MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

SUMY NATIONAL AGRARIAN UNIVERSITY

Philosophy and socio-humanities chair

APPROVED
Head of the Chair
_____ Shevel A.O.
"_____" _____ 2020

CURRICULUM
(DESIGN AND DELIVERY OF COURSE UNIT)

PHILOSOPHY OF SCIENCE

Narrow field of education (specialty): All field of education where university is delivering PhD programmes

Academic programme: All academic programmes delivering for III level of higher education (PhD programmes)

Degree:
Doctor of Philosophy

Faculty: all faculties

2020-2021 academic year

Curriculum by «Philosophy of science» for postgraduate students of all specialties.

Author:

Assistant _____ (Perelomov A.Y.)

The working program was approved at a meeting of the Philosophy chair.

Records from "__22__" _____06_____№ __12___.

Head of Chair (Shevel A.O.)

Agreed:
Head of educational program _____(O.Y. Melnik)

Head of postgraduate and doctoral studies _____ (Inna V. Lozynska)

Methodist of the Department of Education Quality,
Licensing and Accrediation _____ ( )

Registered in the electronic database: date 01.07. 2020.

1. Description of the academic discipline

<table>
<tr><th rowspan="2">The name of indicators</th><th rowspan="2">Area of knowledge, direction of training, educational and qualification level</th><th colspan="2">Characteristics of the academic discipline</th></tr>
<tr><th>Full-time education</th><th>Extramural studies</th></tr>
<tr><td rowspan="2">Number of credits - 4</td><td>Field of knowledge:
all</td><td colspan="2" rowspan="2">Normative</td></tr>
<tr><td>Specialty:
all</td></tr>
<tr><td>Modules – 2</td><td rowspan="11">Educational degree:
Doctor of Philosophy</td><td colspan="2">Year of preparation:</td></tr>
<tr><td>Content modules - 2</td><td>2020-2021</td><td></td></tr>
<tr><td rowspan="3">The amount of hours - 100</td><td colspan="2">Course</td></tr>
<tr><td>1</td><td></td></tr>
<tr><td colspan="2">Semester</td></tr>
<tr><td rowspan="3">Weekly hours for daytime training: classroom - 4 independent work of the student - 8</td><td>1</td><td></td></tr>
<tr><td colspan="2">Lectures</td></tr>
<tr><td>20 hours</td><td></td></tr>
<tr><td colspan="2">Seminar</td></tr>
<tr><td>20 hours</td><td></td></tr>
<tr><td colspan="2">Independent work</td></tr>
<tr><td>60 hours</td><td></td></tr>
<tr><td colspan="2">Type of control</td></tr>
<tr><td colspan="2">credit</td></tr>
</table>

The ratio of hours of classroom hours to independent and individual work is (%):
for the daytime education - 41.9 / 58.1 (44/61)

2. Goals and objectives of the academic discipline

The purpose of teaching the discipline "Philosophy of Science" is: the formation of students' general ideas about the history of the development of a particular branch of science and the philosophy of scientific knowledge in general, the methodology of scientific creativity, the basic provisions that characterize research as a qualified scientific search in a particular field of science.

The objectives of studying the discipline of the "Philosophy of Science" are: to provide students with a weekend knowledge on the organization of research work, using general methods of scientific knowledge and applying formal logical laws and

philosophical principles in the processing, comprehension and generalization of scientific research results.

According to the requirements of the educational and professional program, students must:

to know: the main theoretical positions, important key problems of all the topics of the course, the basic concepts and categories of the discipline, to understand the development of scientific knowledge as the result of a creative search for a scientist, and science as one of the most important institutions of human society, to navigate the most important problems of scientific knowledge.

be able to: synthesize the acquired knowledge from professional and humanitarian disciplines into a holistic view of the world, apply the knowledge gained in scientific activity, apply practical skills in analyzing one or another method of scientific search.

3 The program of academic discipline

Content module 1. Features of the philosophy of science.

Philosophy of science as a branch of philosophical knowledge. Subject matter of the philosophy of science. The phenomenon of science in the structure of the philosophy of science. Historical types of outlook. The correlation of philosophy and science, the common and distinctive features of philosophy and science. Historical types of interrelation between philosophy and science. The phenomenon of science in the structure of the philosophy of science. Epistemology. Methodology of science. Sociology of Science Specificity of philosophical problems of science**.**

The phenomenon of science. The basic forms of the existence of science. Genesis of scientific knowledge, classical, non-classical, post-non-classical science. Science as a specific type of knowledge, attributive characteristics of scientific knowledge. Science as a cognitive activity. Science as a social institution. System nature of science. The main functions of science.

Structure and methods of scientific knowledge. Levels of scientific knowledge. Structure of empirical knowledge. Methods of empirical research: scientific observation, comparison, measurement, experiment. The relationship of empirics and theory. Methods of theoretical knowledge: idealization, formalization, mathematical modeling. Structure of the scientific theory. Metatheoretical level of scientific knowledge. The scientific picture of the world, the ideals and norms of scientific research and the philosophical foundations of science.

Content module 2. Theory and practice of science as a public institution.

Ethics of science. Science and morality. Ethics and deontology, the professional code of honor of the scientist. The main themes of the ethical discussion of scientific and technical activities (the goals of science, the means of scientific activity, the consequences of scientific activity, the meaning of scientific activity). Scientific knowledge: freedom and control. Ethical issues of special sciences. The influence of science on posing new ethical problems. Scientific and technological progress and its moral problems.

Philosophical problems of biology. Specificity of philosophical and methodological problems of biology. Reductionism vitalism in the history of biology. The essence of the living. Scientific concepts of the origin of life. The idea of development in biology (transformism, Saltationism, evolutionism). Global problems of mankind and the role of biology in their solution.

4. Structure of the academic discipline

Names of content modules and topics	Number of hours											
	Daily form						Extramural					
	Total	including					Total	including				
		l.	s.	lab	ind	i.w.		l	s	lab	ind	i.w.
1	2	3	4	5	6	7	8	9	10	11	12	13
Module 1. Features of the philosophy of science												
Content module 1. ***Features of the philosophy of science.***												
Theme 1. Philosophy of science as a branch of philosophical knowledge.	**20**	**4**	**4**			**12**						
Theme 2. The phenomenon of science. The basic forms of the existence of science.	**20**	**4**	**4**			**12**						
Theme 3. Structure and methods of scientific knowledge.	**20**	**4**	**4**			**12**						
Total for content module 1	**60**	**12**	**12**			**36**						
Module 2. Theory and practice of science as a public institution.												
The content module 2. ***Theoretical and methodological problems of philosophy.***												
Theme 1. Ethics of science.	**15**	**4**	**4**			**12**						
Theme 2. Philosophical problems of biology.	**15**	**4**	**4**			**12**						
Total for content module 2	**36**	**8**	**4**			**24**						
Total hours.	**100**	**20**	**20**			**60**						

5. Themes of lecture classes (full-time course)

№ i/o	Themes title and plan	Number of hours
1	**Theme 1 Philosophy of science as a branch of philosophical knowledge.** 1. Philosophy of science as a special philosophical discipline. 2. Specificity of the philosophical problems of science. 3. Historical types of interrelation between philosophy and science.	4
2	**Theme 2. Philosophical analysis of the essence of science and its social functions.** 1. Classical science, its characteristics. 2. Non-classical science, its features. 3. Post-classical science, its main features.	4
3	**Theme 3. The phenomenon of science. The basic forms of the existence of science.** 1. Features of scientific knowledge. 2. Science as an activity. 3. Science as a social institution. 4. Functions of science.	4
4	**Theme 4. Structure and methods of scientific knowledge.** 1. Empirical and theoretical levels, discrimination criteria. 2. Empirical level, its forms and methods. 3. Theoretical level, its forms and methods. 4. Fundamentals of scientific knowledge (ideals and norms of research, the scientific picture of the world, philosophical foundations)	4
5	**Theme 5. Science as a public institution. Ethics of science.** 1. Ethical norms and values of science. 2. Main topics of ethical discussion of scientific and technical activities 3. Scientific knowledge: freedom and control.	4
	Total	**20**

6. Seminar topics to take (full-time form of training)

№ i/o	Themes title and plan	Number of hours
1	**Theme 1**. Philosophy of science as a branch of philosophical knowledge.	4
2	**Theme 2.** Historical types of interrelation between philosophy and science.	4

3	**Theme 3.** Structure and methods of empirical research.	4
4	**Theme 4.** The phenomenon of science in the structure of the philosophy of science.	4
5	**Theme 5.** Genesis of scientific knowledge, classical, non-classical, post-non-classical science.	4
	Total	**20**

7. Individual work (full-time education))

№ i/o	Themes title and plan	Number of hours
1	**Theme 1. Philosophy of science as a branch of philosophical knowledge.** Subject matter of the philosophy of science. The phenomenon of science in the structure of the philosophy of science. Historical types of outlook. The correlation of philosophy and science, the common and distinctive features of philosophy and science. Historical types of interrelation between philosophy and science. The phenomenon of science in the structure of the philosophy of science. Epistemology. Methodology of science. Sociology of Science Specificity of philosophical problems of science.	12
2	**Theme 2. The phenomenon of science. The basic forms of the existence of science.** Genesis of scientific knowledge, classical, non-classical, post-non-classical science. Science as a specific type of knowledge, attributive characteristics of scientific knowledge. Science as a cognitive activity. Science as a social institution. System nature of science. The main functions of science.	12
3	**Theme 3. Structure and methods of scientific knowledge.** Levels of scientific knowledge. Structure of empirical knowledge. Methods of empirical research: scientific observation, comparison, measurement, experiment. The relationship of empirics and theory. Methods of theoretical knowledge: idealization, formalization, mathematical modeling. Structure of the scientific theory. Metatheoretical level of scientific knowledge. The scientific picture of the world, the ideals and norms of scientific research and the philosophical foundations of science.	12
4	**Topic 4. Ethics of science.** Science and morality. Ethics and deontology, the professional code of honor of the scientist. The main themes of the ethical discussion of scientific and technical activities (the goals of science, the means of scientific activity, the consequences of scientific activity, the meaning of scientific activity). Scientific knowledge:	12

	freedom and control. Ethical issues of special sciences. The influence of science on posing new ethical problems. Scientific and technological progress and its moral problems.	
5	**Theme 5. Philosophical problems of biology.** Specificity of philosophical and methodological problems of biology. Reductionism vitalism in the history of biology. The essence of the living. Scientific concepts of the origin of life. The idea of development in biology (transformism, Saltationism, evolutionism). Global problems of mankind and the role of biology in their solution.	12
	Total	**60**

8. Individual tasks

1. Preparation of abstracts:

1. The place and role of epistemology and epistemology in the philosophy of science
2. Science as an object of philosophical reflection.
3. Variety of forms of knowledge. Scientific and scientific knowledge.
4. Philosophical principles and methodological principles of fundamental sciences.
5. Place and role of philosophy in the system of culture: history and modernity.
6. The essence of the philosophical concepts of the XIX-XX centuries in the light of scientism and antiscytism.
7. The concept of science. The problem of the historical age of science.
8. The structure of scientific knowledge.
9. Classical, non-classical stages of the development of science.
10. Science as a specialized form of knowledge.
11. Scientific and unscientific knowledge in the historical aspect.
12. Science as a social institution.
13. Science and scientific and technological progress.
14. The concept of scientific rationality and "common sense".
15. Place and role of empirical knowledge in modern biology.
16. Abstraction and abstraction in the structure of biological science.
17. Theoretical methods of cognition in modern biology
18. Theoretical methods of cognition in engineering.
19. The problem of the origin of science in the philosophy of the Enlightenment (XVIII century.)
20. Ancient science: natural philosophy, arche, cosmology, cosmogony, the origin of life
21. Aristotle as the systematization of modern scientific knowledge: logic, physics, theology

22. Empirical science of modern times in the philosophy of F. Bacon, R. Descartes and T. Hobbes.

23. Scientific discoveries in the beginning of the XIX century and features of positivism by O. Comte and G. Spencer

24. The course of scientific discoveries at the intersection of the nineteenth and twentieth centuries

25. Fundamental and worldview changes in the biological science of the XIX century.

26. Theoretical and methodological aspects of the concept of development of science Thomas Kuhn.

27. Scientific activity as a special profession.

28. History of the emergence and development of scientific organizations and scientific publications.

29. Types of communication in science.

30. Scientific activity and its economical business aspects.

31. Moral choice and moral responsibility of the scientist.

32. Values and ethics of the "great science".

33. The doctrine of Darwin and the development of the idea of evolutionism.

34. Nedarvinivsky the concept of evolution.

35. Scientific and technological progress: ethics, ecology, globalization.

9. Methods of teaching

1. Methods of research on sources of knowledge:

1.1. **Verbal: story, explanatory, conversation (heuristic and reproductive), lecture, work with the book (reviewing, note-taking).**

1.2**. Visual: a demonstration.**

2. Methods of teaching by the nature of the logic of cognition.

2.1.**Analytic**

2.2. **Synthesis methods**

2.3. **Inductive method**

2.4. **Deductive method**

3. Methods of teaching on the nature and level of independent mental activity of students.

3.1. **Problem (problem-information)**

3.2. **Partial-search (heuristic)**

4. Active methods of training) - use of technical means of training, brainstorming, debates, round tables, use of problem situations, use of educational and monitoring tests.

5. Interactive learning technologies - the use of multimedia technologies.

10. Methods of control

1. Rating control on 100-grade scale of estimation of ECTS

2. Intermediate control during the semester (intermediate certification)
3. Policiary evaluation of current work of students:
- the level of knowledge demonstrated at the seminar sessions;
- activity during the discussion of issues that are on the lessons;
- independent processing of the topic as a whole or separate issues;
- writing essays;
- test results;
- Written assignments in the course of control works.

11. The distribution of scores, which are received by full-time students

Current testing and independent work												
I.W. 1 – 20 b				I.W. 2 – 20 b				IWS	Total for modules and IWS	Certification	Final test, exam	Amount
T1	T2	T3 - 4	T5 - 6	T.1	T.2	T. 3	T.4	15	55 (40+15)	15	30	100
4	2	6	8	5	5	5	5					

11. Distribution of points that students receive in correspondence courses

Current testing and independent work												
I.W. 1 – 20 b				I.W. 2 – 20 b				IWS	Total for modules and IWS	Certification	Final test, exam	Amount
T1	T2	T3 - 4	T5 - 6	T.1	T.2	T. 3	T.4	30	70 (40+30)		30	100
4	2	6	8	5	5	5	5					

Scale of assessment national and ECTS

The sum of points for all types of educational activity	Evaluation ECTS	National scale rating	
		For exam	for credit
90 – 100	**A**	excellent	credited
82-89	**B**	good	
75-81	**C**		
69-74	**D**	satisfactorily	

60-68	**E**		
35-59	**FX**	unsatisfactory with the possibility of retaking	Not reckoned with the possibility of re-surrender
1-34	**F**	unsatisfactory with the obligatory re-study of the discipline	Not reckoned with the mandatory re-study of the discipline

12. Methodological support

1. Educational-methodical complex for studying discipline "Philosophy of Science" for students of the all specialties.

13. Recommended literature

1. Philosophy of science as a branch of philosophical knowledge.

Basic

1. Berdyayev N.N. Filosofiya svobody. Smysl tvorchestva. – M., 1989.
2. Bashlyar G. Novyy ratsionalizm. – M, 1987.
3. Vandishev V.M. Fílosofíya: yekskurs v ístoríyu vchen' í ponyat'. – Kiĭv, 2006.
4. Gusserl' E. Filosofiya kak strogaya nauka. – Novocherkassk, 1994.
5. Zelenov L.A., Vladimirov A.A., Shchurov V.A. Istoriya i filosofiya nauki. – M., 2008.
6. Ivin A.A. Sovremennaya filosofiya nauki. – M., 2005.
7. Illarionov S.V. Teoriya poznaniya i filosofiya nauki. – M., 2007.
8. Istoriya i filosofiya nauki / Pod red. A.S. Mamzina. – SPb., 2008.
9. Istoriya i filosofiya nauki: Vvedeniye v spetsial'nost' / Pod red. A. Ursula. – M., 2005.

Additional

1. Istoriya i filosofiya nauki (Filosofiya nauki) / Pod red. YU. Kryaneva, L. Motorinoy. – M., 2007.
2. Karamova O.V. Filosofiya, metodologiya i istoriya ekonomicheskoy nauki. – M., 2007.
3. Kotenko V.P. Istoriya i filosofiya klassicheskoy nauki. – M., 2005.
4. Kokhanovskiy V.P. Osnovy filosofii nauki: Uchebnoye posobiye dlya aspirantov. – Rostov-na-Donu, 2006.
5. Kokhanovskiy V.P. Filosofiya nauki v voprosakh i otvetakh. – Rostov-na-Donu, 2007.
6. Lektorskiy V.A. Epistemologiya klassicheskaya i neklassicheskaya. 2-ye izd. – M., 2006.
7. Lipkin A.I. Filosofiya nauki. – M., 2007.

8. Naydysh V.M. Kontseptsii sovremennogo yestestvoznaniya / Izd. 2-ye, pererab. i dop. – M., 2004.
9. Nikitich L.A. Istoriya i filosofiya nauki. – M., 2008.
10. Nikiforov A. Filosofiya nauki. Istoriya i teoriya. – M., 2006.
11. Popper K.R. Znaniye i psikhofizicheskaya problema. – M., 2008.
12. Porus YA.P. Epistemologiya: nekotoryye tendentsii // Voprosy filosofii. – 1997. – №2.
13. Reale Dzh., Antiseri TS. Zapadnaya filosofiya ot istokov do nashikh dney. – SPb., 1997. CH. 2.
14. Rozin V.M. Metodologiya: Stanovleniye i sovremennoye sostoyaniye. – M., 2006.
15. Shvyrev B.C. Teoreticheskoye i empiricheskoye v nauchnom poznanii. – M., 1978.

2. The phenomenon of science. The basic forms of the existence of science

Basic

1. Vernadskiy V.I. Razmyshleniya naturalista. Nauchnaya mysl' kak planetarnoye yavleniye. – M., 1978.
2. Gaydenko P.P. Evolyutsiya ponyatiya nauki (XVII-XVIII vv.). – M., 1987.
3. Diskursy ezoteriki (filosofskiy analiz) / Otv. red. L.V. Fesenkova. – M., 2001.
4. Il'in V.V. Kriterii nauchnosti znaniya. – M., 1989.
5. Karpinskaya R. S., Liseyev I. K., Ogurtsov A. P. Filosofiya prirody: koevolyutsionnaya strategiya. – M., 1995.
6. Kasavin I.T., Sokuler ZA. Ratsional'nost' v poznanii i praktike. – M., 1996.
7. Kezin A. V Nauchnost': etalony, idealy, kriterii. – M., 1985,
8. Kosareva A.M. Predmet nauki. – M., 1977.
9. Lebedev S.A. Filosofiya nauki: slovar' osnovnykh terminov. – M., 2006.
10. Lektorskiy VA. Sub"yekt, ob"yekt, poznaniye. – M., 1980.

Additional

1. Nauka v kul'ture. – M., 1998.
2. Nenashev M.I. Vvedeniye v logiku. – M., 2004.
3. Sovremennyye filosofskiye problemy yestestvennykh, tekhnicheskikh i sotsial'no-gumanitarnykh nauk / Pod red. V.V. Mironova. – M., 2006.
4. Sotsial'naya dinamika sovremennoy nauki / Pod red. V.ZH. Kelle. – M., 1995.
5. Sotsiokul'turnyy kontekst nauki. – M., 1998.
6. Stepin B.C. Teoreticheskoye znaniye. Struktura, istoricheskaya evolyutsiya. – M., 2000.
7. Stepin B.C. Filosofiya nauki. Obshchiye problemy. – M., 2006.
8. Stepin V. S. Filosofskaya antropologiya i filosofiya nauki. – M., 1992.
9. Stepin B.C., Gorokhov V.T., Rozov M.A. Filosofiya nauki i tekhniki. – M., 1996.
10. Filatov V.P. Nauchnoye poznaniye i mir cheloveka. – M., 1989.

11. Filosofiya: problemnyy kurs: Uchebnik / Pod red. S.A. Lebedeva. – M., 2002.

3. Structure and methods of scientific knowledge

Basic

1. Bazhenov L.B. Stroyeniye i funktsii yestestvennonauchnoy teorii. – M, 1978.
2. Vandishev V.M. Fílosofíya: yekskurs v ístoríyu vchen' í ponyat'. – Kiĭv, 2006.
3. Idealy i normy nauchnogo issledovaniya. – Minsk, 1981.
4. Karnap R. Filosofskiye osnovaniya fiziki. Vvedeniye v filosofiyu nauki. – M., 1971,
5. Kontseptsii sovremennogo yestestvoznaniya / Pod red. S.A. Lebedeva. – M,, 2007.
6. Kun T. Struktura nauchnykh revolyutsiy. – M., 1985.
7. Lebedev S.L. Induktsiya kak metod nauchnogo poznaniya. – M., 1980.
8. Lebedev S.A. Sovremennaya filosofiya nauki. – M., 2007.
9. Manchur Ye.L. Problemy sotsiokul'turnoy determinatsii nauchnogo znaniya. – M., 1987.
10. Merkulov I.P. Metod gipotez v istorii nauchnogo poznaniya. – M., 1984.

Additional

1. Nikitin Ye.P. Otkrytiye i obosnovaniye. – M., 1988.
2. Polani M. Lichnostnoye znaniye. – M., 1985.
3. Popper K. Logika i rost nauchnogo znaniya. – M., 1983.
4. Sovremennaya filosofiya nauki: Khrestomatiya / Sost. A.A. Pechenkin. – M., 1991.
5. Stepin B.C. Osnovaniya nauki i ikh sotsiokul'turnaya razmernost' // Nauka v kul'ture. – M., 1998.
6. Stepin B.C. Teoreticheskoye znaniye. – M., 2000.
7. Struktura i razvitiye nauki. – M., 1978,
8. Tulmin St. Chelovecheskoye ponimaniye. – M., 1984,
9. Feyyerabend P. Izbrannyye trudy po metodologii nauki. – M., 1990.
10. Filosofiya yestestvennykh nauk / Pod red. S.A. Lebedeva. – M., 2006.
11. Filosofiya matematiki i tekhnicheskikh nauk / Pod red. S.A. Lebedeva. – M., 2006.

4. Ethics of science

Basic

1. Avdulov A.N., Kul'kin A.M. Vlast', nauka, obshchestvo. Sistema gosudarstvennoy podderzhki nauchno-tekhnicheskoy deyatel'nosti: opyt SSHA. – M., 1994.
2. Bioetika: printsipy, pravila, problemy / Pod red. B.G. Yudina. – M, 1998.
3. Kommunikatsiya v sovremennoy nauke / Sb. perev. s angl. pod red. E.M. Mirskogo i V.N. Sadovskogo. – M., 1976.
4. Lyubutin K.N. Chelovek v filosofskom izmerenii (iz istorii problemy). – Sverdlovsk, 1991.
5. Naydysh V.M. Kontseptsii sovremennogo yestestvoznaniya / Izd. 2-ye, pererab. i dop. – M., 2004.

6. Nauka Rossii na poroge XXI veka: problemy organizatsii i upravleniya / Pod obshch. red. S.A. Lebedeva. M., 2000.
7. Nauchnaya deyatel'nost': struktura i instituty / Sb. pe-rev. s angl. i nem. pod red. E.M. Mirskogo i B.G. Yudina. – M., 1980.

Additional

1. 1. Pel'ts D., Endryus F. Uchenyye v organizatsiyakh / Per. s angl. – M., 1973.
2. Perminov V.YA. Problema prichinnosti v filosofii i yestestvoznanii. – M., 1979.
3. Popper K.R. Znaniye i psikhofizicheskaya problema. – M., 2008.
4. Problemy deyatel'nosti uchenogo i nauchnykh kollektivov: Mezhdunarodnyy yezhegodnik. – SPb., 1969–2002. – Vyp. 1–13.
5. Teyyar de Sharden P. Fenomen cheloveka. – M., 1987.
6. Sen-Mark F. Sotsializatsiya prirody. – M., 1977.
7. Sovremennaya zapadnaya sotsiologiya nauki. Kriticheskiy analiz / Otv. red. V.ZH. Kelle, Ye.Z. Mirskaya, A.A. Ignat'yev. – M., 1988.
8. Sovremennyye filosofskiye problemy yestestvennykh, tekhnicheskikh i sotsial'no-gumanitarnykh nauk / Pod red. V.V. Mironova. – M., 2006.
9. Sotsial'naya dinamika sovremennoy nauki / Otv. red. V.ZH. Kelle. – M,, 1995.
10. Filosofiya yestestvennykh nauk / pod red. S.A. Lebedeva. – M., 2006.
11. Filosofiya nauki: nauka kak deyatel'nost' / Pod red. S.A. Lebedeva. – M., 2007.
12. Filosofiya sovremennogo yestestvoznaniya: Uchebnoye posobiye dlya vuzov. – M., 2004.
13. Frolov I.T., Yudin B.G. Etika nauki. Problemy i diskussii. – M., 1986.

5. Philosophical problems of biology

Basic

1.Azimov A. Kratkaya istoriya biologii. – M., 2002.
2. Aristotel'. O chastyakh zhivotnykh. – M., 1937.
3. Baltika N.M., Kuramshina N.G., Gilyazetdinov SH.YA. Elementarnaya yedinitsa zhivogo i filosofskiye aspekty biologii: Uchebnoye posobiye po biologii. Bashkirskiy institut povysheniya kvalifikatsii rabotnikov obrazovaniya. – Ufa, 1994.
4. Berg P.JI. Iz vospominaniy genetika // Voprosy filosofii. – 1993. – №7. – S.93-124.
5. Berg L. S. Nomogenez, ili evolyutsiya na osnove zakonomernostey. – L., 1977.
6. Biologiya v sisteme nauk o cheloveke. – M., 1986.
7. Borzenkov V.R. Filosofskiye osnovaniya evolyutsii. – M., 1987.
8. Bryzgalina Ye.V. Istoriya biologii kak smena paradigmal'nogo znaniya. – MGU, 1998.
9. Vandishev V.M. Fílosofíya: yekskurs v ístoríyu vchen' í ponyat'. – Kiĭv, 2006.
10. Volkova E. V., Filyukov A.M. Filosofskiye voprosy teorii vida. – Minsk, 1966.

Additional

1. Golubovskiy M.D. Genom cheloveka i soblazny determinizma // Znamya. – 2001. – №1. – S. 199-204.
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