

AI-FARABI KAZAKH NATIONAL UNIVERSITY

Approved at the meeting
academic Committee
Al-Farabi KazNU
Protocol no. __ 6 _____
from" _22_ " June 2020

**PROGRAM
ENTRANCE EXAMINATION
FOR THOSE ENTERING THE DOCTORAL PROGRAM
IN THE SPECIALTY
"8D08401-FISHERIES AND INDUSTRIAL FISHING»**

ALMATY 2020

The program is compiled in accordance with the State mandatory standard of education in the specialty "8D08401 - Fisheries and industrial fishing" by Ph.D., associate professor Mamilov N. Sh.

The program was reviewed at the meeting of the Department of biodiversity and
Protocol № _____ from _____ 2020 y.
Head of Department _____ M. S. Kurmanbayeva

Approved at the meeting of the faculty's method Bureau _____
Protocol no. _____ from _____ 2020 y.
The Chairman of the methodical Bureau _____ O. Y. Jurikova

Approved at the meeting of the Academic Council
Protocol no. _____ from _____ 2020y.
Chairman of the Academic Council,
Dean of the faculty _____ B. K. Zayadan
scientific Secretary _____

CONTENT

1. Goals and tasks of the entrance examination in the specialty "8D08401-fishery and industrial fishing"

The entrance exam is designed to determine the practical and theoretical training received and is conducted to determine compliance of knowledge, abilities and skills requirements of doctoral studies by field of study.

The form of the entrance exam is a written exam. Examiners record their answers to the questions on the exam ticket on the answer sheets, which are checked by the exam Board in encrypted form.

2. Requirements for the level of training of persons entering the doctoral program

The program of the entrance exam of the specialty "8D08401-fisheries and industrial fishing" includes key and practically significant questions on mandatory and specialized disciplines such as: " Organization and planning of scientific research", Psychological and pedagogical module," the Problem of rational use of aquatic biological resources of Kazakhstan", " Biotechnology in fisheries", "theory and practice of fishing".

Requirements for applicants:

must:

* Can perform standard scientific and professional tasks; possess modern methods of analysis and research in the field of biology and fisheries; be fluent in computer methods of solving problems.

* Has an understanding of the methodological and theoretical foundations of pedagogy and psychology of higher education; bloom's taxonomy, modern technologies of analysis, planning and organization of training and education

* Knows current modern problems and strategies for the development of higher education in the modern world educational space; knows the essence and problems of teaching and upbringing in higher education, is able to design pedagogical technologies for all forms of educational process in higher Education (lectures, seminars, etc.); is able to critically analyze and evaluate modern scientific achievements, generate new ideas when solving research and practical problems in the field of pedagogy and psychology

3. Prerequisites of the educational program

* Biotechnology in fisheries - 3 credits

* Theory and practice of fishing - 3 credits

4. LIST OF SUBJECTS FOR EXAM PREPARATION

4.1 Block of the Psychological and pedagogical module

Pedagogical science and its place in the system of human Sciences. The basic categories of pedagogics of the higher school. The main directions and trends of higher education development in the modern world. Pedagogical activity and structure of pedagogical activity. Content of higher professional education. Structure and levels of education content. Definition and General characteristics of memory. The main types of memory. Basic processes and memory mechanisms. Individual features of memory and its development. Nature and basic types of thinking. Basic forms of thinking. Theoretical and experimental approaches to the study of thinking. The main types of mental operations. Solving complex mental problems and creative thinking. Development of thinking. Temperament and character. The concept of temperament. A brief overview of the teachings of temperament. The concept of character. Theoretical and experimental approaches to character research. Formation of character.

The list of recommended literature:

The main:

1. Mynbaeva A. K. Fundamentals of higher school pedagogy: Textbook. -3rd ed., add. – Almaty, 2013. - 190 p.
2. Akhmetovag. K., Isaeva Z. A. Pedagogy for magistracy. - Almaty: Kazakh University, 2006.
3. Taubayeva sh. T. Methodology and methodology of didactic research. Textbook. Ed. Kazakh University. - 2015. - 246 p.
4. Stolyarenko L. D. Psychology and pedagogy of higher school. Textbook. – Rostov-on-don "Phoenix". - 2014. - 620 p.
5. Credit system of education in higher education. - Almaty: Kazakh University, 2006. - 180 p.
6. Andreeva G. M. Social psychology, Moscow: Aspect Press, 2009, 432 p.
7. Aronson Elliot, Wilson Tim, Eikert Robin. Social psychology. Psychological laws of human behavior in society. - SPB, Prime-EVROZNAK, 2008. - 560 p.
8. Bern E. Games that people play: The psychology of human relationships. / Eric Berne ; translated from English. A. Gruzberg. - Moscow: Eksmo, 2012. - 353 p.
9. Bern E. People who play games: the Psychology of human destiny / Eric Bern; TRANS. from the English A. Gruzberg. Moscow: Eksmo, 2012. 574 p.
10. Burlachuk L. F. psychodiagnostics of personality. - Kiev, 2009. -300 p.

Additional information:

1. Egorov V. V. Pedagogy of higher school. Textbook. - Novosibirsk: 2010. - 260 p.
2. Mynbayeva A. K. Modern education in the focus of new pedagogical concepts, trends and ideas. - Almaty: Rarity, 2005. - 90 p.

3. Isaeva Z. A., Mynbaeva A. K., Sadvakasova Z. M. Active methods and techniques of teaching in higher school. - Almaty: Kazakh University, 2005. - 122 p.
4. Mynbaeva A. K., Sadvakasova Z. M. Innovative teaching methods or how interesting it is to teach. - Almaty, 2010. - 284 p.
5. State program of education development in the Republic of Kazakhstan for 2011-2020 // <http://www.edu.gov.kz>
6. Moreva N. A. Technologies of professional education, Moscow: Akademiya, 2009.
7. Leontiev A. N. Formation of activity psychology: Early works/Edited by A. A. Leontiev, D. A. Leontiev, E. E. Sokolova. M., "Smysl", 2010. - 439 p.
8. Leontiev A. N. Lectures on General psychology, Moscow, 2010, 428 p.
9. Maklakov A. G. General psychology : textbook for universities / Saint Petersburg, 2012. - 583 p.: Il. - (Textbook for universities).
10. Nurkova V. V. Psychology : textbook for bachelors / V. V. Nurkova, N. B. Berezanskaya. –Moscow : Higher education, 2012. - 575 p.
11. Petrovsky V. A. Personality in psychology. Rostov-on-don, "Phoenix", 2010. - 512 p.
12. Hohel S. Stages of consciousness. - Moscow: Eksmo. 2008. -400 p.
13. Houston Miles, Strebe Wolfgang. Introduction to social psychology. European approach. – M.: YUNITI-DANA, 2008 – p. 622

4.2 List of examination topics in the block of mandatory profiling disciplines

Status of the issue of preserving the biological diversity of the animal world population. principles of development of technologies for growing aquatic biological objects and their implementation in the practice of fisheries. Problems of biotechnology development in fish farming. Characteristics of hydrobionts as objects of industrial biotechnology. Biotechnological processes in fisheries. The problem of using biotechnologies to preserve rare, endangered and economically valuable fish species. Current state of The world ocean and its biological resources. Primary production of reservoirs and methods of assessment and expression. The concept of a minimum viable population. The principle of food security and food relationships in fish. The main types of ecological activity of the body. Theory of natural population management and conservation of species diversity of hydrobionts. Major treatises on environmental assessment of water bodies. Place and role of biotesting and bioindication in ecological expertise of reservoirs.

List of recommended literature:

Main:

1. Tikhonov I. V. et al. Biotechnology : studies'. / Under the editorship of E. S. Voronina.- Saint Petersburg: GIORD, 2005. - 703, [49] p.: Il.
2. Egorova T. A., Klunova S. M., Zhivukhina E. A. Fundamentals of biotechnology: textbook. stipend. 4th ed. - Moscow: Akademiya, 2008. - 207 p.

3. Bogeruk A. K. Biotechnologies in aquaculture: theory and practice-Moscow: FGNU "Rosiformtech", 2006. - 232 p.
 4. Bogeruk A. K. .. Gepetsky N.E. Biotechnologies, technical devices and equipment for growing and processing fish in the farm. - Moscow: Informagrotech, 1996. - 58 p.
 5. Glik B., Pasternak D. Molecular biotechnology: Principles and application.- Moscow: Mir, 2002. - 589, [3] p.
 6. Matveev V. N. Fishing with nets. - Saint Petersburg, ed. Panorama, 2001, 63 p.
 7. Komarova G. V. Commercial ichthyology. Astrakhan, AGTU Publishing house, 2006, 192 p.
 8. 1. Alimov A. F. Elements of the theory of functioning of water ecosystems. Saint Petersburg: Nauka, 2009.
 9. 2. Alimov A. F. Bogatov V. V., Golubkov S. M. Production Hydrobiology. M. Nauka. 2013
- additional information:
1. Almagambetov, Kh. Biotechnology negizderi: oku kuraly-Astana, 2007. - 207 b.
 2. Katasonov V. Ya., Gomelsky B. I. Selection of fish with the basics of genetics-Moscow: Agropromizdat, 1991. 208 p.
 3. Kirpichnikov V. S. Genetics and selection of fish-L. 1987. 520 b.
 4. Inge-Vechtomov S. G. Genetics with the basics of selection-M.: Higher school. 1989. 519 p.
 5. Ayala F., Kaiger BJ. Modern genetics-Moscow: 1989, Vol. 1-3.
 6. Mamilov N. sh. Introduction to genosystematics-Almaty, 2003 56 b.
 7. Melnikov V. N., Lukashov V. N. Technique of industrial fishing.- Moscow: 1981.
 8. Orlov D. S., Sadovnikova L. K., Lozanovskaya I. N. Ecology and protection of the biosphere in chemical pollution. Studies'.manual for universities. - Moscow, 2002
 9. Hydrochemical indicators of the state of the environment. Reference materials / Guseva T. V., Molchanova Ya. P., Zaika E. A. et al. - M., 2000
 10. Rare and endangered animals: Fish. Edited by V. E. Sokolov-Moscow: Higher school, 1994.
 11. Astanin L. P., Blagosklonov K. N. nature Protection-Moscow: Kolos, 1978.
 12. Kazhenbayev S. kazakstannyn balyk baylygyn Korgau-Almaty: Kainar, 1979
 13. Wildlife in a changing world. Analysis of the 2008 red list of threatened species. Ed. Zh. - K. Vié, S. Hilton-Taylor, S. N. Stewart – IUCN: Rada, 2009,.
 14. Journal of ecological biology of fish
 15. Journal Of Population Ecology
 16. AMBIO Magazine

4.3 List of topics for the block of research work

Science as a socio-cultural phenomenon. The role and functions of science in society. Three facets of science: science as knowledge, science as an activity, and science as a social institution. Scientific knowledge as a complex developing system. Logic and methodology of scientific research. Modern system of organization and management of scientific research in the Republic of Kazakhstan and in the world. research University. Literary research. Main trends of integration and differentiation of science. Methods of conducting theoretical and empirical research. Search systems and databases of scientific and technical information. The design of scientific studies, the structure of scientific work. Features of the language and style of scientific research presentation. Ethical aspects of early 21st century science and humanitarian control in science. Environmental and socio-humanitarian expertise of scientific and technical projects. Ethics of scientific research. Plagiarism. Responsibility for non-compliance with ethical principles. Modern topical methodological, methodological and philosophical problems of natural Sciences.

List of recommended literature:

Main:

1. Carey S. S. A Beginner's Guide to Scientific Method – - Wadsworth Publishing, 2003.
2. Carter M. Designing Science Presentations: a Visual Guide to Figures, Papers, Slides, Posters, and More, Academic Press, 2013.
3. Cover, J. A., Curd, M. and Pincock, C. Philosophy of Science: The Central Issues, 2nd edition. Norton. – 2012.
4. Gauch H.G. Scientific Method in Practice. - Cambridge University Press, 2002.
5. Graduate student of the university: technology of scientific work and educational activities / Reznik SD 2nd ed., Rev. and enlarged. - Moscow: INFRA-M, 2011.
6. Hofmann A. Scientific writing and communication: Papers, Proposals, and Presentations, Oxford University Press, 2009.
7. Margaret Cargill and Patrick O'Connor (2009), Writing Scientific Research Articles Strategy and Steps, A John Wiley & Sons, Ltd., Publication 2009.
8. Novikov, DA, AL Sukhanov. Models and mechanisms for managing research projects in universities. Moscow: Institute of Education Management RAO, 2005.
9. Ranjit Kumar. Research Methodology: A Step-by-step Guide for beginners. London: Sage Publications, 2013.
10. Turabian K.L. (2007) A manual for writers of research, papers, theses, and dissertations. 7th ed. Chicago: The university of Chicago press.
11. Altaev Zh. a., Baitenova N. Zh. History and philosophy of science. - Almaty: Rarity 2009.
12. Baturin V. K. Philosophy of science: textbook. - Moscow, 2012.
13. Law of the Republic of Kazakhstan "on science".
14. History and philosophy of science. Edited by Yu. V. Kryanev. M., 2011

15. Kaudyrov T. E. intellectual property Law in the Republic of Kazakhstan, Almaty: Zheti Zhargy, 1999-68c.
 16. kohanovsky V. P., Leshkevich T. B. Philosophy of science in questions and answers. Rostov-on-don, 2006.
 17. Lakatos I. Falsification and methodology of research programs. Moscow, 1995.
 18. Maydanov A. S. Methodology of scientific creativity -. M, 2009
 19. Ostrovsky E. V. History and philosophy of science. - Moscow, 2012
 20. Petrova V. F., Khasanov M. sh. Philosophy of scientific knowledge. - Almaty. - 2015.
 21. Popper K.. Logic and the growth of scientific knowledge. - Moscow: Progress, 1983.
 22. Stepin V. S. History and philosophy of science, Moscow: Academic Project, 2011, 423 p.
 23. Thomas Kuhn. Structure of scientific revolutions, Moscow: AST Publishing house, 2001.
 24. Torosyan V. G. History and philosophy of science: textbook for universities. - Moscow, 2012.
 25. Feyrabend P .. Selected works on the methodology of science. M.; Progress, 1986.
 26. Khasanov M. sh., Petrova V. F. History and philosophy of science. Almaty, Kazak universities, 2013.
 27. Yushkov A.V. Fundamentals of research planning. Kazakh University, 2004.
- Additional information:
1. Academic dishonesty // http://psychology.wikia.com/wiki/Academic_dishonesty.
 2. McCormack, J., Slaght, J. (2005). English for academic study: Extended writing and research skills. Garnet education: The university of reading.
 3. Sowton, Ch. (2012) 50 steps to improving your academic writing. Garnet Education.
 4. Swales, J.M., Feak, C.B. (2009). Academic writing for graduate students. Ann Arbor: University of Michigan Press.
 5. The future of fundamental science. Conceptual, philosophical and social aspects. Moscow, 2011.
 6. Gaidenko P. p. Scientific rationality and philosophical reason, Moscow: Progress-Tradition, 2010, 528 p.
 7. Izotov M. Z. Socio-cultural determinants of integration of modern science. - Almaty, 1993.
 8. Ilyin V. V. Philosophy of science, Moscow: Librokom, 2009, 224 p.
 9. The Coir A. Essays on the history of philosophical thought. On the influence of philosophical concepts on the development of scientific theories. - Moscow, 1985.
 10. Kosichenko A. G. Philosophy and methodology of science (textbook on a special course for master's and postgraduate students).- Almaty, 1997.
 11. kohanovsky V. P. Philosophy and methodology of science. - Rostov-on-don, 1999

12. International scientific foundations in Kazakhstan-Almaty: Kazgosinti, 1999. - 85 p.
13. Methods of scientific knowledge. - Almaty: Gylym, 1996.
14. Patent law of the Republic of Kazakhstan.- Almaty: Daneker, 2001-31 p.
15. Ruzavin G. I. Philosophy of science-Moscow, 2011.
16. Modern philosophy of science. Anthology / Compiled By A. A. Pechenkin. - M., 1996.
17. Stepin V. S. Philosophy of science. General problems. Moscow, 2010.
18. Stepin V. S., Gorokhov V. G., Rozov M. A. Philosophy of science and technology. - M, 1996.
19. Tyapin I. N. Philosophical problems of technical Sciences: textbook M., 2014.
20. Philosophy and methodology of science. For postgraduates and undergraduates / Edited by K. Kh. Rakhmatullin et al. - Almaty, 1999.
21. Holton J. Thematic analysis of science. Moscow, 2001

CRITERIA FOR EVALUATING THE ENTRANCE EXAM IN THE
SPECIALTY
FOR THOSE ENTERING THE MASTER'S PROGRAM IN THE SPECIALTY

"8D08401 FISHING AND INDUSTRIAL FISHING»

Each answer to the exam ticket question is evaluated on a 100-point scale. The final score for the complex exam is output as the arithmetic average of the scores for all the answers.

The examination Commission conducts discussion and final evaluation of the answers of undergraduates in a closed session, determining the final grade - "excellent", "good", "satisfactory", "unsatisfactory", expressed in points.

Assessments are announced on the same day after the minutes of the meeting of the State attestation Commission are drawn up in accordance with the established procedure.

When conducting a comprehensive state examination in written and oral form the following criteria are established for evaluating the knowledge of graduates:

"Excellent" – a deep comprehensive knowledge of all program material, understanding of the nature and interrelation of these processes and phenomena, solid knowledge of basic principles of the disciplines: a coherent, meaningful, complete, correct and specific answers to all the questions of examination and additional questions from the members of the examination fee; the use to the extent necessary in answering the questions of all materials recommended literature.

Rating "good" – a solid and fairly complete knowledge of all the program material, a correct understanding of the essence and relationship of the processes and phenomena under consideration; consistent, correct, specific answers to the questions raised, while freely eliminating comments on individual issues.

Rating "satisfactory" – a solid knowledge and understanding of the main questions of the program, correct and specific, without gross errors, answers to the questions posed by eliminating inaccuracies and minor errors in the coverage of certain provisions in the leading questions of examiners, when answering questions, the main recommended literature is not used enough.

Rating "unsatisfactory" – an incorrect answer to at least one of the main questions, gross errors in the answer, a lack of understanding of the essence of the questions being presented; uncertain and inaccurate answers to additional questions

The assessment of the entire work is summed up from the points for each question.

The maximum score is 100 points, and the minimum (passing) score is 51 points.

1 question (theoretical) is evaluated as follows:

Excellent – 30 points (maximum)

Good – 26 points (maximum)

Satisfactory - 23 points (maximum)

Unsatisfactory - 15 points (maximum)

2 the question (theoretical) is evaluated as follows:

Excellent – 30 points (maximum)

Good – 26 points (maximum)

Satisfactory - 23 points (maximum)

Unsatisfactory - 15 points (maximum)

3 the question (practical) is evaluated as follows:

Excellent – 40 points (maximum)

Good – 35 points (maximum)

Satisfactory - 30 points (maximum)

Unsatisfactory - 20 points (maximum)

Rating	Rating criterion:
Excellent	<ol style="list-style-type: none">1. This competent, reasonable and complete answers to all the theoretical issues2. The practical task is executed in full3. Demonstrated vision and creativity of the student4 .Theoretical postulates are supported by examples.
Good	<ol style="list-style-type: none">1. the Answers to all theoretical questions are correct and correct, there are minor inaccuracies, or are not supported by examples2. the Practical task is completed, but there may be technical errors in the calculations.
Satisfactory	<ol style="list-style-type: none">1. essentially correct answers to all theoretical questions are Given, but either with inaccuracies in logical sequence, without examples, and with errors in wording2. The practical task is executed with errors or not in full.
Unsatisfactory	<ol style="list-style-type: none">1. The answer is not given, or contains serious errors.2. Broken a logical sequence.3. The practical task is not done.