PJSC "Higher Educational Enstitution "INTERREGIONAL ACADEMY OF PERSONNEL MANAGEMENT"

Danube Branch

SYLLABUS

of the academic discipline (selective)

SCIENTIFIC IMAGE OF THE WORLD

Specialty **D3 Management**

Educational level: **First (bachelor's) level**

Educational program: **Management**

IAPM 2025

General information about the academic discipline

Name of the discipline	**Scientific image of the world**
Code and name of specialty	**D3 Management**
Level of higher education	First (bachelor's) level
Discipline status	Selective
Number of credits and hours	**3 credits / 90 year.** Lectures: **20** Seminar classes: **14** Independent work of students: **56**
Terms of study of the discipline	2nd semester
Language of instruction	Ukrainian
Type of final control	Pass/fail (credit)

General information about the teacher. Contact information.

Bayramova Olena Viktorivna	
Academic degree	PhD in Philosophy
Position	Associate Professor
Areas of scientific research	Philosophical dimension of modern management and economics; methodology of scientific knowledge; Problems of Formation of Cultural Identity and Communicative Competence in the Context of Globalization
Links to the registers of identifiers for scientists	Google Scholar https://scholar.google.com.ua/citations?user=adMYwMgAAAAJ&hl=uk ORCID https://orcid.org/0000-0002-2836-7037
Contact information:	
E-mail:	menedzmentuk@gmail.com
Contact phone number	+380677445957
Instructor's portfolio on the website	https://izmail.maup.com.ua/assets/files/bajramova-portfolio-a.pdf

Discipline's description.

The academic discipline "Scientific Image of the World" is an interdisciplinary educational component that integrates knowledge from the natural, humanities and exact sciences into a single holistic system. In the era of information noise and rapid technological progress, it is important not only to have narrow professional skills, but also to understand the fundamental laws by which the Universe, nature and society function. The course reveals the evolution of scientific ideas from antiquity to the present: from Newton's mechanistic picture of the world to the theory of relativity, quantum mechanics, genetics and

synergetics. Particular attention is paid to the methodology of scientific knowledge, which makes it possible to distinguish objective facts from pseudoscientific manipulations.

The subject of the discipline "Scientific Image of the World" is the history of formation, current state and methodological foundations of the scientific picture of the world, covering the levels of micro-, macro- and mega-world.

The aim of the discipline is the formation of students' scientific worldview, the development of systematic thinking and the ability to analyze complex natural and social phenomena through the prism of modern scientific achievements.

The objectives of the discipline include familiarization with key scientific revolutions and paradigm shifts, the study of the principles of self-organization of matter (synergetics), understanding the place of man in the evolutionary process (anthropic principle) and awareness of the ethical challenges posed to humanity by modern science (bioethics, artificial intelligence, ecology).

As a result of studying the selective educational component "Scientific Image of the World", applicants must:

Know:

- criteria for the scientificity of knowledge (verification, falsification) and the difference between science and other forms of cognition;
- the main stages of the development of the scientific picture of the world (classical, non-classical, post-non-classical science);
- fundamental concepts of modern cosmology (Big Bang theory), biology (synthetic theory of evolution) and ecology (the doctrine of the noosphere);
- the essence of global problems of our time and the role of science in solving them.

Be able to:

- apply the scientific method for analyzing information and critically evaluating facts;
- to discuss the ethical problems of scientific and technological progress in a reasoned manner;
- use a systematic approach to explain the relationships between natural and social processes;
- distinguish between scientific theories, hypotheses and pseudoscientific myths.

Prerequisites for the discipline. The study of the discipline is carried out in the second semester and is based on the knowledge of secondary school subjects, as well as on the results of the first semester. The fundamental basis for mastering the course is the compulsory discipline "Philosophy", which forms an understanding of the essence of being and cognition, as well as "History and Culture of Ukraine", which provides a context for the development of science as a cultural phenomenon. which develops abstract and logical thinking, which is necessary to understand the exact sciences.

Post-details for the discipline. The formed scientific worldview is cross-cutting for further education and serves as a basis for mastering the compulsory disciplines of senior courses. In particular, data skills and understanding patterns are used in the study of

"Statistics" in the third semester. Understanding of the impact of technological progress on society is deepened in the course "Digital Technologies in Management" in the fourth semester, and ethical aspects of science and human responsibility are considered within the discipline "Social Business Responsibility" in the sixth semester. The final link is the course "Fundamentals of Scientific Research in Management" in the eighth semester, where the methodology of scientific knowledge is applied directly to write a qualification work.

Content of the academic discipline

<table>
<tr><th>№</th><th>Topic name</th><th>Teaching Methods/Assessment Methods</th></tr>
<tr><td>Topic 1</td><td>Science as a cultural phenomenon and a way of knowing the world</td><td rowspan="10">Teaching Methods:
– the educational process is based on a combination of lectures and practical forms of education. Lectures are held in the format of review, problem lectures and visualization lectures (demonstration of the structure of the Universe, the microcosm and evolutionary processes) and are aimed at forming a holistic natural science picture of the world. thinking.;
– interactive teaching methods are used to form research and worldview competencies, in particular, analysis of historical and scientific cases (case study), brainstorming, work in small groups, conducting imaginary experiments, as well as performing analytical tasks to distinguish between scientific and pseudoscientific knowledge within the framework of independent work of students.
Assessment methods
Assessment is carried out according to the cumulative system and includes:
- current control: oral questioning, express testing, solving situational problems and defense of individual tasks;
- modular control: written modular control work (MCR) after the completion of the content block;
- Final control: test (written work with theoretical tasks).</td></tr>
<tr><td>Topic 2</td><td>Historical evolution of the scientific picture of the world</td></tr>
<tr><td>Topic 3</td><td>Modern cosmology</td></tr>
<tr><td>Topic 4</td><td>Physical picture of the world</td></tr>
<tr><td>Topic 5</td><td>Systemic organization of matter and synergetics</td></tr>
<tr><td>Topic 6</td><td>Chemical and geological pictures of the world</td></tr>
<tr><td>Topic 7</td><td>Biological picture of the world</td></tr>
<tr><td>Topic 8</td><td>Biosphere and noosphere: the teachings of V. I. Vernadsky</td></tr>
<tr><td>Topic 9</td><td>Man in the scientific picture of the world</td></tr>
<tr><td>Topic 10</td><td>Science and the future of civilization</td></tr>
<tr><td colspan="3">Module Assessment Task</td></tr>
<tr><td colspan="3">Final assessment: pass/fail (credit)</td></tr>
</table>

Technical Equipment and Software.

Material and technical support of the educational process in the discipline "Scientific Image of the World" involves the use of specialized classrooms equipped with modern technical means of teaching, as well as library funds, including electronic resources.

Multimedia equipment is used to visualize educational material during lectures and seminars, including computer equipment and a multimedia projector. Practical and

independent tasks, preparation for seminars and processing of educational materials are provided with access to the Internet via free Wi-Fi coverage.

Forms and methods of assessment

The system of assessment of applicants' knowledge includes current and final (semester) control.

Current assessment is carried out systematically during practical and seminar classes in order to check the level of assimilation of theoretical foundations, the formation of diagnostic and forecasting skills, as well as the ability to use specialized software for modeling and data analysis.

Forms of student participation in the educational process that are subject to ongoing control.

Students' participation in the educational process is realized through oral presentations, research presentations, reports based on the results of case studies, as well as active involvement in professional discussions and brainstorming. The written component of the work includes the performance of control and test tasks, the preparation of essays and notes based on the materials of lectures and independent study.

Methods of ongoing assessment include: The methodological tools of current control in the discipline "Scientific Image of the World" combine oral and written forms of assessment.

Oral control is carried out in the form of surveys, interviews and participation of applicants in seminar discussions.

Written types of work include the performance of individual and group tasks, the preparation of short written answers, reflective essays and the elaboration of situational tasks.

Assessment is also based on observing the activity of applicants during the discussion of problematic social situations, checking the results of presentations of individual or group tasks, as well as conducting express testing using open and closed tasks.

Grading system and requirements.

Table of distribution of points received by students*

Topics	Ongoing knowledge assessment						Final control		Total points
	Seminar 1 (Topic 1.2)	Seminar 2 (Topic 3,4)	Seminar 3 (Topic 5)	Seminar 4 (Topic 6.7)	Seminar 5 (Topic 8.9)	Seminar 6 (Topic 10)	Module assessment task	Pass /Fail	
Work in a seminar class	6	6	6	6	6	6	20	20*	100
Independent work	4	4	4	4	4	4			

*The table contains information about the maximum points for each type of educational work of a higher education applicant.

Assessment Criteria and Procedure

Assessment of students' educational achievements is carried out in accordance with the current Regulations on Assessment in a Higher Education Institution.

Modular Assessment. Modular Assessment (MA) is carried out at the final lesson of the content module in the form of written testing.

When evaluating the unit test, the volume and correctness of the tasks are taken into account:

– the grade "excellent" (A) is given for the correct completion of all tasks (or more than 90% of all tasks);

– a grade of "good" (B) is given for the completion of 80% of all tasks;

– a grade of "good" (C) is given for the completion of 70% of all tasks;

– the grade "satisfactory" (D) is given for the correct completion of 60% of the proposed tasks;

– the grade "satisfactory" (E) is given if more than 50% of the proposed tasks are correctly completed;

– "Unsatisfactory" (FX) grade is given if less than 50% of the tasks are completed.

Failure to appear for the unit test - 0 points.

The above scores are converted into rating points as follows:

"A" - 18-20 points;

"B" - 16-17 points;

"C" - 14-15 points;

"D" - 12-13 points.

"E" - 10-11 points;

"FX" - less than 10 points.

The final semester assessment in the discipline "Scientific Image of the World" is a mandatory form of assessment of students' learning outcomes. It is carried out within the terms determined by the curriculum and covers the amount of material determined by the course program.

The final assessment is carried out in the form of a test. A student who has completed all the necessary work is admitted to the semester assessment.

The final grade is given based on the student's learning outcomes during the semester. The student's assessment consists of points accumulated from the results of the current assessment and incentive points.

Students who have completed all the required tasks and received a score of 60 points or higher receive a grade corresponding to the grade received, without additional testing.

For students who have completed all the necessary tasks, but received a score below 60 points, as well as for those who want to improve their score (result), the teacher conducts the final work in the form of a test during the last scheduled lesson in the discipline in the academic semester.

Evaluation of Additional (Individual) Educational Activities

Additional (individual) types of educational activities include the participation of applicants in the work of scientific conferences, scientific circles of applicants and problem groups, preparation of publications, participation in All-Ukrainian Olympiads and

competitions and International competitions, etc., in excess of the scope of tasks that are established by the relevant work program of the academic discipline.

By the decision of the department, students who participated in research work and performed certain types of additional (individual) types of educational activities can be awarded incentive (bonus) points for a certain educational component.

Independent Study Evaluation (Maximum — 4 points)

The total number of points received by a student for independent work is one of the components of academic success in the discipline. Independent work on each topic, according to the course program, is evaluated in the range from 0 to 4 points using standardized and generalized criteria for assessing knowledge.

Scale for evaluating the performance of independent work (individual tasks)

Maximum possible assessment of independent work (individual tasks)	Execution level			
	Excellent	Good	Satisfactory	Unsatisfactory
4	4	3	1-2	0

Forms of assessment include: current assessment of students' educational activities during practical (seminar) classes, in particular, checking the assimilation of theoretical material based on oral answers, participation in discussions, preparation of reports, messages and presentations.

Assessment also involves the performance of individual and group tasks, solving situational cases, preparing written works on topics of independent study, summarizing educational material and formulating conclusions.

Control of the level of assimilation of educational material is carried out by testing, performing written tests, as well as in the form of final control. The preparation of educational and scientific materials (abstracts, short reviews, etc.) is encouraged, which contributes to the development of skills for independent educational and professional activity.

To assess the learning outcomes of a higher education applicant during the semester, a 100-point, national and ECTS assessment scale is used.

Summary assessment scale: national and ECTS

Total points for all types of learning activities	ECTS assessment	National scale assessment	
		for exam, course project (work), internship	For pass/fail (credit)
90 – 100	A	excellent	pass
82 – 89	B	good	
75 – 81	C		
68 – 74	D	satisfactorily	
60 – 67	E		
35 – 59	FX	unsatisfactory with the possibility of reassembly	fail unsatisfactory with the possibility of retaking

0 – 34	F	unsatisfactory with mandatory re-study of the discipline	fail with mandatory re-study of the discipline

Discipline's Policy

Successful mastering of the educational component "Scientific Image of the World" requires high self-discipline and a responsible attitude to the educational process from students. Prerequisites are regular attendance of lectures and practical classes, active participation in classroom work, as well as timely and high-quality performance of all types of independent and control tasks provided for by the program. In case of missing classes or obtaining unsatisfactory results, the student is obliged to liquidate academic debt by working out the relevant topics.

An integral part of education is strict adherence to the norms of academic ethics and culture of behavior. The educational process is based on the principles of academic integrity, which involves the exclusive independent performance of all written works, reports and presentations. Any borrowings of thoughts or texts of other authors should be accompanied by correct references to primary sources. Within the course of the course, any manifestations of academic dishonesty are unacceptable, including plagiarism, self-plagiarism, fabrication and falsification of data, cheating, deception, bribery or biased evaluation.

Recommended sources of information:

Basic literature:

1. Vysotskyi M. V. Practicum on the course "Scientific Image of the World": a manual for teachers and students / M.V. Vysotskyi, I.S. Kolomiets, V.V. Nikonova, O.V. Pylypovskyi, E.A. Slyusar. Kyiv: VIK Print, 2021. 200 p.
2. Yezhov S. M. Scientific Image of the World. Information world. Science and the Unknown: Teaching. Manual. / S. M. Yezhov. Kyiv: VPC "Kyiv University", 2021. 148 p.
3. Yezhov S. M. Scientific Image of the World. History. Megasvit : study. manual / S.M. Yezhov. Kyiv: KNU. T. Shevchenko, 2022. 125 p.
4. Yezhov S. M. Scientific Image of the World. Microworld. Bioworld: study. Manual. / S.M. Yezhov. Kyiv: VPC "Kyiv University", 2020. 157 p.
5. Transformation of the Being of Man and Society in the Context of Modern Civilizational Development: Monograph / [V. P. Melnyk, A. F. Karas, Z. E. Skrynnyk et al.] ; for Science. Ed. Z. E. Skrynnik, A. F. Karasya. Lviv: LNU. Ivan Franko, 2024. 302 p.
6. Philosophical Problems of Modern Scientific Knowledge: Textbook / Y.V. Tararoev [et al.] ; Nats. Tech. University "Kharkiv. Polytechnic. In-T". Kharkiv: Ivanchenko I. S., 2023. 350 p.

Additional literature:

1. Vakulyk I. Interpretation of the scientific picture of the world in the context of knowledge development. *Humanities Studies: Pedagogy, Psychology, Philosophy*. 2021. №9(3). Pp. 93-99. DOI: https://doi.org/10.31548/hspedagog2021.03.093.
2. Vyshynskyi S. Alienation of Rationality: Threats, Challenges and Thinking of Posthumanism. *Philosophical thought*. 2024. №4. Pp. 53-61. DOI: https://doi.org/10.15407/fd2024.04.053

3. Nikolina I. Theories of Anthropogenesis and Their Evolution in Scientific Discourse / I. Nikolina I. Mazur. *Scientific Works of Vinnytsia State Pedagogical University named after Mykhailo Kotsiubynskyi. Series "History",* 2023. No43. P. 54-62. DOI: https://doi.org/10.31652/2411-2143-2023-43-54-62
4. Teslenko T. V. Evolution of Concepts of Economy from Industrial Revolution to Digital / T.V. Teslenko. *Social philosophy and philosophy of history*. 2022. № 11. Pp. 66-78. URL: https://humstudies.com.ua/article/view/261866/258258.
5. Folke, C., Polasky, S., Rockström, J. et al. Our future in the Anthropocene biosphere. *Ambio*. 2021. № 50. P. 834–869. DOI: https://doi.org/10.1007/s13280-021-01544-8
6. Kathleen Hall Jamieson, Anne-Marie Mazza, and William Kearney (Eds.) Realizing the Promise and Minimizing the Perils of AI for Science and the Scientific Community. University of Pennsylvania Press. 2024. 281 p. URL: https://penn.manifoldapp.org/system/resource/8/3/b/83b13404-1bfa-4bfe-a319-74ff1579fc0c/attachment/282a351ddd397b9dd9c6f72de3b8636c.pdf
7. Shan Y. New Philosophical Perspectives on Scientific Progress. Routledge, 2022. 424 p. URL: https://api.pageplace.de/preview/DT0400.9781000780888_A43526669/preview-9781000780888_A43526669.pdf
8. Zachmann K., Gadebusch Bondio M., Jukola S., Sparschuh O. Evidence Contestation. Dealing with Dissent in Knowledge Societies. Routledge, 2022. 336 p. URL:
9. https://library.oapen.org/bitstream/id/44e77325-bc16-4fbf-a812-3c5417615f53/9781000839852.pdf

Information resources:

1. National Library of Ukraine named after V.I. Vernadsky. URL: http://www.nbuv.gov.ua/.
2. Ten technological breakthroughs in 2025: from quantum chips and superwood to e-liquid. URL: https://thepage.ua/ua/news/optichni-nanochipi-profilaktika-demenciyi-ta-elektronna-ridina-vidkrittya-2025.
3. Evolution of Models of the Structure of the Universe / Semkiv Y.M. URL: https://elartu.tntu.edu.ua/bitstream/123456789/218/2/Semk%D1%96v_Yu_M-Evolyuts%D1%96ya_modelej_struktury_Vsesv%D1%96tu_2007.pdf
4. Course of lectures on the discipline "Concepts of Modern Natural Science"
5. Fundamentals of Anthropogenesis. Scientific Hypotheses of Human Origin and Evolution / Psychogenetics: Course of Lectures. System of Electronic Support of Education of Zaporizhzhya National University. URL: https://moodle.znu.edu.ua/mod/book/view.php?id=587404&chapterid=1594.
6. Основи космології / І.А.Климишин. URL:https://www.mao.kiev.ua/biblio/mono/klimishin_ia_osnovi_kosmologiyi.pdf
7. Conquering the stratosphere, altering DNA genes, and designing in the Metaverse: 7 innovative technologies in 2024. URL: https://robotdreams.cc/uk/blog/573-7-innovaciynyh-tehnolohiy-2024-roku.
8. Systems of the Foundations of Science and Historical Types of Scientific Rationality: Classical, Non-Classical and Post-Non-Classical / Professor I.S. Dobronravova. URL: http://philsci.univ.kiev.ua/biblio/PhN/3-ch.htm.