the scientist;
- information, network, dynamic, heterophenomenological, etc. approaches to development human mental activity; various types of thinking (scientific, analytical, visual, figurative);
- main directions and achievements of cognitive philosophy;
- structure, development and formation of cognitive abilities of the individual;
- cognitive features of interaction, individual and group cognition, mental and social representation;
- cognitive-communicative component of project activity, features of interaction of individual and group cognitive development;
- features of creative thinking and socio-cultural and cognitive development of creative personality.

ABILITIES:

- apply the basic theories of truth in scientific knowledge;
- apply the basic concepts of the theory of cognition and their concepts in the critical analysis of the components of the cognitive relationship and the formation of new ideas;
- develop the epistemological activity of the scientist in the field of knowledge (problem statement, determining the degree of problem development, entering a new problem area, formulating a new idea, concept development);
- develop a methodology of scientific research, to apply philosophical and general scientific methods;

- apply the basic forms of scientific knowledge (theory, hypothesis, problem, idea and concept, scientific fact) and participate in their creation;
- develop technical and technological knowledge, to develop scientific and scientific and technical creativity;
- participate in scientific discourse, apply scientific knowledge in various formats (reports, scientific conferences, discussions, briefings, information messages);
- process scientific texts, to form information, theoretical and source bases of research;
- apply knowledge about the features of creative thinking and its properties (nonlinearity, divergence, variability, improvisation, etc.);
- master the mechanisms of intellectual regulation for the implementation of metacognitive control and stress management;
- apply knowledge about the features of forms of cognitive activity and various types of thinking to use their properties in initiating projects and their implementation.
- use knowledge about the cognitive activity of the individual to increase the effectiveness of its intellectual activity and the development of creativity;
- apply knowledge of features of different types of information, its extraction and representation in the organization of scientific researches and planning of work of research collectives;
- process various types of information and provide its evaluation;
- provide knowledge to representatives of different groups (social, cultural, professional);
- use cognitive communication;
- form cultural resources of productive thinking.

Program learning outcomes, control measures and deadlines are announced to graduate students in the first lesson.

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

Interdisciplinary links: philosophical training of graduate students in the course "Philosophical Epistemology and Epistemology" is the basis of philosophical training of graduate students. Knowledge of philosophy at the bachelor's level, as well as scientific worldview and ethics in the autumn semester of the first year of graduate school is provided.

3. The content of the discipline

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.

Basic:

1. Rubanets O.M. *Teoriia piznannia ta sposoby obrobky informatsii : kompleks navchalnometodychnoho zabezpechennia navchalnoi dystsypliny.* – Kyiv : KPI im. Ihoria Sikorskoho, 2018. – 66 s.

2. Rubanets O.M. *Filosofski problemy naukovooho piznannia / Rubanets O.M.* - Sumy: Universytetska knyha, 2013. - 229 s.

3. Rubanets O.M. *Informatsiine suspilstvo: kohnityvnyi kreatyv postneklasychnykh doslidzhen: Monohrafiia / Rubanets O.M.* - K., Vyd. PARAPAN, 2006. – 420 s.

4. Dobronravova I.S. *Novitnia zakhidna filosofiiia nauky : pidruch. dlia vyshchykh navch. zakl. /Dobronravova I.S., Bilous T.M., Komar O.V.* - K., 2008. - 216 s.

5. *Epistemolohiia yak filosofska teoriia znannia / V. L. Petrushenko; Derzh. un-t "Lviv. politekhnika".* - L., 2000. - 296 c.

Additional literature

1. Biletskiy I.P. *Poznaniye i deystvitelnost / I.P. Biletskiy.* – Kharkov : Alfa. 1999. – 57 s.

2. Dobronravova Iryna. *Praktychna filosofiiia nauky : zbirka naukovykh prats / Iryna Dobronravova.* - Sumy: Universytetska knyha, 2017. - 352 s.

3. Zahribelna O.T. *Inzhenerne piznannia yak diialnist / Zahribelna O.T.* - 1999. - 300 s.

4. Komar Olena. *Postneklasychna epistemolohiia: novi tendentsii* / Olena Komar // *Liudyna v skladnomu sviti* / za red. N.V. Kochubei, M.O. Nesterovoi. Sumy: Universytetska knyha, 2017.– S. 230 - 248.
5. Konverskiy A.E. *Teoriya i eye obosnovaniye* / Konverskiy A.E. - K.: 2000. - 179 s.
6. Lektorskiy V.A. *Epistemologiya klassicheskaya i neklassicheskaya* / Lektorskiy V.A. - M.:Editorial URSS. 2001. - 256 s.
7. Lukianets V.S. *Suchasnyi naukovyi dyskurs.: Onovlennia metodolohichnoi kultury* / Lukianets V.S., Kravchenko O.M., Ozadovska L.V. – K., 2000. – 304 s.
8. *Liudyna: myslennia i realnist / uporiad.:* V. S. Krysachenko. - K.; Lutsk, 2001. - 219 c.
9. Marchuk M.H. *Tsinnisni potentsii znannia* / Marchuk M.H. - Chernivtsi: Ruta, 2001. - 319 s.
10. Melashchenko O. M. *Ontolohichni proiavy naukovo-tekhnichnoi tvorchosti (sotsialnofilosofskiy aspekt) : dys. ... kand. filosof. nauk. : 09.00.03 - O. M. Melashchenko. - K., 2011.*
11. Melkov Yu. A. *Chelovekomernost postneklassicheskoy nauki : Monografiya* / Yu. A.Melkov. – K. : Izd. PARAPAN. 2014. – 254 s.
12. Merkulov I.P. *Kognitivnyye sposobnosti* / Merkulov I.P. – M.: IFRAN. 2005. – 182 s.
13. Merton R. *Sotsialnaya teoriya i sotsialnaya struktura* / R. Merton . – M. : AST Moskva. 2006. – 880 s.
14. Metelova T. *Kontsept "tvorchoi uiavy"* / T. Metelova // *Filosof. dumka. - 2006. - № 6.- S. 11-21.*
15. Mikeshina L.A. *Filosofiya nauki: Sovremennaya epistemologiya. Nauchnoye znaniye v dinamike kultury. Metodologiya nauchnogo issledovaniya* / L.A. Mikeshina. - M.. 2005. - S. 155-160.
16. Moren E. *Metod. Priroda prirody. M.: «Progress – Traditsiya» - .2005. - 464 s.*
17. Naysser U. *Poznaniye i realnost* / Naysser U. / *Per. s angl. V.V. Luchkova. Vstupit. st. i obshch. red. B.M. Velichkovskogo. – M.: Progress. 1981. – 230 s.*
18. Nikiforov A.L. *Filosofiya nauki: istoriya i metodologiya. M.. 1998.*
19. *Ontologiya i epistemologiya sinergetiki. M.: IF RAN. 1997. - 159 s.*
20. Rassel B. *Chelovecheskoye poznaniye. Ego sfera i granitsy* / B. Rassel – M. : Institut obshche gumanitarnykh issledovaniy. 2001. – 560 s.

Educational content

5. Methods of mastering the discipline (educational component)

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

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

The value of classical foundations in the development of modern approaches. Formation of the theory of cognition as a special field of philosophical research. Formation of classical epistemology on the basis of formation of epistemological approach to psychological processes.

Structure, subject and tasks of the theory of cognition. Theory of cognition as a basis for studying human cognitive activity.

Substantiation of cognition of the world. The main stages of cognition of the world: cosmocentrism, theocentrism, anthropocentrism. Development of the doctrine of human cognitive abilities. Classification of cognitive abilities. The doctrine of sensory cognition, the mind and its structure, intuition as a kind of cognitive activities. Skepticism. The role of the skeptical argument. Isolation of epistemological attitude in psychological processes. Sensationalism. Empiricism. Understanding experience in sensualism and empiricism. Inductivism. Rationalism. A priori. Transcendentalism. Agnosticism.

Classical and non-classical classifications of human cognitive abilities. Cognitive abilities. Evolution of cognitive abilities. Classical foundations of the theory of cognition.

The principle of recognizability of the world. The value of the theory of perception as a philosophical basis of human cognitive activity for the development of science and management.

Theory of cognition in the modern social interior. Human dimension of social processes and practices. The growing importance of the human component and the development of opportunities for human cognition at the present stage of development of society.

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

New dimensions of modern theory of cognition in the transition to nonlinear, interdisciplinary and transdisciplinary science. The growing importance of the social dimension of the growth of knowledge. Formation of social epistemology and sociology of science. Features of university science, intra-firm and branch science, science of corporations and TNCs, foundations, governmental and non-governmental organizations. The growth of social factors in cognitive processes (social status, access to information and knowledge, the level of authority). Corporatocracy and cognitive capitalism. Transformation of epistemology: from the objective process of transformation of forms of knowledge in epistemology without a subject (K. Popper) - to the development of epistemological activity of a scientist in the field of knowledge in the conditions of interdisciplinarity and transdisciplinarity.

Topic 3. Communicative turn in modern gnoseology and epistemology

Communicative turn in modern epistemology. Introduction of communication in the study of cognitive processes. Types of communication in cognitive activity: personal, speech, social communications, infocommunications, cognitive communications. Neo-positivist interpretation of linguistic communications. Postmodernism on communications as social practices and their role in abandoning the classical image of science as the Mirrors of Nature (R. Rorty).

Cognitive practices in modern organizations. Communication in the knowledge environments of corporations. Types of communication. Communication as the transfer of knowledge and the implementation of the cognitive process. Communication through representation. Cognitive communication. Interpretation of communication as social practices.

Development of the doctrine of cognitive communication. Structural metaphor of cognitivism (Johnson, Lakoff). Cognitive communication as a confirmation of the result of cognition (R. Danyliak). Cognitive communication as cognitive contact and cognitive interaction. Features of cognitive communications in different environments and cognitive contexts. Development of communications and their influence on changes in modern cognitive processes.

Topic 4. Linguistic turn in the study of cognitive processes

Features of scientific discourse. Text, discourse, narrative. Development of science and transformation of modern narratives. Narrativization of modern science and discussion of the rejection of narratives. Speech processes in modern science. Research of the role of debates in the development of cognitive activity. Discussions, discussion of problems, dialogue and polylogue.

Rejection of a single universal language of science. Critique of physicalism and current problems of polylingualism in modern science. The assertion of the diversity of the observed quantities (languages observation) in various sciences. Development of scientific terminology in modern science. The concept. The value of concepts in the context of interdisciplinarity. Scientific terminology and codification of

modern scientific knowledge. The problem of translating scientific terms from one language to another. Creating a terminological base of modern Ukrainian science.

Topic 5. Sociological turn in the study of cognitive processes

The problem of autonomy of cognitive activity of a scientist in the field of knowledge. The role of social and socio-cultural preconditions in cognitive activity. Problems of sociocultural conditionality and sociocultural determination of scientific knowledge. Strong program (Barnes, Blur). Social preconditions of scientific activity. Types of prerequisites: internal and external scientific, paradigms. Epistems as a cultural and historical precondition (Foucault). Science as social system, social institution and type of spiritual production. The role of social relations in cognitive processes. Dissemination of sociological methods in science. The emergence of the sociology of knowledge.

Formation of social epistemology. Expanding the boundaries of cognitive processes beyond science. Goldman's conceptualistic concept. Cognitive capitalism (Fuller). Cognitive efficiency as a competitive advantage. Modern cognitive practices in corporations. Tacit knowledge. Cognitive features of educational practices and democratic discourse.

Topic 6. Information component of modern philosophical gnoseology and epistemology

The growing role of information in cognitive processes. Types of information (iconic, discrete, textual, perceptual, institutional). Types of information about a person. The problem of the ratio of public and private. Informational security. Legislation on information protection. Information society: basic levels of information processing and stages of information processing development. Basic concepts and theories of information society. From the post-industrial society to a network society. Development of theorizing and methodologizing the field of design; cognitive creativity and cognitive practices, ontology transformation information society. Transformation of the social ontology of the information society. Digitization of information and digital transformations. A variety of modern types of information. Data. Types of data. The problem of reliability and reliability of information. Cognitive processes in conditions incomplete information.

Basic approaches to information research. Basic approaches to the study of the relationship between knowledge and information. The concept of information in the environmental approach. Information as a characteristic of the objective content of an object that exists independently of perception. Communicative approach. Basic models of information transfer in communication. Communication structure. The problem of information transfer in the same form. Feedback value. A study of the peculiarities of information transmission in American communication. Visual information. Visual information processing. Visual culture. Specifics of visual information in television media.

Topic 7. Modern transformations of the image of cognition

Cognition as a subject-object interaction. Cognition as a network interaction. Cognition as the interaction of artificial and cognitive subjects.

Cognitive attitude and its structure. Cognitive attitude as a type 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 a universal subject in the cognitive activity of individual and collective subjects. Object, types of objects. The ratio of the system (natural, social, technical) under study and the object. The relationship between the object and research methods.

Transformation of the structure of cognitive attitude. Subject levels. Object types. Classical, non-classical and post-classical concepts of subject and object.

Means of cognition. Classical, non-classical and post-classical rationality about the role of means of cognition. The influence of the development of the technosphere on changes in cognition. From the means of cognition as intermediaries between subject and object - to the use of various technologies in modern cognitive processes. From working with an object as part of objective reality - to working with visualizations, visual information, with virtual, augmented and augmented reality. Robotics and artificial intelligence in modern cognitive processes.

Post-classical ontology of modern science; nonlinearity, research of a new type of objects -integrity (system, network, rhizome, mosaic, antisystem, metasystem). Three concepts of human dimension. The problem of causality. New types of causality (cyclic, teleological, conditional). Synergetic worldview: chaotic regimes and systems, evolution in nonlinear media.

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

Ontologization of theoretical constructions. Scientific realism and ontology of scientific theories. Interdisciplinarity of modern science and formation of ontology of interdisciplinary problems areas. The problem of creating new ontologies in science. The relationship between ontology and metaphysics in the evolution of philosophical epistemology and epistemology.

Aristotle's metaphysics as a general philosophical basis for knowledge of the essence of being. Metaphysics as the basis of Aristotle's physics and the ontology of Aristotelian medieval science. Cartesian metaphysics and Cartesian science in Europe. Development of science as a natural philosophy. The ideal of positive science and the struggle against metaphysics in positivism. Demarcation of science from metaphysics (K. Popper). Return of metaphysics to the philosophy of science and to science. Metaphysics of the Third World (K. Popper).

Metaphysics of methodology of research programs (I. Lakatos). Metaphysics of epistemology (Sellars). The relationship between ontology and metaphysics in modern science. Ontological problems of modern science.

Topic 9. Epistemological dimension of modern science

Basic levels of scientific knowledge. Science as a system of objective knowledge. Basic forms of scientific knowledge: theory, hypothesis, problem, idea, concept. Types of scientific theories. Theories of essence and phenomenological theories. Abstract theories and theories with an empirical basis.

Alternative theories. Types of hypotheses. The place and role of hypotheses in modern science. Fact. Fact-fixing procedures and fact-forming activity. The problem of creating new theories. Transition from classical empiricism and inductivism to non-classical empiricism. The growing role of mathematical methods in creating new theories. Mathematical hypothesis. Math game.

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

Normativity of truth in cognition. Truth as a value and as a norm of cognitive activity. Classical and non-classical theories of truth. Basic theories of truth: correspondent, coherent truth theory and reflection theory. Pragmatist approach to the theory of truth. The evolution of the concept of truth in philosophy and science. Truth as reality (Plato). Truth as the ratio of knowledge to reality (Aristotle). Ontological truth: truth as the essence of being (Aristotle).

Truth as the ratio of knowledge to object, to reality and to reality. Perceptual and visual information and problems of truth. The truth in social communications and networking processes.

Truth in science. Absolute adequacy of classical science. The problem of truth in modern theory and its components. Idealized and abstract objects and theoretical constructs. The problem of reference. Semantic and empirical truth. Fact-forming activity and the problem of fact truth. The human dimension of objects and the problem of truth in post-classical science. The value of coherence in the structure of scientific theory. The value of the coherence of the conclusions of theories of different levels.

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

The growing role of the epistemological component in research. Entering the problem area of modern science. Problem statement as defining the boundaries of research and direction of research in the modern problem area. Determining the degree of problem development as a manifestation of the development of scientific reflection. Increasing demands for increasing the innovation of the epistemological activity of the scientist in the field of knowledge. Nomination of new ideas and concept development. Features of problem statement in the field of knowledge and technical problem. An idea as a new approach to solving a problem in a problem area. Features of the technical idea.

The evolution of epistemology in the disclosure of the activity of the subject. From epistemology without the knowing subject (K. Popper), the death of the subject (M. Foucault) and the death of the author (R. Barthes) to the evolutionary epistemology (Alexander, Lorenz). Constant epistemological innovation activity and its preconditions. The concept of continuity of scientific revolutions.

Topic 12. Methodological activity of the scientist

Formation of a new model of methodological activity of the researcher. The main levels of methodological activity. Philosophical methods and their significance in the development of modern science. The growing role of philosophical methods in terms of interdisciplinarity and transdisciplinarity. Correlation between object and method. Methods and approaches. Dialectical method and the problem of development. The epistemological approach and the problem of the subject's interaction with the object. Hermeneutic approach and the problem of text interpretation. Network approach and constitution of objects as a whole in the form of networks.

Phenomenological approach and the problem of intentionality and intersubjectivity. Comparative approach. Philosophical principles of synergetic approach.

General scientific methods. System and cybernetic approaches. Formalization method. Methods of empirical and theoretical knowledge (description, observation, experiment, measurement, classification). General methods.

Topic 13. Scientific text

Scientific text as a linguistic-semantic system. Semiotic and linguo-semantic approach to the scientific text. Features of scientific and scientific and technical textual information.

Addressability of a scientific text. Scientific knowledge in a scientific text. Scientific terms and methods of their definition. Types of definitions. Terminological analysis. Visualization of the terminological structure of the scientific text. The main cognitive components of a scientific text. Analysis of the basic elements of knowledge in a scientific text. Cognitive ontology of a scientific text.

Scientific text as a form of entering the scientific discourse. Submission of a scientific text. The main formats of scientific text and their features (report, scientific conference, discussion, briefing, information message).

Cultural and historical significance of the scientific text. Discussions on the limits of the impact of a scientific text on culture.

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

Specifics of the technical object. Morphological, functional and technical features of the technical system. Technical problem. Technical idea. Technical scheme.

Creativity as an innovative and creative process. Creative thinking as a product of something new in science. Novelty. Ontological aspect of innovation. Creationist and metaphysical theories of creativity.

Innovation and innovative thinking. Productivity thinking. Philosophical-theoretical and cognitive approaches in the formation of cultural resources of productive thinking. Epistemological parameters of productivity of thinking. The role of divergence and improvisation. The value of change ascending foundations of idealization and conceptualization. The role of creative thinking in the formation of new ideas, hypotheses and concepts.

Creative thinking as a synergetic process. Nonlinearity, alternative, variability and bifurcation. Cognitive strategies of synergetics about thinking as a synergetic process. A dynamic approach to thinking as a synergetic system.

The importance of forming creative thinking in the training of higher school professionals. Problem-oriented creative thinking. Stimuli and bases of cognitive creativity. The value of self-activation and self-recovery. Mastering. Reflexivity. Metacognitive mechanisms of application control. Resource approach and cultural epistemological resources of creative thinking.

World standards as regulations. Constructiveness of scientific and technical creativity. Scientific and technical creativity and the creation of a new one functionality of technical systems. Creation of new technologies.

Technique as posture, work and production (M. Heidegger). Scientific and technical creativity and development technosphere.

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

Cognition, cognitive activity, creativity, creativity. Intelligence and creativity. Cognitive creativity. Anthropological, methodological and social aspects of cognitive creativity. Cognitive features of creativity. Philosophical bases of research of a cognitive component of creativity.

The concept of embodied cognition, the meaning of bodily approach. From the functional theory of consciousness to the rootedness of the mind and bodily approach. Information approach, dynamic approach, heterophenomenological approach.

Cognitive activity of a whole person in the field of knowledge. The ideal objectivity of knowledge. The subject as an energy that changes the horizon of vision of the sphere of knowledge and creates new ways of presenting the object in knowledge. Modern transformations of philosophical principles of cognitive science. A new concept of cognition based on a dynamic approach, the emergence of cognitive structures. Transformation of methodological bases of research of cognitive activity. From functionalism and information approach to the dynamic approach, embodied cognition and heterophenomenology. Representativeism, phenomenalism and constructivism. The value of group and social dimension in the study of cognition and cognitive activity.

Topic 16. Knowledge and information

Basic approaches to the relationship between knowledge and information. Objectification and information. Knowledge and consciousness. Transformation of knowledge into information. Specifics of textual information. Scientific knowledge as information. Science as an information system.

Knowledge and information in knowledge management. Explicit and implicit knowledge. Information in the knowledge environment. The relationship between knowledge and information in conditions of uncertainty. Relationships internalization, exteriorization and socialization in knowledge exchange. Cognitive communication, its structure and features.

Information in social processes. Different types of information and their features. Information sphere of society. Information activity and exchange of information in the information sphere of society.

Topic 17. Information component of scientific research

Specifics of information processing in modern conditions of information explosion. Data, data streams. Isolation of subject and problem areas of research. Problem-oriented information search. Isolation of necessary information and formation of information flows. The value of mathematization of information flows. The value of introducing new topics as a basis thematization of information space. Tracking information flows over time. Monitoring, information processing and the importance of introducing new information into the conceptualization of the problem and its development.

Topic 18. Cognitive-communicative component of project activities

Project activity as compatible cognition. The importance of forming a knowledgeable and communicative environment to increase the efficiency of project organization of research. Features of knowledge representation in individual and team communication. Communication as the interaction of the Self and the Other.

Cognitive communication and communication. The importance of forming an innovative and emotional climate of team interaction. Cognitive communication as a confirmation of the result obtained by others. Legitimation of knowledge. Structure and linguistic features of cognitive communication. Cognition, group and individual cognition. Formation of group and team thinking.

Development of communication and cognitive activity: knowledge management, knowledge production as a competitive advantage. Formalized and informal knowledge. Implicit knowledge in organizations.

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

Topic 19. Perceptual information

Perceptual information as a mediator between man and the world. The ratio of physical and optical information. Acoustic and audio information. The role of information thresholds. The value of organolyptic information in the objective evaluation of system performance.

Perceptual experience and its importance in the formation of a specialist. Components of perceptual experience. Perceptual experience as a form of communication with the subject, technology and communication environment of professional activity.

Perceptual thesaurus. Formation of perceptual thesaurus. Thesaurus approach. The role of the information component in the thesaurus approach.

Primary and secondary information. The role of the visual system in obtaining perceptual information and determining its features. Invariants of the optical system (J. Gibson). Quantitative measure of primary information.

Topic 20. Sensory cognition

Basic forms of sensory cognition. Perceptual and non-perceptual forms. The state of modern research on perception and sensory systems. Basic theories and approaches to sensory cognition. The value of the theory of atomic copying. Methodological significance of theories of primary and secondary qualities in the development of classical science.

Physiological idealism. Theories of hieroglyphs. Sensory cognition as image formation. Ecological approach to visual perception (J. Gibson). The role of the cognitive component in sensory cognition. The role of cognitive schemes and models in the processing of cognitive information.

The main characteristics of perception. Subjectivity, spontaneity of perception. The role of sensory system activity in the formation of perception. Gestalt formation. The meaning of the image.

Image recognition and artificial intelligence. Categorization, nomination and identification in perception. The role of professional experience and knowledge and the formation of perception. The concept of image. The ratio of image and representation.

Metaphysical and dialectical approaches. Copy, image, subjective and subjective structure of the image. Epistemological and artistic image. The specifics of the cognitive component in the epistemological and artistic image. Perception in crisis situations and extreme conditions. The ratio of social and physical characteristics in perception.

Installation. Types of installation. Conscious and unconscious installation. Uznadze installation theory. Intentionality. The role of phenomenological principles in the formation of perception. The role of ontology in perception. Types of ontology. Material and formal ontology. Ontology as the basis of meaning fields in the formation of perception.

Interiorization. Practical and activity bases of internalization. Interiorization and transfer of the practical and activity plan of the personality from the external to the internal semantic plan.

The emergence of illusions in perception. Idea. The value of a non-perspective component in the formation of ideas. Imagination and imagination.

Topic 21. Basic approaches to the formation of perception

Practical bases of perception formation in anthroposociogenesis. Evolutionary approach. Problem adaptation to changing and complicating the environment.

Pragmatic approach. The role of experience in the formation of perception. Usefulness as a criterion for assessing perception. The problem of distinguishing between objective and subjective criteria of usefulness.

Ecological approach to visual perception. Primary and secondary perceptions. The role of perception and its types. The value of individual and collective activity in the formation of perception.

Hermeneutic approach. The role of the language component in perception. Verbal structure of experience. Hermeneutic circle and the problem of understanding.

Phenomenological approach. Phenomenalism. The structure of the phenomenon. Definition of perception. Phenomenological method. Formation of unity of values. Logical unity of values.

Topic 22. Cognitive perception and its features

Perception as a type of cognitive activity. Cognition and perception. Cognitive components of perception. Formation of cognitive perception. Cognitive operations in the process of perception.

Identification. The essence of identification. The value of identification for the formation of cognitive perception. Categorization and nomination.

Basic approaches. Nominalism, rationalism and phenomenism. Perception as a complex activity and psychomotor process. Psychologism in the consideration of perception. Basic paradigms psychologism. Cognitive psychology of perception.

Representativism. Internal and external representations. The role of internal and external representations in the formation of perceptual experience of the individual and the strategies of his activity.

Topic 23. Dialectics of the sensory and rational

Disclosure of the meaning of the dialectic of sensory and rational and interpenetration and mutual transition of opposites. The value of sensory and rational dialectics for the study of cognitive processes in science. The growing role of unobservability in science. The problem of clarity.

Development of information technologies and growth of visualization opportunities. Visualization as a way to observability and perception of theoretical constructs.

Aristotle's theory. The role of essence and form in perception. The ratio of observed and unobserved in the theory of primary and secondary qualities. The theory of primary and secondary qualities as an epistemological basis for substantiating the cognition of the world and its role as a philosophical basis in the development of classical science. Inductivism as a logical form of connection between the sensual and the rational. The role of the theory of primary and secondary qualities in the development of classical science.

Inductivism and sensualism as epistemological guidelines for the formation of the worldview of scientists in the classical natural sciences. Sensuality and the problem of world cognition. Materialist sensualism and substantiation of the external origin of the content of sensory cognition.

Contemplation. Contemplation as the unity of the sensual and the insensible. Transformation of contemplation at different stages of science development. Features of contemplation of mathematical objects. Metaphysical contemplation. The problem of intellectual intuition and its criteria (R. Descartes). Phenomenology of contemplation (E. Husserl).

Visual thinking. Evolution of visual thinking. Changes in visual thinking with the advent of information technology and virtual reality. The value of visual thinking for modern science. Visual hypothesis.

Topic 24. Cognitive science and philosophy of cognitive activity

Sign-symbolic concept of intellectual activity. Cognitivism and the study of computer metaphor. Hypothesis of the physical existence of signs and symbols (Newell, Simon).

The concept of the network nature of cognition. Connectionism. Modern models of interaction.

Cognitive systems. Endowment of technical systems with cognitive functions. Features of human interaction with cognitive systems. The concept of embodied cognition. Rooted mind (E. Roche, M. Lakoff, M. Thompson). Modern concepts of naturalized mind (U. Maturana, F. Varela). Man as a mesocosm (G. Fallmer). Cognitive loneliness of a person (O. Knyazeva). The doctrine of cognitive abilities (O. Baksansky). Cognition is life (U. Maturana). Evolution of cognitive programs and metaprograms (I. Merkulov).

Topic 25. Features of human information processing

Philosophical and anthropological bases of human perception of information. Research of features of sensory systems and activity of a brain.

Cognitive features of human perception and processing of information. Features of extraction from the data set of cognitive information. The concept of cognitive information. Linking cognitive information to

the boundaries of system identification. The role of self - identification and self-design of the system of their future states in determining the cognitive system and the limits of self-identification of the system.

The role of mental representations in information processing.

Cognitive and metacognitive mechanisms of information processing. The role of values in the selection and selection of information and the formation of personal experience. Features of human cognitive information processing. Mental representations and their types, methodological principles of mental representation. The value of values and the hierarchy of values in the processing of cognitive information. Identity and identification. Value

identity and identification for information processing. Cognitive area of system identification. Social and mental representations. Hierarchy of representations. Cognitive mechanisms of memory. Historical memory as tradition and cognition.

Features of cognitive information. Cognitivism, connectionism, the concept of embodied knowledge and ingrained mind about the features of cognitive information and its processing.

Topic 26. Cognitive abilities

Statement of the problem of cognitive abilities. Research on the evolution of cognitive abilities. Evolution of cognitive programs and metaprograms (I. Merkulov). Genetic, anthropological and social aspects of the evolution of cognitive abilities. The importance of social mechanisms in the development of cognitive abilities. Internalization of social content.

Talent and talent. Research of the role of representations in anthropology, culturology, sociology and pedagogy. Physical approach. Theoretical models of cognitive abilities.

Topic 27. Philosophical principles of the study of thinking

Thinking. Thinking as a process and a result. Thinking as a process of information processing and as a logical and phenomenological process. Thinking as a "grasp" of integrity and as establishing logical connections. The logical component of thinking.

General operations: comparison, analysis, synthesis, induction and deduction. The dialectical relationship between induction and deduction, analysis and synthesis. Thinking as a dialectical process.

The structure of the dialectical process. Laws of dialectical thinking. Philosophical and categorical foundations of dialectical thinking.

Cognitive content of nonlinearity. Nonlinear thinking. The role of the prognostic component in nonlinear thinking. Holistic approach and the importance of integrity. Thinking and anticipation.

Social and technological foresight. Scenario forecasting and development of versions of the future state of the object.

Topic 28. Subjective component of thinking

The subject as a living energy of thought (Gutner). Thinking as a psychological process. Isolation of the epistemological component in the psychological process as the basis of classical subjectivity. D. Locke's theory of reflection. Classical, non-classical and post-classical concepts of the subject. Becoming subject in classical science. The human dimension of the subject. The ratio of natural and social.

Psychological aspects of the subject. Post-classical concept of the subject. The subject as a witness.

Subject as an observer. Meta subject. Worldview and value principles of thinking. The subject's connection to the world. The world as a sphere of practical activity of the subject. Active attitude to the world and setting values. The rationality of the subject. Irrational in the subject and its origin.

Unconscious. The collective unconscious. Archetypes of thinking.

Topic 29. Cognitive aspects of thinking

Cognitivism. The cognitive basis of thinking in computer metaphor. Computational approach.

Thinking as a computational process of character processing. Deterministic states of thinking. Functional theory of consciousness. Connectivism. Network approach. Thinking as a communicative interaction. Information approach. Thinking and forming a social image of the world.

Individual and group cognition. Representativism. Methodological bases of mental representation. The role of self-activation. Precognitive carousel (M. Dennett) and self-activation.

Thinking as a subject-controlled process and as a cognitive process. Neurolinguistic hypothesis of F. Varela. Functionalism. Functional theory of consciousness (J. Searle). Physical approach. Reincarnated and inactivated thinking. Theory of ingrained context "The Embodied Mind" (E. Roche, M. Thomson, F. Varela).

Topic 30. Thinking and information

Thinking as information processing. Types of information and types of thinking. Discrete and iconic information. Primary and secondary information. Materialization, objectification, interpretation.

Cognitive information. Cognitive information and communication with the environment. Cognitive information and the problem of adaptation. Cognitive agents and environment. Subjective approach to value-based information processing. 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.

Integrity and fragmentation of information. Information that is the focus of attention and determines the semantic structure of the message. Objective and non-objective information. Extracting information from its objectified forms. Explicit and implicit information. Thinking as information processing.

Network approach. Connectionism. The importance of the connection of artificial cognitive subjects with the person who knows. Cognitive networks. Mental and communicative activity as a cognitive layer in the network. Dynamic approach. The brain as a nonlinear hierarchical system. Plasticity of the brain. Synergetic processes of self-organization.

Topic 31. Scientific thinking

The main features of scientific thinking. Objectivity, systematization, logical provability, validity. The importance of narrative, multimedia and intersubjectivity for development modern scientific thinking. The opposite of scientific and everyday, scientific and non-scientific thinking.

Empirical and theoretical thinking. The structure of empirical thinking. Basic 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. The value component of scientific thinking. Relationship between values and social position of a scientist. Ukrainian values. Universal values.

Topic 32. Technical thinking and its features

Technical thinking as a type of scientific activity. The role of the scientific component, abstraction and idealization in technical thinking. Technical thinking technical knowledge. The role of technical thinking in the formation of current, morphological and functional schemes 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. The problem of constructivism in modern philosophy. Radical and social constructivism. The role of the 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. Anthropological and value principles of technology. Functional approach. Technical systems and functions. Engineering approach to creating new functions. Technical thinking and design. The importance of social functionality in the development of modern design.

Topic 33. Visual thinking

The emergence of visual thinking. Visual thinking as a general cultural feature. Visual thinking, objects of contemplation. The role of the visual component in establishing logical connections. Visual and figurative thinking. Different approaches to the relationship between visual and figurative thinking. Cognitive approach. Left hemisphere and right hemisphere thinking. The role of figurative thinking in the development of creative imagination. Cognitive technologies in the development of visual thinking.

The role of information technology and development of information activity in the formation of modern visual thinking. Visual thinking and virtual reality. Modern problems of visual thinking. Visual thinking as a type of scientific activity. Visual hypothesis. The role of the visual hypotheses in modern science. Visual thinking in design. Visual thinking and processing of visual information.

Topic 34. Analytical thinking

Specifics of analytical thinking. The connection between analytical thinking and scientific activity. Role of abstractions and hierarchies, problem statement and research of the subject area in the analytical thinking. Praxeological orientation of analytical thinking. Development of analytical thinking in modern analytical and cognitive practices.

Analytical thinking and design. Development of modern social strategies of formation of information society and knowledge society as a basis in the management of social processes.

Analytical thinking in conditions of uncertainty. Analytical thinking in corporations. Processing data, the formation of trends. Cognitive bases of mission and strategy formation. The role of the analytical thinking in the formation of knowledge environments. Analytical thinking and communicative processes in knowledge environment of corporations. Analytical thinking and knowledge management. Strategic landmarks of dynamic thinking. Analytical thinking, technological and social foresight.

Visionary. Cognitive components of visioning in management.

Topic 35. Intuition and its features

The concept of intuition. Basic theories and concepts of intuition. Types of intuition. Intellectual and mathematical intuition. Criteria for the objectivity of intuitive cognition. Justification of objectivity intellectual intuition in rationalism. Intuition and scientific creativity. Basic theories and directions of research of the role of intuition in science. Intuition and creative evolution (A. Bergson). Intuition and instinct.

Intuitionism, the problem of the irrational in intuition. Intuition and empathy. Intuitionism about the role of intuition in the development of mathematics. Intellectual intuition and scientific creativity. Mathematical intuition.

The eidetic nature of mathematical intuition. The doctrine of the role of intuition in science. The growing role of intuition in professional activities. Ways of forming an intuitive component of professional thinking.

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, phenomenalism.*
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, meterialization, 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.

6. Independent work of the graduate student

Independent work of graduate students includes preparation for lectures and seminars, performance individual tasks, writing an abstract. Information and communication are used technologies that provide problem-solving nature of the learning process and activation independent work of graduate students; the application of problem-oriented scientific information search, formation of information flows and information base of research is offered etc.; electronic presentations of the organization of scientific material in the structure of the dissertation, design of scientific publications and bibliography.

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.*
31. *Modern transformations of epistemology.*
32. *Sociological approach and research of cognitive processes.*
33. *Naturalized mind.*
34. *Information society as a society of knowledge.*
35. *The problem of understanding.*
36. *Cognitive component in modern epistemology.*
37. *Axiological dimension of cognitive processes.*
38. *Evolutionary epistemology as a new cognitive paradigm.*
39. *Realism and anti-realism in the evolutionary approach to cognition.*
40. *Radical constructivism as an interdisciplinary solution to a skeptical problem.*
41. *Cognitive evolution.*
42. *Linguistic turn in the study of cognitive processes.*
43. *Reductionism and anti-reductionism in modern science.*
44. *The problem of monism and the unification of modern science.*
45. *Prognostic possibilities of nonlinear thinking.*
46. *Interaction of cognitive and aesthetic attitudes.*
47. *Philosophical and methodological dimensions of meaning.*
48. *Transdisciplinarity of scientific discourse.*
49. *Paradigmatic dimension of modern science.*
50. *Dynamics of interdisciplinary connections.*
51. *Scientific text.*
52. *Scientific theory as a form of development of modern science.*
53. *Experiment. Theory. Practice.*
54. *Productivity of scientific thinking.*
55. *Production of knowledge and social development strategies.*
56. *Constructivism.*
57. *Intellectual resources.*
58. *Information and cognitive processes.*
59. *Modern concepts of the subject.*
60. *Cognitive attitude and its transformation.*
61. *Research of cognitive processes in non-classical epistemology.*
62. *Modern scientific discourse.*
63. *The role of metaphor in cognition.*
64. *Basic science.*
65. *Methodological interior of modern science.*
66. *Cognitive processes and development of knowledge environments.*

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

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.

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

Current control: express surveys at lectures, surveys on the topic of classes at seminars. Calendar control is performed twice a semester as monitoring of the current state of implementation requirements of the syllabus and involves the performance of individual tasks.

Semester control involves an examination.

Conditions of admission to the semester control: minimally positive assessment for an individual task - 8 points, enrollment in all seminars - 16 points, semester rating - more than 50 points.

Rating system assessment

of student performance in the discipline "Philosophical gnoseology and epistemology" for graduate students of all specialties "Igor Sikorsky Kyiv Polytechnic Institute»

Distribution of study time by types of classes and tasks in the discipline according to the worker curriculum:

Semester	Teaching time	Distribution of teaching hours						
		Academic hours	Lectures	Seminars	Independent work	Supervised work	Course paper	Semester attestation
2	4	120	18	36	66		1	Examination

The graduate student's rating in the discipline consists of points that he receives for:

- 1) active work on lectures, conducting lecture notes - up to 10 points;*
- 2) answers during the express survey at the lecture - 1-2 points;*
- 3) preparation of a report on the topic of the lecture 3 points;*
- 4) answers (of each graduate student) at seminars according to the planned lecture material - 1-2 points;*
- 5) participation in the discussion of philosophical problems of science development - 5 points;*
- 6) course paper;*
- 7) answer to the exam (according to the ECTS scale).*

9. System of rating points and evaluation criteria

1. Elaboration of lecture material at seminars

The maximum number of points in all practical classes is 1.5 points x 18 = 27 points.

Criteria for evaluating the answer: 1.5 points - a complete answer to the question; postgraduate fluent in the lecture material, correctly, correctly uses the concept and philosophical categories, reveals analytical, systematic thinking. 1.2 points the graduate student allows insignificant inaccuracies in the answer, thinks logically within the considered topics. 0.9 points - the answer needs significant additions; the graduate student uses philosophical terminology incorrectly and does not can answer clarifying questions due to insufficient processing of the material. 0 points - the answer is not in essence; extremely limited response.

2. Express control of individual lessons:

Express control of individual classes in lectures plays an important role in assessing quality knowledge of graduate students. 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.

3. Execution of the course paper:

Weight score - 14 (r k = 10).

Evaluation criteria:

14-13 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. 12-10 points - the content of scientific sources selected for abstracting, disclosed, but the work is small flaws; some issues need clarification.

9-8 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.

7-0 points - the graduate student is not guided in the submitted material; the topic is not disclosed.

Penalty and incentive points (r s) are calculated for:

Penalty points are awarded for absence without good reason at the seminar – 1 point.

Incentive points:

1) high-quality problem-oriented scientific search for relevant literature in preparation before the seminar and when compiling the list of literature for the abstract - 2 points;

2) writing scientific theses for the conference - 5 points;

3) participation in faculty or university conferences, days of science of Faculty of Sociology and Law - 5 points.

The teacher can at the end of the semester add to the rating a bonus (from 5 to 8 points) for activity, for a full synopsis of lectures, for 100% attendance, for writing scientific abstracts for the conference, etc.

Rating scale (R):

The sum of weight points of control measures during the semester (semester rating R c) is:

R c = 27 + 9 + 14 = 50 points (the number of points that graduate students can get for performance works during the semester).

4. Answer on the exam

The exam is the final form of final control.

Control examination tasks are developed in accordance with the curriculum discipline. Test exams contain theoretical and practical questions on topics course. An approximate set of control exam tasks is attached.

Total examination - 50 points

Criteria for assessing the answer to the exam:

50-47 points - a complete answer to the question of the exam ticket; student free is guided in the submitted material.

46-37 points - the answer needs small clarifications.

36-30 points - the answer needs additions, insufficient mastery of the material; graduate student no can answer clarifying or additional questions.

29-0 points - the answer is not according to the content of the exam ticket, or an extremely limited answer.

The starting rating of the graduate student is formed as the sum of all rating points received during the semester, as well as incentive / penalty points.

The rating scale for the discipline "Philosophical Gnoseology and Epistemology" is:

$$RD = R_c + R_e$$

$$RD = 50 + 50 = 100$$

Grades (ECTS and traditional) to the examination paper are set according to table.

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

<i>Rating points, RD</i>	<i>Assessment on a university scale</i>
$95 \leq RD \leq 100$	<i>Excellent</i>
$85 \leq RD \leq 94$	<i>Very good</i>
$75 \leq RD \leq 84$	<i>Good</i>
$65 \leq RD \leq 74$	<i>Satisfactory</i>
$60 \leq RD \leq 64$	<i>Enough</i>
$RD < 60$	<i>Unsatisfactory</i>

10. Additional information on the discipline (educational component)

Appendix 1

Control tasks

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.*
19. *Features of the application of philosophical and general scientific methods.*
20. *Features of modern cognitive processes.*
21. *Philosophy of science: the main stages of development and current status.*
22. *Conceptual definitions of modern science: nonlinear science, post-classical science.*
23. *A priori. Agnosticism.*
24. *Transcendental dimension of classical and non-classical epistemology and epistemology.*
25. *Linguistic turn in the development of science. Text. Discourse. Narrative.*
26. *Cognitive-communicative component of project activity.*
27. *Features of human information processing.*
28. *The problem of ontology and metaphysics in the development of science.*
29. *The main elements of knowledge in the scientific text and their characteristics.*
30. *Information component of perception.*

Appendix 2

Examination questions

1. *Give a general description of the evolution of the subject of philosophical epistemology.*
2. *Features of knowledge production in modern science.*
3. *Cognitive processes and their characteristics.*
4. *Describe the structure of the cognitive relationship.*
5. *Reveal the main directions of the classical theory of cognition.*
6. *Describe skepticism and clarify the role of the skeptical argument.*
7. *Reveal the content of the problem of cognition of the world.*
8. *Reveal the essence of transcendental philosophy of cognition.*
9. *Describe information, network and heterophenomenological approaches to thinking.*
10. *Show the role of information in cognitive processes and the information society.*
11. *Describe the types of information.*
12. *Analyze the internal and external prerequisites for cognition.*
13. *Reveal the information component of scientific research.*
14. *Analyze information processes and their levels.*
15. *Identify the specifics of human information processing.*
16. *Describe representativeism.*
17. *Analyze the problem of reference. Mind and history.*
18. *Reveal the role of the epistem.*
19. *Describe evolutionary epistemology.*
20. *Analyze the methodological component of research.*
21. *Give a comparative description of the levels of methodology.*
22. *Give a comparative description of the main philosophical methods.*

23. Describe the types of subjects of science and their functions.
24. Give a comparative description of the main forms of theoretical knowledge.
25. Describe the main stages of development of scientific rationality.
26. Reveal the main characteristics of post-classical rationality.
27. Reveal the relationship of knowledge to the object, to characterize the image, copy, ideal, prototype.
28. Describe the epistemological processes in scientific and technical creativity.
29. Analyze intellectual resources.
30. Reveal cognitive communication.
31. Describe critical rationalism.
32. Reveal the meaning of the problem of ontology in science and philosophy.
33. Give a comparative description of metaphysics and modern metaphysics in modern philosophy science.
34. Describe the types of thinking.
35. Analyze the basic theories of truth and features of their application in scientific practice.
36. Reveal sensory cognition.
37. Give a comparative description of types of thinking.
38. Describe the linguistic turn in science.
39. Reveal a scientific text as a carrier of scientific knowledge.
40. Give a comparative description of cognition and understanding.
41. Reveal the hermeneutic approach to science.
42. Describe methodological anarchism and methodological pluralism.
43. Compare empiricism classical and modern.
44. Describe the main directions of cognitive philosophy.
45. Reveal the existential approach to creativity.

Syllabus:

Compiled by Doctor of philosophical sciences, professor, full professor Olexandra Rubanets

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Approved by the Methodical Commission of the Faculty of Sociology and Law (Protocol № from)