

## 1. OPTIONAL COMPONENTS OF THE CYCLE OF CORE COURSES

### *Optional component 1*

**Course: Change management**

*Intensity of the Course:* 5 academic credits

*Module Code:* **ERD-Ms 1008/1**

*Module Name:* Educational research design

*Prerequisites:* PVSh 5203.Higher school pedagogy

*Purpose:* training of undergraduates in methods and techniques of analysis, description and implementation of changes in internal and external processes of the organization of education.

*Short Description:* This course is recommended for Master students who are more interested in organizing and leading groups of people and communities. Master students build their understanding of the methods and ways in which the educational organization analyzes, describes and implements changes both within its internal and external processes using, among other things, empirical research methods. This includes training and supporting employees, setting the necessary steps for changes, and monitoring actions before and after changes to ensure successful innovation.

*Learning Outcomes in EP (LOP):*

LO1 – uses knowledge about human resource management at a basic level and improves the motivation of the parties involved in a common goal.

LO2 – develops the missions and vision of the organization of education at the appropriate level in the form of program documents.

*Learning Outcomes in Course (LOC):*

LOC 1 - evaluates and conceptualizes the need for changes in the educational environment from the point of view of various stakeholders.

LOC 2 – controls the process and forms an idea of the final result of the changes.

*Post requisites:* **Advanced study of qualitative analysis methods**

### *Optional component 2*

**Course: Project management**

*Intensity of the Course:* 5 academic credits

*Module Code:* **ERD-Ms 1008/2**

*Module Name:* Educational research design

*Prerequisites:* PVSh 5203.Higher school pedagogy

*Purpose:* training of undergraduates in tools and methods for fulfilling project requirements and project actions.

*Short Description:* The elective course is designed for Master students who want to learn how to manage any projects, i.e. events that have a clear timeframe and budget. In pedagogical and scientific activities, this knowledge is necessary in the context of research projects. Master students acquire knowledge and skills about tools and techniques when performing project activities to achieve project requirements and planned results.

*Learning Outcomes in EP (LOP):*

LO1 – develops small projects related to research or changes in the educational environment.

LO2 – develops project management procedures using at least one methodology.

*Learning Outcomes in Course (LOC):*

LOC 1 – analyzes a small subproject from the point of view of the project manager and risk management;

LOC 2 – he is able to solve conceptual problems of modern pedagogical science.

LOC 3 – he is able to solve conceptual problems of modern pedagogical science

*Post requisites:* **Advanced study of quantitative methods of analysis**

### *Optional component 3*

**Course: Advanced study of qualitative analysis methods**

*Intensity of the Course:* 5 academic credits

*Module Code:* **RSM-Ms 904/1**

*Module Name:* Research methods

*Prerequisites:* PVSh 5203.Higher school pedagogy

*Purpose:* deepening the knowledge of undergraduates about one or more methods of collecting high-quality data.

*Short Description* Master students study in depth a group of quantitative methods (nonparametric criteria, parametric criteria, cluster, factor analysis, etc.) based on constructive coordination. Evidence as a criterion for the use of quantitative methods allows to substantiate hypotheses and look for the confirmation/ refutation Master students investigate in detail the mechanisms and features of data analysis in quantitative research, the intersection with qualitative methods of analysis, and as a result they identify, select and describe a mixed method with an emphasis on quantitative methods. During practical training, they develop their skills in putting forward null and alternative hypotheses, statistical hypotheses and forecasts, as well as checking them and forming conclusions. The practical application of the demo version of statprograms determines the orientation in them.

*Learning Outcomes in EP (LOP):*

LO1 – justifies the choice of the research method.

LO2 – preserves the ethics of qualitative research.

*Learning Outcomes in Course (LOC):*

LOC 1 - explains the differences and complementarity between qualitative and quantitative methods;

LOC 2 - studies the state standards for evaluating the effectiveness of the organization of education.

LOC 3 - conducts research, analyzes and presents data.

*Post requisites:* **Research-based decision-making**

#### *Optional component 4*

*Course:* **Advanced study of quantitative methods of analysis**

*Intensity of the Course:* 5 academic credits

*Module Code:* **RSM-Ms 904/2**

*Module Name:* Research methods

*Prerequisites:* PVSh 5203.Higher school pedagogy

*Purpose:* Undergraduates learn to analyze the mechanisms and features of data analysis in quantitative research methods.

*Short Description:* Master students expand their knowledge of management and leadership in special and professional organizations. They analyze scientific research with best international practices. Master students investigate the structural features of the special and professional educational institutions and make feasible proposals for their change and improvement.

*Learning Outcomes in EP (LOP):*

LOP 1 - analyzes the mechanisms and features of data analysis in quantitative research methods.

LOP 2 - understands the structure of statistical analysis methods.

LOP 3 - selects statistical criteria for working with hypotheses

*Learning Outcomes in Course (LOC):*

LOC 1 - understands the mathematical meaning of calculating criteria and explains the data obtained.

LOC 2 - uses Excel, SPSS (statistical) programs to conduct research.

LOC 3 - visually characterizes and explains the statistical data obtained

*Post requisites:* **Education policy**

#### *Optional component 5*

*Course:* **Research-based decision-making**

*Intensity of the Course:* 5 academic credits

*Module Code:* **RSM-Ms 905/1.**

*Module Name:* Research methods

*Prerequisites:* PVSh 5203.Higher school pedagogy

*Purpose:* mastering by undergraduates the basic concepts of business research and aspects of risk management.

*Short Description:* During the course, Master students study the basic concepts of action research and some aspects of risk management. They build their understanding of the relationship between research and decision-making described being as an inevitable and secure process of validity. Master students also learn that contextual coordination based on research results is a necessary stage of scientific discussion for decision-making. They learn about the decision-making structure described through stages, functions, and dynamics.

*Learning Outcomes in EP (LOP):*

LO1 – In his practice, he understands decision-making as a process based on scientific knowledge.

LO2 – reflects on the pedagogical task from the point of view of the manager.

*Learning Outcomes in Course (LOC):*

LOC 1 – analyzes how social and emotional activities affect understanding of the world and decision-making.

LOC 2 – explains the relationship and sequence of research and decision-making.

LOC 3 – performs coordination of decisions according to the situation based on the study

*Post requisites:* **Change management.**

### *Optional component 6*

*Course:* **Education policy**

*Intensity of the Course:* 5 academic credits

*Module Code:* **RSM-Ms 905/2.**

*Module Name:* Research methods.

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* undergraduates study the current regulatory legal acts, give an idea of educational policy.

*Short Description:* Master students build their understanding of the educational policies through the types of existing classifications of normative legal acts and the types of future classifications of standards, guidelines, and practices. They learn to consider the process of creating educational policies and their structure, as well as analyze the changes that have led to the introduction of various policies.

*Learning Outcomes in EP (LOP):*

LO1 – understands, explains and is able to draw conclusions about the content of educational policy.

LO2 – finds important information about educational policy and analyzes it.

*Learning Outcomes in Course (LOC):*

LOC 1 – uses appropriate control concepts to measure educational policy.

LOC 2 – establishes relationships with subjects of educational policy for contextual coordination and decision-making.

*Post requisites:* **Project management.**

### **The cycle of core disciplines University component - 1**

*Course:* **Introduction to Empirical Research in Education**

*Intensity of the Course:* 5 academic credits

*Module Code:* **ERD-Ms 706.**

*Module Name:* Educational research design.

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* to introduce undergraduates to the basics of research data management, including research data protection and lifecycle.

*Short Description:* The aim of the course is that Master students understand the research process in terms of qualitative, quantitative and mixed methods of research. They build their understanding and realize the possibilities of applying empirical research in education through the development of research competencies,

including the collection and analysis of information. Master students formalize research results not only in the form of generalized conclusions, but also graphically through graphs, tables, diagrams, etc.

*Learning Outcomes in EP (LOP):*

LOP 1 – understands the classification and applicability of empirical research.

LOP 2 – defines the methodological apparatus from scientific publications and analyzes it

*Learning Outcomes in Course (LOC):*

LOC 1 – He puts hypotheses and research questions for relevant empirical research (including his own) and describes methods of their practical implementation (at the end of the semester, undergraduates complete a proposal or scientific and methodological apparatus of their thesis.

*Post requisites: -*

### University component - 2

*Course: **Research design, data collection and analysis***

*Intensity of the Course: 5 academic credits*

*Module Code: **ERD-Ms 707.***

*Module Name: Educational research design.*

*Prerequisites: 5203.Higher school pedagogy*

*Purpose: to introduce undergraduates to the basics of research data management, including research data protection and lifecycle.*

*Short Description: Master students study the methodology of scientific research design and practical implementation of these methods, expanding the knowledge about the use of various methods of data collection and analysis. Master students also study the international and national standards for the design of research through end-to-end work in groups at seminars. They are introduced to the basics of research data management, including the protection and lifecycle of research data.*

*Learning Outcomes in EP (LOP):*

LOP 1 – understands the structure of scientific research.

LOP 2 – analyzes design and research methods.

*Learning Outcomes in Course (LOC):*

LOC 1 - formulates the design and research methods of a simple empirical study

LOC 2 - uses the skills of collaboration and teamwork in the development of a research project;

LOC 2 - completes the proposal or scientific and methodological apparatus of his dissertation (thesis proposal)

*Post requisites: -*

### University component - 3

*Course: **Qualitative research methods and data collection***

*Intensity of the Course: 5 academic credits*

*Module Code: **RSM-Ms 801.***

*Module Name: Research methods*

*Prerequisites: 5203.Higher school pedagogy*

*Purpose: Undergraduates learn to analyze the features of case studies, phenomenological research, ethnography as a research method.*

*Short Description: Master students expand their knowledge of various qualitative methods for data collection. The paradigm shift to qualitative research methods is understood as the need to describe phenomena, which is more consistent with the practice of an inclusive school. Master students learn to analyze the specifics of thematic research, phenomenological research, ethnography as a research method, etc. In the practical works of this course, Master students apply their theoretical knowledge through the practice of descriptions, observations, interviews, NVIVO tools, etc.*

*Learning Outcomes in EP (LOP):*

LO1 – correctly selects qualitative research methods.

LO2 – draws attention to the possibilities of qualitative methods and limitations.

LO2 – supports the ethics of qualitative research

*Learning Outcomes in Course (LOC):*

LOC 1 - conducts content analysis in various situations.  
LOC 2 - organizes interviews and groups/classifies responses.  
LOC 3 - finds and uses digital tools for data collection and processing  
*Post requisites:* -

#### **University component - 4**

*Course:* **Quantitative research methods and statistical analysis**

*Intensity of the Course:* 5 academic credits

*Module Code:* **RSM-Ms 802.**

*Module Name:* Research methods

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* mastering the analysis of parameters of numerical methods by undergraduates.

*Short Description:* Master students study quantitative methods of analysis. Evidence as a criterion for the use of quantitative methods allows us to substantiate hypotheses and look for their confirmation /refutation. During the course, Master students build their understanding of the significance of the parameters of quantitative methods: reliability, validity, and correctness. They also explore various sampling and data collection methods applicable in the context of quantitative research. During practical training, Master students develop their skills in putting forward null and alternative hypotheses, statistical hypotheses and forecasts, as well as checking them and forming conclusions. They study modern measurement theories: response and generalizability. The practical application of the demo version of statprograms determines the orientation in them.

*Learning Outcomes in EP (LOP):*

LO1 – understands the structure of statistical analysis focused on quantitative research methods.

LO2 – offers null, alternative, and statistical hypotheses.

LO3 – selects statistical criteria for working with hypotheses.

*Learning Outcomes in Course (LOC):*

LOC 1 - understands the mathematical meaning of criteria calculations.

LOC 2 - uses Excel, SPSS (statistical) programs for research.

LOC 3 - visually characterizes and explains the statistical data obtained

*Post requisites:* -

#### **University component - 5**

*Course:* **Action research**

*Intensity of the Course:* 5 academic credits

*Module Code:* **RSM-Ms 903.**

*Module Name:* Research methods

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* development of undergraduates' ideas about the basics in the field of social engineering and social management.

*Short Description:* Master students, as future practitioners, acquire skills for self-reflective research undertaken in social situations to improve the rationality and fairness of their own practices. Master students build their understanding of the basics in the field of social engineering and social management. Master students improve their competences in collaborative action research and conducting research on educational programs of different levels, exploring their teaching practice, and getting acquainted with the basics of pedagogical design.

*Learning Outcomes in EP (LOP):*

LO1 – defines and describes a problem that is being studied and improved through an activity learning approach.

LO1 – he reflects on his work as a teacher and on his development not only as a professional, but also as a lifelong learner.

*Learning Outcomes in Course (LOC):*

LOC 1 – develops a cyclical process of actions and thoughts to improve one's own experience or structural elements of the educational process.

LOC 2 – uses information and research results in his work.

LOC 3 – analyzes and uses strategies to test the effectiveness of pedagogical work

*Post requisites:* -

## University component - 6

**Course: Ethics of educational research**

*Intensity of the Course:* 5 academic credits

**Module Code: REI-Ms 701.**

*Module Name:* Research ethics and integrity

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* to teach undergraduates to ethically evaluate their research and the research of colleagues, to make recommendations.

*Short Description:* Master students become aware of the value of ethics in education and social research as a guiding principle of conducting research that does not harm or endanger those who participate in them. Master students learn to evaluate their research and the research of their colleagues from an ethical point of view, make recommendations, and analyze the safety conditions of the research participants. Master students analyze how ethical aspects are integrated into the process of designing pedagogical research. They develop documentation for ethics committees as an applicant and as a member of the committee, and ensure the security, anonymity and integrity of research data.

*Learning Outcomes in EP (LOP):*

LO1 – clarifies the Code of the Kazakh researcher in the field of education.

LO2 – Prepares documents for national and international ethics commissions.

LO3 – develops ethical scientific research in the field of education.

*Learning Outcomes in Course (LOC):*

LOC 1 - develops and applies a plan of interaction with various groups and communities, depending on the goals of educational research;

LOC 2 - justifies the observance of academic integrity by logical and rational conclusions.

LOC 3 - ethically works with study participants, especially those who are in a vulnerable position during the study

*Post requisites:* -

## University component - 7

**Course: Research integrity**

*Intensity of the Course:* 5 academic credits

**Module Code: REI-Ms 802.**

*Module Name:* Research ethics and integrity

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* formation of undergraduates' understanding of the integrity of research as a value based on fairness, honesty, transparency, impartiality, accountability and rational management.

*Short Description:* Master students construct their understanding of research integrity as a value based on objectivity, honesty, openness, fairness, accountability, and management rationality. They research, discuss, and reflect on the use of honest and verifiable methods in research of any scale. They also conduct and evaluate the research, report on the results with special attention to compliance with rules, regulations, and guidelines following generally accepted professional codes or norms.

*Learning Outcomes in EP (LOP):*

LO1 – evaluates the thoroughness and accuracy of the selection of the research tool.

LO2 – analyzes the use of professional codes and rules in scientific articles.

*Learning Outcomes in Course (LOC):*

LOC 1 - Positions himself as an expert in matters of academic integrity and, at the very least, demands the integrity of undergraduate students' research, providing feedback to improve it.

*Post requisites:* -

## University component – 8

**Course: Interaction of the research, social and educational environment**

*Intensity of the Course:* 5 academic credits

**Module Code: CDR-Ms 801.**

*Module Name:* Research ethics and integrity

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* Undergraduates study and study the teacher's influence on creating a healthy group environment.

*Short Description:* Master students understand and accept as a value the importance of diversity for the successful and sustainable development of society. They learn about the normative legal acts with the protection of the right of the individual to be and express themselves, and the need to protect the uniqueness and freedom of the individual. They also consider the influence of a teacher on the establishment of a healthy team atmosphere, where everyone feels like a valuable member of society and has an internal motif to implement positive changes and form common values.

*Learning Outcomes in EP (LOP):*

LO1 – critically analyzes the phenomena of diversity and uniqueness.

LO2 – uses the phenomena of diversity and uniqueness in pedagogical work and research in the context of globalization.

*Learning Outcomes in Course (LOC):*

LOC 1 - RLA knows (UN documents, UNESCO, Constitution of the Republic of Kazakhstan).

LOC 2 - recognizing himself as a part of an inclusive society, he will be ready to contribute to its development.

*Post requisites:* -

### **University component – 9**

*Course:* **Interaction of the research, social and educational environment**

*Intensity of the Course:* 5 academic credits

*Module Code:* **CDR-Ms 801.**

*Module Name:* Communication and dissemination of research

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* to teach undergraduates to create new ways of interaction based on shared values of well-being, or to improve old ones.

*Short Description:* Master students study, analyze, and evaluate the ways of interaction between the research and the social and educational environment in the context of the interaction of groups of people, individuals, organizations, and their influence on each other. Master students learn to create new or improve old ways of interaction based on the values of universal well-being.

*Learning Outcomes in EP (LOP):*

LO1 – demonstrates a deep understanding of the mechanisms of action of social interactions and can analyze them.

LO2 – evaluates the interaction of different groups.

*Learning Outcomes in Course (LOC):*

LOC 1 - it develops and implements a plan to improve interaction.

LOC 2 - strengthens the skills of qualitative research, minimal interviewing and observation.

*Post requisites:* -

### **University component – 10**

*Course:* **Oral and written dissemination of research results**

*Intensity of the Course:* 5 academic credits

*Module Code:* **CDR-Ms 902.**

*Module Name:* Communication and dissemination of research

*Prerequisites:* 5203.Higher school pedagogy

*Purpose:* to develop the ability to work with the words of undergraduates and professional vocabulary and speaking skills.

*Short Description:* Master students formulate their research in a form suitable for dissemination in a professional scientific environment through: the development of academic writing, the rules of preparation for oral presentation, and the study of international standards for the presentation of visual information in articles and in an oral report. Master students also work on their speech, and develop professional vocabulary and oratorical skills.

*Learning Outcomes in EP (LOP):*

LO1 – uses a professional dictionary and publishes research results in scientific publications that give original conclusions..

LO2 – competently summarizes (presents) the conducted research and gives an exhaustive report.

*Learning Outcomes in Course (LOC):*

LOC 1 - clearly and consistently justifies his work for specialists and non-specialists.

LOC 2 - critically evaluates achievements in the field under study and analyzes the results of the study.

*Post requisites: -*

### **University component – 11**

*Course: Literature review and collection of empirical data*

*Intensity of the Course: 3 academic credits*

*Module Code: RW-Ms 801.*

*Module Name: Research work of a Master student*

*Prerequisites: 5203.Higher school pedagogy*

*Purpose:* undergraduates learn to compile a list of references depending on the requirements and form ideas about the use of various forms of citation when presented in the text.

*Short Description:* Master students, depending on the requirements, build their understanding of using various citation formats when compiling a list of references and references in the text. They use software to form a personal archive of scientific publications and to apply international standards of citation.

Master students collect data for their Master's thesis using various methods. They have the possibility to go for an internship to another educational institution around the world and collect and process theoretical and/or practical data.

*Learning Outcomes in EP (LOP):*

LO1 – selects and analyzes the necessary literature on the topic under study.

LO2 – uses cited publications and complies with intellectual property rules.

*Learning Outcomes in Course (LOC):*

LOC 1 - systematizes information from scientific sources and analyzes its relevance to the topic of his own research.

LOC 2 - presents an excerpt from the research in defense.

LOC 3 - independently informs about the choice of the method and form of the study.

LOC 4 - understands ethical standards and fulfills their requirements.

*Post requisites: -*