

Ministry of Agriculture of the Republic of Kazakhstan
Kazakh Agrotechnical University after S.Seifullin

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Chairman of the Board
"S.Seifullin Kazakh
agrotechnical University"
A.K.Kurishbayev
" 30 05 2019



EDUCATIONAL PROGRAM
Management in Technical and Vocational Education

Code and classification of the field of education: 8D01
Pedagogical sciences
Code and classification of training areas: 8D014 Teacher training with a subject specialization of general development
Code in International Standard Education Classification : 0114
Qualification: doctor of philosophy PhD / doctor of education in the educational program "Management in technical and vocational education»
Duration: 3 years
Full-time form of education
Language : multilingual

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The team of authors approved by the order of JSC "KATU named after S.Seifullin"
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Educational program "Management in Technical and Vocational Education"
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1 Passport of the educational program

№	Field name	Note
1	OP code	8D01
2	Code and classification of the field of education	8D01 Pedagogical Sciences
3	Code and classification of training areas	8D014 Teacher training with a subject specialization of general development
4	Name of OP	8D014 - Management in technical and vocational education
5	Type OP	The current OP;
6	Target OP	conducting studies to train managers in technical and vocational education
7	NQR level	8
8	ORC level	8
9	Learning outcomes	<p>Graduates of this educational program will be able to demonstrate:</p> <p>On1. Able to organize, plan and implement scientific research</p> <p>ON2. Has the skills of critical analysis, evaluation and comparison of various scientific theories and ideas.</p> <p>ON3. He is aware of the main stages of development and the change of paradigms in the evolution of science.</p> <p>ON4. Knows and understands the current trends, trends and patterns of development of domestic science in the context of globalization and internationalization.</p> <p>ON 5. Competent in the field of scientific and scientific-pedagogical activity in the context of rapid updating and growth of information flows.</p> <p>ON6. Knowledge and understanding of the basic principles of corporate governance, principles and procedures for maintaining regulatory documentation in the management system</p> <p>On7. Ability to compare, formulate conclusions, build their own arguments, express their position on the main issues of the development of new technical means and modes of agricultural technological processes.</p> <p>ON8. Management to provide basic technical, scientific and theoretical knowledge and skills of their application for solving theoretical and practical problems in the field of high-performance use of agricultural machinery in the production of crop production.</p> <p>ON9. To acquire practical skills in the field of education: the use of modern management technology; skills to improve management practices based on modern research and analysis of their own</p>

		<p>activities; skills in monitoring the development, diagnosis and evaluation of the quality of the educational process in VET organizations; Provides theoretical and practical training, with the use of modern learning technologies;</p> <p>ON10. Able to demonstrate a systematic understanding of the field of study, mastery in terms of skills and research methods used in this field;</p> <p>ON11. Competent to promote the development of a knowledge-based society.</p> <p>ON12. Organizes theoretical and practical training, in accordance with the industry training of students of the university;</p> <p>ON13. Knows the mechanisms for introducing scientific developments into practical work and about the pedagogical and scientific ethics of a research scientist; about the norms of interaction in the scientific community;</p> <p>ON14. Able to plan, develop, implement and adjust the integrated process of research; critically analyze, evaluate and synthesize new and complex ideas; communicate their knowledge and achievements to colleagues, the scientific community and the general public;</p>
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1.1 **The main goal of the educational program of the doctoral program 8D0114 - Management in Technical and Vocational Education** is to conduct research for the training of managers in technical and vocational education

Objectives of the educational program:

- 1) an in-depth study in the field of methodology of modern pedagogical management and strategic management of technical and vocational education;
- 2) demonstrate the skill to plan, develop, implement, adjust the complex process of research and the use of research methods in the studied area;
- 3) the study of the methodology of monitoring activities in the organizations of technical and vocational education;
- 4) improvement of organizational and managerial skills and professional competence in the management of technical and vocational education;
- 5) satisfaction of the needs of the individual in intellectual, cultural and moral development in the field of HR management.

Upon completion of the educational program, graduates will acquire research, managerial, personal and professional competencies in accordance with the state compulsory doctoral standard and the professional standard "Teacher" (Manager in Education).

2 General characteristics of the educational program (relevance, features, competitive advantages, uniqueness, stakeholders, etc.)

The relevance of the program is determined by the objectives of the educational policy of the Republic of Kazakhstan in the field of postgraduate education and the tasks of innovative development, digitalization of the higher education system, taking into account the specifics of the educational program.

The primary role in the formation of a qualified, properly motivated and successful team of any organization depends on its personnel potential. To this end, the training of managers in the field of technical and vocational education contributes to the development of human capital in our country and meets the needs of the public, employers and the users of the educational program.

The educational program 8D014 - "Management in technical and vocational education" contributes to the solution of the strategically important tasks set today for the education system and the solution, the requirements imposed, dictated by modern trends in personnel management in Kazakhstan.

Among the key factors for achieving success in the technical and professional field, along with the development of an effective marketing strategy, the use of various technologies to promote learning outcomes are qualified managers in this field. Training specialists for effective management and leadership without involving a wide range of humanities is impossible.

The basis of the concept of preparation is a PhD in the educational program 8D014 - Management in technical and vocational education for pedagogical activity in institutions of the higher school system is an idea that the universal professional development of students in this educational program requires the creation of optimal organizational and pedagogical conditions to ensure educational efficiency.

The implementation of this educational program will provide the higher school system with competent specialists who meet the challenges of today and the requirements of professional standards.

The uniqueness of the educational program for the preparation of doctors of philosophy (PhD) in the direction of training 8D014 - Management in technical and vocational education is multidisciplinary, combining technical, psychological and pedagogical and methodology of science, aimed at forming a graduate who is able to manage the pedagogical process of higher education, perform research activities on problems of higher education based on the integration of education and science and effective with STEM training of scientific and scientific-pedagogical personnel of the new formation, are able to solve the issues of improving society, science, education and the development of new technologies.

The educational program is focused on the transfer of scientific and methodological knowledge, but primarily on the ability to apply this knowledge to solve real problems of science and pedagogy, that is, the formation of a basic level of professional competence, reflected in the competence model of the graduate.

The content of the disciplines included in the educational program for the preparation of bachelors in the direction of 8D014 - "Management in technical and vocational education agreed with the program partners and stakeholders representing educational institutions of the higher school system.

The following stakeholders contributed to the development of the educational program:

- 1) Kazakh Agrotechnical University. S.Seifullin, Astana;
- 2) Karaganda State Technical University, Karaganda;
- 3) Karaganda State University. E.A. Buketov, Karaganda;
- 4) Pavlodar State University named after S.Toraigyrov, Pavlodar;
- 5) Aktobe State University. S. Baisheva, Aktobe;

3 Competency model (portrait) graduate

3.1 Professional activities

- psychological and educational activities in the educational institutions of vocational education;
- production activities in organizations of secondary, higher and additional professional education, research, design organizations and in production;
- research activities in the field of education and in the workplace in the field of raising workers in accordance with the specialization;
- educational, management and planning activities in accordance with the qualifications of the Master of Education.

3.2 Types of professional activity

- educational (pedagogical, educational);
- production and management;
- organizational and technological;

- research;
- project.

3.3 Basic Competences

Basic competence: Understands the methodology of pedagogical science and their levels: the philosophical level of the methodology, the general scientific level of the methodology; specific scientific methodology; technological methodology. Focuses on the typologies of scientific and pedagogical research: fundamental, applied scientific and pedagogical research and development.

He is able to apply methodological approaches and principles in pedagogical research: axiological, systemic, informational (computer), synergistic, student-centered, activity-oriented, dialogical, competence-based, innovative approaches in higher professional education. To carry out the design, construction, modulate the problem under study. Ability to conduct pedagogical research in the field of higher education on the studied topic. Ability to use mathematical methods of processing the results of a pedagogical experiment according to the profile of preparation. Analyze, synthesize the operation of mechanical equipment, machines, vehicles and road transport. Have the skills of pedagogical management method. To think critically and find acceptable solutions in the management of pedagogical research.

Learning outcomes: 1) Has an idea about the main stages of development and paradigm shift in the evolution of science; about subject, world outlook and methodological specificity of natural (social, humanitarian, economic) sciences; about scientific schools of the corresponding branch of knowledge, their theoretical and practical developments; about scientific concepts of world and Kazakhstan science in the relevant field;

2) Knows and understands current trends, trends and patterns of development of domestic science in the context of globalization and internationalization; methodology of scientific knowledge; achievements of world and Kazakhstan science in the relevant field; aware of the social responsibility of science and education; He perfectly knows a foreign language for scientific communication and international cooperation;

3) is able to organize, plan and implement the process of scientific research; analyze, evaluate and compare various theoretical concepts in the field of research and draw conclusions; synthesize and process information from various sources; conduct independent scientific research, based on modern theories and methods of analysis; generate their own new scientific ideas, communicate their knowledge and ideas to the scientific community, expanding the boundaries of scientific knowledge.

4) has the skills of critical analysis, evaluation and comparison of various scientific theories and ideas; analytical and experimental research activities; planning and forecasting research results; oratory and public speaking at international scientific forums, conferences and seminars; scientific writing and scientific communication; coordinating and implementing research processes; system understanding of the field of study and demonstrate the quality and effectiveness of selected scientific methods; participation in scientific events, fundamental scientific domestic and international projects; leadership and team management; responsible and creative attitude to scientific and scientific-pedagogical activity; conducting a patent search and experience in transferring scientific information using modern information and innovative technologies; protection of intellectual property rights to scientific discoveries and developments; free communication in a foreign language.

5) is competent in the field of scientific and scientific-pedagogical activity in the context of rapid updating and growth of information flows; in conducting theoretical and experimental research; in the formulation and solution of theoretical and applied problems in scientific research; in conducting professional and comprehensive analysis of problems in the relevant field, in matters of interpersonal communication and human resource management; in matters of university training in the implementation of educational programs; in the examination of scientific projects and research; in ensuring continuous professional growth and in ensuring the quality of the results obtained.

3.4 Professional Competences:

Manage the educational process of the university and carry out professional training of students, in accordance with the industry training.

Graduate as a subject of the educational process to understand the nature and role of pedagogical thinking in the professional activities of a higher school teacher. To work on the development of new pedagogical thinking and key competencies as a subject of higher education. Work on the study of the

regulatory framework for the organization of the educational process and research work at the university. Show professionalism in solving pedagogical and research problems.

To be competent in the implementation of the modern paradigm of education and the megatrends of the development of modern higher education (humanization and democratization, informatization, diversification, computerization, internationalization and globalization of education, etc.) in the process of entering the world educational space. Know the history of the Bologna process. The basic principles of the Bologna process. Credit system of training (USCS, ECTS, KCTS, etc.). To be competitive in the field of vocational education. Contribute to ensuring the quality of the educational process at the university. In the process of pedagogical and research interaction contribute to the organization of the development of cognitive, research activities of students.

Learning outcomes:

1. Conducts classes of theoretical and industrial training, in accordance with the industry training of students of the university;
2. Able to build professional knowledge and skills of students of the university, in accordance with the industry training;
3. Conducts lessons of theoretical and practical training, with the use of modern learning technologies;
4. Able to mechanisms for the implementation of scientific research in practical activities and on the pedagogical and scientific ethics of a research scientist; about the norms of interaction in the scientific community;
5. Spasoben demonstrate a systematic understanding of the field of study, skills in terms of skills and research methods used in this field;
6. Able to plan, develop, implement and adjust the integrated process of scientific research; contribute with original research of your own to expanding the scope of a scientific field that may be worthy of publication at the national or international level; critically analyze, evaluate and synthesize new and complex ideas; communicate their knowledge and achievements to colleagues, the scientific community and the general public;
7. Can contribute to the development of a knowledge-based society.

4 Base professional practice (all types of practices)

1) Pedagogical practice for doctoral students in the system of postgraduate education is an important and integral component of doctoral educational programs and is a type of practical activity of students in the implementation of the educational and educational process in higher education, including the teaching of courses, the organization of activities of students, scientific and methodical work, obtaining skills and practical teaching skills.

The main basis of the teaching practice of doctoral students is graduating department "Vocational Education".

The research practice of doctoral students is a mandatory component of the doctoral program and is a type of practical activity associated with conducting research in the framework of the chosen topic of the dissertation research, the preparation of scientific publications and the analytical part of the dissertation work.

The research practice of doctoral students is aimed at deepening and systematization of the theoretical and methodological preparation of the doctoral candidate, as well as the formation and development of research competencies necessary for the analysis of modern scientific achievements, the use of scientific research methods in solving practical scientific problems.

The basis for research practice can be *:

1) Kazakh Agrotechnical University. S.Seifullin, Astana;

1) Karaganda State Technical University, Karaganda;

2) Karaganda State University. E.A. Buketova, Karaganda;

3) Pavlodar State University. S.Toraigyrov, Pavlodar;

1) Aktobe State University. S. Baisheva, Aktobe;

4) * the list of databases of practices is not limited to this list, in the process of organizing professional practice of doctoral students involved interested domestic and foreign structural divisions.

5 Structure of the educational program of doctoral studies in the scientific and pedagogical direction

№ п/п	The name of the cycles of disciplines and activities	Total labor intensity	
		in academic hours	in academic loans
1	2	3	4
1.	CYCLE OF BASE DISCIPLINES	11	330
1.1	Science methodology module	6	180
1)	Methodology of educational research in the field of technical and vocational education	6	180
1.2	Technology Training Module	5	150
2)	Innovative approaches in vocational education (axiological, systemic, computer, synergistic, etc.)	5	150
2	PROCESSING DISCIPLINES CYCLE	14	420
2.1	Educational process management module	4	120
1)	Scientific and pedagogical bases of quality assurance of the educational process	4	120
2.2	Module management in education	5	150
2)	Methodology of modern pedagogical management and strategic management	5	150
2.3	Vocational Education Modeling Module	5	150
3)	Mathematical method of processing the results of pedagogical research NIRD final examination Defense of the thesis Total credits / hours	5	150
3	Total credits / hours of theoretical training	25	750
4	Additional types of training		
1)	Professional practice		
	Teaching practice	5	150
	Research practice	23	690
	NIRD	115	3450
	Final examination	12	360
	Defense of the thesis		
	Total credits / hours	180	5400

Description of elective disciplines

1. Basic information about the discipline:	
Name of the discipline	Innovative approaches in vocational education (axiological, systemic, computer, synergistic, etc.)
2. Number of credits	5
3. Prerequisites:	History of Philosophy and Science, Higher School Pedagogy, Comparative and International Education, Scientific Foundations of the Organization of the Higher School Educational Process.
4. Post requisites:	As a result of studying the discipline "Innovative approaches in vocational education" the doctoral candidate is competent: in solving problems of higher professional education; in the application of effective innovative learning technologies; in assessing the results achieved.
5. Competences:	Knows: the goals and main objectives of the use of innovative approaches in vocational education; the content and essence of axiological, systemic, synergistic and computer approaches in education; Owns skills: the application of innovative approaches in terms of their implementation; modeling and forecasting pedagogical processes; construct the content; diagnosing research results. Competent in solving problems of higher professional education; in the application of effective innovative learning technologies; in assessing the results achieved.
6. Course author	Mukushev B.A.
7. Primary literature	1 Introduction to scientific research on pedagogy: study guide / Ed. V.I. Zhuravleva.-M., 1988 Kraevsky V.V. Methodology of pedagogical research - M., 2001 2 Innovations in education: Sat. scientific tr. - M.: APK and PRO, 2001. - 207 p. 3 Kuzin FA. Master's dissertation. Method of writing, design rules and procedures for protection. Practical guide for undergraduate students - M., 1997 3 New pedagogical and information technologies in the education system: studies. manual for students of pedagogical and advanced training ped. personnel / E. S. Polat, M. Yu. Bukharkina, M. V. Moiseeva, A. E. Petrov // Ed. E.S. Polat. - M.: Ed. Center Academy, 2002. 4 Hop N.D. Methodology of pedagogical science. Special course program for graduate students - A., 1998 5 Methodology of scientific research: study guide / Samar. in-t (fil.) Ros. state trade econ. un-that; E.P. Barinova et al.]. - Samara: Samara Institute (branch) RGTEU, 2012. - 251 p.
8. The content of the discipline. Conceptual - terminological apparatus on the problem of research; Essence, classifications and directions of pedagogical innovations; Innovative approaches in vocational education; features of project training in higher education. Methodological basis of the study: the works of domestic and foreign academic teachers. Innovative approaches in science and education are explored. Innovative didactic approaches of world pedagogy. Axiological, systemic, computer, synergistic approaches.	

Name of the discipline	“Methodology of modern pedagogical management and strategic management”
2. Number of credits	5
3. Prerequisites:	Higher mathematics, methods of mathematical modeling, leadership in education, scientific organization of pedagogical work.
4. Post requisites:	The knowledge acquired in studying the course “Methodology of Modern Pedagogical Management and Strategic Management” is focused on the professional development of management skills of innovative processes in the VET system among teachers and managers, on improving management practices in introducing modern educational technologies ..
5. Competences	<p>A. Knowledge and understanding of the scientific foundations of pedagogical management; on the nature and structure of the management process in the educational process, on the legal aspects of management.</p> <p>V. Possession of methods for solving problems in the field of management, innovation, production and strategic management, personnel management, project management.</p> <p>C. Ability to create network communities between social partners; apply different types of monitoring.</p> <p>D. Ability to use innovative methods of management and motivation in activities; to design the educational process in the context of the modernization of the technical and vocational education system.</p> <p>E. Possession of modern technology management skills; project organization skills; skills to improve management practices based on modern research and analysis of their own activities; skills for monitoring the development, diagnosis and quality assessment of the educational process in the institutions of vocational education and training.</p>
6. Authors	Ph.D., professor A.M. Abdyrov, K.A. Sarbasova, T.T. Galiev
7. Main literature	<p>Basic Literature:</p> <ol style="list-style-type: none"> 1. The theory and practice of advanced training of specialists: Textbook / Abdirov AM, Galiyev TT, Sarbasova KA - Astana: S.Seifullin KATU, 2016. - 289 p. 2. Floyd, A. (2012). 'Turning points': The personality and professional circumstances that lead to the middle managers. Educational Management Administration and Leadership, 40 (2), 272-284. 3. Ibrahim A Ali, Mazin S. Abdalla (2017) Educational Journal of Medicine (SASJM) ISSN 2454-5112. 3 (12): 326-329 4. Educational Administration: The Roles of Leadership and Management (2012) Connexions, Rice University, Houston, Texas http://cnx.org/contents/fd216b00-a56f-4eba-bf72-81eeadb85add@1.1:1/FORWARDThe-Roles-of-Leadershi 5. Armstrong Human Resources Management. - Peter, 2018. - 1040 p. <p>Matsusita K. Philosophy Management. - Alpine Pabliccher, 2018. - 190 pp.</p> <ol style="list-style-type: none"> 6. Galiyev TT, Medetbekova GO State Management: Theoretico-methodological and legal aspects. - Astana: Research Center for Research and Development, 2011. - 208 c .:

The content of the discipline.

Pedagogical management, its purpose and essence. Legal aspects of management. Professionalism of the teacher as a problem of pedagogical management. The causes and nature of formalism in pedagogical systems and in their management. Theoretical and methodological aspects of a systematic approach. Real time and the principles of HOT in the pedagogical system. The interaction of the subjects of the pedagogical system. Corporate governance model, teacher motivation. Organizational competence of the modern head of the VET organization. Methods of monitoring activities in technical and vocational education organizations.

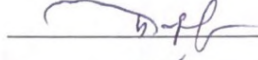
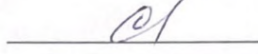
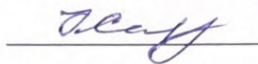
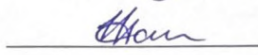

1. Basic information about the discipline:	
Name of the discipline	Methodology of pedagogical research in the field of higher vocational education
2. Number of credits	6
3. Prerequisites:	History of Philosophy and Science, Higher School Pedagogy, Comparative and International Education, Scientific Foundations of the Organization of the Higher School Educational Process
4. Post requisites:	As a result of studying the discipline "Methodology of pedagogical research in the field of higher vocational education" the doctoral candidate is competent: in solving problems of higher vocational education; in the application of effective innovative learning technologies; in assessing the results achieved.
5. Competences:	Competent in: setting goals and objectives of pedagogical research in vocational education; the content and the main directions of pedagogical research; in identifying the main pedagogical problems of higher professional education and in putting forward a hypothesis; in the application of effective research methods necessary to address the set pedagogical scientific and pedagogical tasks. Owns skills: the use of research methods and techniques; diagnosing, predicting and modeling the pedagogical problems studied; Can: apply mathematical and static methods in the processing of the results of pedagogical research; systematize the scientific research materials and arrange them in the form of articles and dissertations.
6. Course author	Sarbasova K. A.
7. Primary literature	1. Sarbasova K. The Methodology of Pedagogy (Electron Electrodes) // Authors of the Objects of the Circuits Memories of the Circuits of the Tours. - №0089, 01.15.2016 2. Taubayeva, Sherkyl Taubaykyzy. Pedagogy of desnamasa: oqu kurali - 2-bass. - Almaty: Karasai, 2016. - 432 b. 3. Halai N. Developing an Understanding of Pakistan: International Journal of Science and Mathematics Education. - 2012. - V. 10. Is. 2. - p. 387-415. 4. Kraevskiy, V.V. (Methodological Problems of Modern Pedagogy) // Voprosy Filosofii. - 2009. - Is. 3. - P. 77-82. 5. Meilikhov, Evgeny Zalmanovich. Why and how to write scientific articles: [scientific and practical guide] / E. Z. Meilikhov. - Dolgoprudny: Publishing House "Intellect", 2013. - 159 p.
8. The content of the discipline. Conceptual - terminological apparatus on the problem of research; Essence, classifications and directions of pedagogical innovations; Innovative approaches in vocational education; features of project training in higher education. Methodological basis of the study: the works	

of domestic and foreign academic teachers. Innovative approaches in science and education are explored. Innovative didactic approaches of world pedagogy. Axiological, systemic, computer, synergistic approaches.

1. Basic information about the discipline:	
Name of the discipline	Scientific and pedagogical foundations of ensuring the quality of the educational process at the university
2. Number of credits	4
3. Prerequisites:	Methodology and organization of educational work; Acmeology and pedagogical skills; Higher School Pedagogy; Pedagogical management.
4. Post requisites:	As a result of studying the discipline "Scientific and pedagogical foundations of ensuring the quality of the educational process at the university" - the doctoral candidate knows: the quality criteria of the educational process, the ability to analyze and ensure the quality of the educational process at the university.
5. Competences:	<p>As a result of studying the discipline, the doctoral candidate is competent in: defining the criteria for the quality of the educational process and the ability to analyze the security of the educational process with resources; the application of methods and techniques of quality assurance at the university; the role of quality in the development of practical skills and professional competencies of students.</p> <p>She is able to analyze the quality of the content of the discipline and the professional qualities of a university teacher. Owns the mechanisms for ensuring the quality of the educational process.</p> <p>It will be able to show the competence of practical skills in the application of the management system of the educational process, document circulation, analyzes the educational process. Identifies factors affecting low quality and will be able to show ways to solve them.</p>
6. Course author	Sagaliyeva Zh.K.
7. Primary literature	<p>1.V.P. Simonov. Pedagogical management. Tutorial. M., 1997 -264 p.</p> <p>2 Bayzhanova Z.T. Pedagogical management - Astana 2005</p> <p>3 Batyshev S.Ya Professional Pedagogy-M.2004</p> <p>4 Winter I. And.. Pedagogical psychology. Tutorial. Rostov n / d., 1997-480s.</p> <p>5 Yakunin VA. Pedagogical psychology. Tutorial. Spb, 1998-639c.</p>
8. The content of the discipline. The quality of the educational process a set of indicators and as an integrated object. The educational process - as an element of the educational system and as a "local" process in the activities of the educational institution. The quality of training students; The quality of educational programs; The quality of the infrastructure of the school; The quality of university management as a whole and its parts; The quality of teaching staff. Educational policy of the university. Certification and accreditation of educational institutions. Licensing requirements for the implementation of the university.	

1. Basic information about the discipline:	
Name of the discipline	History of Philosophy and Science, Higher School Pedagogy, Comparative and International Education, Scientific Foundations of the Organization of the Higher School Educational Process. As a result of studying the discipline “Mathematical Method for Processing the Results of Pedagogical Research”, the doctoral candidate should define the goals and main tasks of using mathematical methods for processing the results, pedagogical research in vocational education using mathematical and statistical methods used in pedagogical research.
2. Number of credits	five
3. Prerequisites:	Mathematical method of processing the results of pedagogical research
4. Post requisites:	As a result of studying the discipline, the doctoral candidate is competent: in defining the purpose and main tasks of using mathematical methods for processing the results of pedagogical research in vocational education; in the content of mathematical and statistical methods used in pedagogical research;
5. Competences:	-Able to use mathematical methods and techniques for the study of the results of a pedagogical experiment; to build graphs, diagrams and tables reflecting the static results of a pedagogical experiment; understand the essence and content of mathematical formulas and equations necessary for processing the results of a pedagogical experiment. - be competent: in purposeful application of mathematical and statistical methods in processing the results of a pedagogical experiment; in the use of computer technology in the construction of graphs, diagrams and tables reflecting the statistical results of a pedagogical experiment.
6. Course author	Mukushev B.A.
7. Primary literature	1 Introduction to scientific research on pedagogy: study guide / Ed. V.I. Zhuravleva. -M., 1988 Kraevsky V.V. Methodology of pedagogical research - M., 2001 2 Kushner Yu.Z. Methodology and methods of pedagogical research: studies. Method. allowance. - Mogilev: Graves. state un-t them. A.A. Kuleshov, 2001. 3 Kuzin FA. Master's dissertation. Method of writing, design rules and procedures for protection. Practical guide for undergraduate students - M., 1997 4 Skatkin M.N. Methodology and methodology of pedagogical research. -M., 1986 5 Starikova LD, Starikov S.A. Methods of pedagogical research. - Ekaterinburg, 2010. 6 Hop N.D. Methodology of pedagogical science. Special course program for graduate students - A., 1998 7 Methodology of scientific research: study guide / Samar. in-t (fil.) Ros. state trade econ. un-that; E.P. Barinova et al.]. - Samara: Samara Institute (branch) RGTEU, 2012. - 251 p.
8. The content of the discipline. Pedagogical measurements in science. Quantitative information in the scientific and pedagogical research. Basic concepts of mathematical statistics. Mathematical and statistical methods for processing the results of a pedagogical experiment. Methods of primary statistical processing of the results of the test: The concept is the primary methods of statistical processing of the results of the test; Sample; General population; Normal sample distribution of	

experimental results; Median; Fashion; Average sample value; Dispersion. Methods of secondary statistical processing of experimental results: Concept - methods of secondary statistical processing of experimental results; Fisher criterion; Student criterion; Chi-square test; Correlation coefficient; The method of signs; Test reliability criteria. Design and presentation of reporting materials on the pedagogical experiment: Description of experimental work; A visual representation of the results of the experiment. The use of computer technology in the construction of graphs, charts and tables that reflect the statistical results of the pedagogical experiment.

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