Module Handbook of the Degree Programme "Economy" (Ma)

Content

Module Title	**M 1. History and Philosophy of Science**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Ibrayeva Nurila Amirovna, Candidate of Philosophical Sciences, Associate Professor
Language of instruction	Russian, Kazakh
Relation to the curriculum	Basic discipline Higher school component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Bachelor Program Module: Philosophy
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop in master students a methodological culture of scientific research, the ability to conduct philosophical and methodological analysis of the development of science, and to apply the categories and principles of the philosophy of science in conducting independent research in economics, taking into account social, ethical, and scientific foundations. After completing this module, master students will be able to: - demonstrate a systematic understanding of the stages and patterns of the development of science and contemporary scientific paradigms; - analyze and interpret scientific and socio-economic processes using the categories and principles of the philosophy of science; - justify the choice of methodological approaches and methods when designing economic research; - formulate and solve research problems based on the critical analysis of scientific concepts and sources; - evaluate the social, ethical, and epistemological aspects of scientific and professional activities.
Content of the Module	**Lectures:** Science as a form of knowledge: the subject, functions, and role of science in the development of society and the economy. Historical stages of the development of science: classical, non-classical, and post-non-classical scientific rationality. Scientific paradigms and the structure of scientific revolutions in the context of the development of economic thought. The structure and levels of scientific knowledge: empirical and theoretical levels, forms and methods of scientific knowledge. Methodology of scientific research: principles, logic, and methods of scientific justification. The specificity of the social sciences and humanities and the particular features of economic knowledge. Methodological approaches in economic research: systemic, institutional, evolutionary, and interdisciplinary approaches. The problem of explanation, understanding, and interpretation in economic science. Scientific argumentation and the logic of proof in research activity. Ethics of science and the social responsibility of researchers in the

	field of economics. Contemporary trends in the development of science: digitalization, interdisciplinarity, and open science. Methodological culture of master students and the design of scientific research. **Practical classes:** Analysis of the stages of scientific development and their manifestation in economic theory. Comparative analysis of classical, non-classical, and post-non-classical rationality in scientific research. Identification of the object, subject, purpose, and objectives of scientific research in economics. Justification of the choice of methodological approaches in the design of economic research. Analysis of the structure of a scientific article or dissertation research in economics. Critical analysis of scientific concepts and identification of their philosophical and methodological foundations. Identification of the logic of argumentation and methodological errors in scientific research. Development of the methodological section of a master's research project. Analysis of the problem of objectivity and interpretation in socio-economic sciences. Evaluation of the ethical aspects of scientific and professional activity of an economist. Analysis of the impact of digital technologies and artificial intelligence on the development of scientific knowledge. Analysis and scientific justification of the methodological framework of the master's research project.
Forms of Examination / Assessment	Final Examination. The examination is conducted in the form of a written exam with a duration of 60 minutes. Master students provide written answers to three questions included in the examination task. The examination questions include: 1. Theoretical question. Assesses a systematic understanding of the stages and patterns of the development of science, the characteristics of classical, non-classical, and post-non-classical rationality, the structure of scientific knowledge, and the philosophical foundations of economic science. 2. Methodological justification. Requires explaining the essence of scientific research methods, analyzing methodological approaches, and providing a reasoned justification for their application in socio-economic research. 3. Problem-analytical task. Involves the analysis of a scientific situation or theoretical position, identification of its philosophical and methodological foundations, critical evaluation of the argumentation, and consideration of the social and ethical aspects of scientific activity.
Requirements for Learning and Examination	Continuous assessment: colloquia, written control works, and written and oral questioning. During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1 Ambury J.M., Irani T., Wallace K. (eds.) Philosophy as a Way of Life: Historical, Contemporary, and Pedagogical Perspectives. Wiley, 2021. – 339 p. 2 Brobjer T.H. The Close Relationship between Nietzsche's Two

	Most Important Books. Palgrave Macmillan, 2023. – 340 p. 3 Bengson J., Cuneo T., Shafer-Landau R. Philosophical Methodology: From Data to Theory. Oxford University Press, 2022. – 199 p. 4 Shipunova O.D. History and Methodology of Science: Study Guide. Saint Petersburg: Peter the Great St. Petersburg Polytechnic University, 2022. – 255 p. (In Russian) 5 Mamzin A.S., Sivertsev E.Yu. (eds.) History and Philosophy of Science: Textbook for Universities. 2nd ed., revised and expanded. – Moscow: Yurait, 2025. – 299 p. (In Russian)
Date of update	28.08.2025

Module Title	**M 2. Foreign Language (Professional)**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Suyuberdiyeva Aiman Abdrazakovna, Candidate of Pedagogical Sciences, Senior Lecturer
Language of instruction	English
Relation to the curriculum	Basic discipline Higher school component
Teaching methods	Practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Practical classes – 45 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Bachelor Program Module: Foreign Language
Module Objectives / Intended Learning Outcomes	**Purpose:** to systematically deepen communicative competence within the framework of international standards of foreign language education based on the further development of skills and abilities of active language proficiency in the professional activity of a future graduate student. After completing this module, master students will be able to: - express your thoughts and comment in a foreign language in accordance with the speech norms of the language - to support speech in a foreign language in the scope of the topics studied - to conduct and present scientific research in an international academic environment. - analyze and interpret scientific texts in a foreign language - to use a foreign language in the organization and conduct of training sessions, using modern and innovative learning technologies.
Content of the Module	**Practical classes:** International educational programs-IELTS, TOEFL. The role of mass media in the life of a modern person. The education system in the Republic of Kazakhstan. Theories of international organizations – the UN, UNICEF, WTO. Professional terminology and scientific

	style in the field of master's studies. Critical analysis and interpretation of scientific publications in the field of training. Academic writing in the professional activity of a graduate student. Argumentation and scientific polemics in the professional and academic environment. Presentation of the research results in the international professional space. Business and academic communication in the context of intercultural interaction. The use of digital and Internet resources in professional and scientific communication
Forms of Examination / Assessment	The differentiated assessment in the discipline "Foreign language (professional)" is conducted orally for a duration of 30 minutes. The master's student orally answers the assignment questions, demonstrating professional language competencies in the context of specialized activities, the formation of communication skills, analysis and interpretation of professional information in a foreign language. Differentiated credit issues include: 1. The theoretical part Testing the knowledge of professional vocabulary and grammar 2. Oral presentation / business communication Presentation of a project or professional topic in a foreign language Dialogue with the teacher/colleagues (role-playing games, negotiations) 3. Discussion question / situational task Lead a role-based discussion by discussing possible risks and alternatives.
Requirements for Learning and Examination	Current assessment: colloquiums, written tests, written and oral questioning. During the semester, master students must complete all tasks in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1 R.Harrison, S. Philpot, L. Curnick. New Zealand academic skills.Oxford University Press. 2021. 346 p. 2 Kunanbayeva S.S. Theory and practice of contemporary foreign language teaching.University Press. 2020 -125 p 3 Bachelor. Basic principles. SGES RK 5.04.019-2022 Official Edition, M E S RKAlmaty, 2022-129 p 4 Mcmillan Dictionary of Contemporary English. McMillan, 2021. 325 p.
Date of update	28.08.2025

Module Title	**M 3. Psychology of Management**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Shomanbayeva Almira Orazaliyevna, Candidate of Psychological Sciences, Associate Professor
Language of instruction	Russian, Kazakh
Relation to the curriculum	Basic discipline Higher school component
Teaching methods	Lectures, practical classes

Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 15 hrs; Pratical classes – 15 hrs; Current independent study (self-study) – 45 hrs; Intermediate independent study – 7.5 hrs; Guided self-study – 7.5 hrs.
Number of credits	3 ECTS
Prerequisites (required and recommended)	Bachelor Program Module: Cultural Studies and Psychology
Module Objectives / Intended Learning Outcomes	**Purpose:** formation of students' system knowledge and practice-oriented competencies in the field of management psychology, providing the ability to analyze and regulate management processes, effectively organize interaction in the team, make informed management decisions, increase staff performance and ensure sustainable competitiveness of the organization. After the master students have completed this course, they can: - apply artificial intelligence tools to analyze data and support management decisions; - identify reserves for improving the efficiency and quality of business processes; - assess the economic feasibility and sustainability of implementing AI solutions; - integrate the results of scientific research and innovation into the content of the educational process; - apply methods of objective assessment of knowledge, skills and competencies of students; -use digital and interactive tools to increase engagement and learning effectiveness -use psychological tools and leadership techniques to increase teamwork efficiency.
Content of the Module	**Lectures:** Introduction to management psychology as a scientific and applied discipline. Psychological factors of management performance. Personality in the management system: structure, roles and managerial potential. Staff motivation and organizational effectiveness. Organization Leadership: Styles, Models, and Efficiency. Psychological features of the personality of the leader. The personality of the subordinate and the psychology of performing behavior. Interpersonal communication in management activities. Psychology of influence and power in governance. Psychological basis of management decision-making. Psychology of conflict management in an organization. Organizational stresses and burnout: prevention and management. **Practical classes:** Analytical review of personality concepts in modern psychology. Systematization and critical evaluation of modern theoretical approaches to the study of personality. Analysis of the impact of biographical factors of the manager on the effectiveness of his management activities. Critical assessment of the role of the image in the professional activities of the manager. Systematization of components and elements of the manager's image. Analysis of the relationship between the image of the manager and the effectiveness of his management decisions. Assessment and classification of methods of creating a positive image of the manager. Systematic analysis of psychological mechanisms for controlling group processes and phenomena.

	Critical assessment of the psychology of business communication and its impact on the effectiveness of interaction. Analysis of models and strategies for psychological conflict management in the professional environment.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Problem solving Analysis of the impact of the introduction of artificial intelligence on business process management. Calculate the economic feasibility and assess the risks associated with integrating AI into the control system. 2. Graphical analysis Build a model illustrating the influence of psychological factors on teamwork in the organization. Analyze how changes in leadership and motivation can affect team performance. 3. Case analysis Analysis of the organization's situation where digital tools are being implemented to improve management. Develop an implementation strategy that takes into account psychological aspects such as leadership and employee engagement, and suggest methods for evaluating the effectiveness of changes.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Jeffrey M. Conte. An Introduction to Industrial and Organizational Psychology. John Wiley & Sons, 24 Sep 2024 – 656p. 2. Paul E. Spector. Industrial and Organizational Psychology, with eBook Access Code: Research and Practice. John Wiley & Sons. 2025 – 384p. 3. Wayne F. Cascio, Herman Aguinis. Applied Psychology in Talent Management. SAGE Publications, 2024. 704p. 4. Psychology of influence. How to convince and succeed/Robert Chaldini; [trans. From the English. O.S. Epimakhova]. - Moscow: Eksmo, 2021. – 416p. (in Russian) 5. A. Zhuravlev, T. Nestik. Psychology of collaborative activity management. New lines of research. Institute of Psychology of the Russian Academy of Sciences, April 29, 2022 -253p. (in Russian)
Date of update	28.08.2025

Module Title	**M 4. Pedagogy and Psychology of Higher School**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Kalybekova Asma Akhmetovna, Doctor of Pedagogical Sciences, Professor
Language of instruction	Russian, Kazakh
Relation to the curriculum	Basic discipline

	Higher school component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Bachelor Program Module: Cultural Studies and Psychology
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop the ability to scientifically design, implement, and evaluate the educational process in economics disciplines within higher education, ensuring students develop analytical, critical, and quantitative thinking, research skills, and professional competencies in economics. After completing this course, master students will be able to: - critically analyze contemporary pedagogical concepts in higher education and justify their application in teaching economics disciplines. - design academic modules in economics based on the principles of constructive alignment, formulating measurable learning outcomes and developing coherent teaching and assessment methods. - develop and apply educational technologies (case method, data analysis, problem-based and project-based learning) aimed at developing students' analytical, critical, and quantitative thinking. - construct an assessment system (exam tasks, analytical projects, case studies) that validly evaluates professional and research competencies in economics. - conduct reflective analysis and improve teaching methods in economics based on feedback and assessment results. - communicate in a foreign language in academic and professional contexts, prepare reports, projects, and presentations in accordance with academic writing standards and integrity, and interact appropriately with students and colleagues.
Content of the Module	**Lectures:** Modern paradigms and strategies in higher education development. History and trends of higher education in Kazakhstan. Methodology of pedagogy and psychology in higher education. Psychological characteristics of master's students in economics. Higher education didactics and constructive alignment. Designing academic modules and formulating measurable learning outcomes. Teaching and learning technologies (case method, problem-based learning, project work). Assessment systems: principles, criteria, and methods for evaluating competencies. Integration of research elements into the educational process. Professional and communicative competencies of instructors. Features of the credit system and quality assurance in education. **Practical classes:** Analysis of traditional, competency-based, and student-centered learning models. Review of higher education modernization strategies and credit-based learning systems. Comparison of methodological approaches (systemic, competency-based, learner-centered). Development of a competent instructor

	model. Analysis of conflict situations in teaching. Designing lesson structure and formulating learning outcomes. Analysis of student motivation factors. Comparison of traditional and active learning methods. Analysis of factors affecting learning effectiveness and discipline competencies. Designing classes using digital tools; discussion of blended, project-based, and problem-based learning. Designing a credit-based course: workload calculation and time allocation. Final micro-teaching using student-centered approaches and digital technologies. Academic writing and integrity.
Forms of Examination / Assessment	The exam is conducted in a written form lasting 60 minutes. The student provides written answers to 3 questions in the exam assignment. The questions of each exam assignment include: 1. Theoretical-conceptual question Explanation of key categories and principles in pedagogy and psychology of higher education, methods of organizing the learning process, development of professional and research competencies, and the role of motivation, engagement, and critical thinking. 2. Analytical task on educational indicators Interpretation of student learning data, evaluation of the effectiveness of educational technologies (case method, problem-based learning, project-based learning), analysis of the distribution of contact and independent work, and identification of patterns and factors affecting education quality. 3. Case task on optimizing the learning process Analysis of a specific pedagogical situation (e.g., low student activity, insufficient motivation, problems mastering material), identification of problems and areas for improvement, and formulation of recommendations for implementing modern educational technologies and digital tools to enhance learning efficiency.
Requirements for Learning and Examination	Current assessment: colloquiums, written assignments, and both written and oral questioning. During the semester, the master's student must complete the tasks according to the syllabus and earn a minimum of 30 and a maximum of 60 points, and in the exam, a minimum of 20 and a maximum of 40 points.
Reading List	1. Marshall, A., Fry, H., & Ketteridge, S. A Handbook for Teaching and Learning in Higher Education: Enhancing Academic Practice.5th ed. London: Routledge, 2021. – 520 p. 2. Baik, C., & Kahu, E. R. (eds.) Research Handbook on the Student Experience in Higher Education. Cheltenham: Edward Elgar Publishing, 2023. – 528 p. 3. The SAGE Handbook of Higher Education Instructional Design. Thousand Oaks: Sage, 2026. – 672 p. 4. Kalkeeva K. R., Toktarbekova Zh. N., Sholpankulova G. K. Pedagogy of Higher Education: Textbook. Nur-Sultan: Ministry of Education and Science of Kazakhstan; L. N. Gumilyov ENU, 2022. – 279 p. (in Russian) 5. Okhremenko I. V. et al. Psychology and Pedagogy of Higher Education: Textbook for Bachelor’s and Master’s Programs, 2nd ed., revised and expanded. Moscow: Yurayt, 2024. – 175 p. (in Russian)

Date of update	28.08.2025

Module Title	**M 5. Behavioral Economics (Advanced Course)**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Abdikerimova Gulzhanar Imanbayevna, Candidate of Economic Sciences, Professor Ilasheva Saule Ashurovna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Higher school component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Bachelor Program Modules
Module Objectives / Intended Learning Outcomes	**Purpose:** To provide master students with an advanced understanding of theoretical developments in behavioral economics and their practical application, particularly universal research methods of economic agents, as well as the tools and mechanisms that influence and shape economic behavior. After completing this module, master students will be able to: - identify key concepts and theoretical foundations of behavioral economics. - explain how behavioral factors influence economic decision-making by individuals and organizations. - apply behavioral analysis methods to real-world economic situations and cases. - analyze deviations from the standard model of rational choice in various contexts (consumer behavior, savings, investments, etc.). - identify factors that influence behavioral attitudes and decision-making in conditions of uncertainty. - identify opportunities to improve the efficiency, competitiveness and sustainability of socio-economic systems in the field of economic interactions through the use of rational management tools. - develop your own models or hypotheses based on the integration of behavioral and neoclassical approaches. - formulate reasoned conclusions about the expediency of using behavioral tools in economic policy and business.
Content of the Module	**Lectures:** An introduction to the subject of behavioral economics. Rationality in behavioral economics. The paradoxes of risk-free choice. Estimation and selection bias heuristics. Decision-making in conditions of risk and uncertainty. Theory of perspectives. Behavior and macroeconomics. Behavioral economics in the context of the digitalization of the economy. An overview of behavioral

	interventions in the field of ecology and examples of the organization of experiments. Experimental approaches to identifying the propensity for charity. Examples of the organization of experiments in the labor market and a review of behavioral interventions. Financial literacy and monetary policy: an overview of behavioral approaches and experimental examples. The application of behavioral and experimental research to public policy. Platform design, the use of algorithms in the creation of digital technologies, methods for conducting predictive analysis and making platform decisions online. **Practical classes:** Understanding the differences between the neoclassical and behavioral paradigms. Analysis of bounded rationality. Modeling a satisfying strategy. Analysis of the Alley paradox and the Ellsberg paradox, conducting a laboratory survey among students, statistical hypothesis testing. Experiment on the anchor effect, availability bias analysis. Calculation of the utility function, calibration of the individual coefficient of risk aversion. Analysis with graphs of empirical verification of the value function, measurement of aversion losses, comparison with the expected utility model. Modeling of adaptive expectations and analysis of inflation expectations based on survey data. Cases of behavioral macroeconomics. The development of nudge to reduce energy consumption. Designing a field experiment, calculating the required sample. Development of behavioral interventions for employment, field distribution of resumes (audit experiment), discrimination analysis. Analysis of behavioral factors of demand for loans, measurement of inflation expectations, experiment on framing in savings. Development of behavioral intervention for the state program, Cost–benefit analysis. Designing a digital platform based on behavioral effects.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. The questions of each exam assignment include: 1. Solving computational and analytical problems: Solving problems based on formalized models of behavioral economics: analysis of choice in conditions of risk based on Prospect Theory, intertemporal choice (exponential and hyperbolic discounting), models of self-control and mental accounting; assessment of the impact of cognitive distortions on consumer behavior, savings and investment decisions; comparison of behavioral and neoclassical results. 2. Graphical analysis assignment: Interpretation of behavioral models: value function and probability weighting, intertemporal choice for various types of discounting, graphical representation of deviations from the rational choice model and their impact on market behavior and economic equilibrium. 3. Case analysis / open questions: Analysis of the economic situation using behavioral theories: identification of factors of limited rationality, framing effects and losses; development of sound recommendations on the use of

	behavioral tools (nudging) in economic policy and business; formulation of reasoned conclusions on the expediency of integrating behavioral and neoclassical approaches.
Requirements for Learning and Examination	Continuous assessment: colloquia, written control works, and written and oral questioning. During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Alekhin B.I. Behavioral Finances: Textbook and Practical Guide for Universities. – Moscow: Yurait Publishing, 2025. (in Russian) 2. Maiboroda T.L., Kravchenko A.A., Maiboroda D.V. Behavioral and Experimental Economics: Theory and Practice: Electronic Textbook for Students Majoring in 1-25 80 01 “Economics”. – Minsk: BSEU, 2020. – 254 p. (in Russian) 3. Behavioral economics: An educational and methodological guide / Galstyan A.G. – Ep.: Publishing House of the Russian Academy of Sciences, 2021. – 105 p. (in Russian) 4. Ivanov V.V., Markova O.A., Nikishina E.N. Behavioral economics: how people make decisions. Workbook.- M., Faculty of Economics, Lomonosov Moscow State University, 2023. 64 p. (in Russian) 5. Behavioral economics in the context of the digitalization of the economy : textbook / E. Y. Sidorova, Y. Y. Kostyukhin, G. V. Timokhova [et al.] ; edited by E. Y. Sidorova. Patrice Lumumba Peoples' Friendship University of Russia: KnoRus, 2025, 198 p. (in Russian) 7.Brandon Lehr — Behavioral Economics: Evidence, Theory, and Welfare (1st Edition, 2021) - Routledge / Taylor & Francis-542 p 8. Sanjit Dhami — Principles of Behavioral Economics: Microeconomics and Human Behavior. - Cambridge University Press -698p. 8. Edward Cartwright — Behavioral Economics (4th Edition, 2024) Routledge-610 p
Date of update	28.08.2025

Module Title	**M 6.1. Business Planning of Innovative Projects**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Zhakeshova Aimzhan Pashkenovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Basic discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS

Prerequisites (required and recommended)	Bachelor Program Modules
Module Objectives / Intended Learning Outcomes	**Purpose:** formation of system knowledge and analytical competencies among master students in the field of business planning of innovative projects, including the development of a business plan structure, assessment of the economic efficiency and investment attractiveness of innovations, the choice of funding sources, risk analysis and justification of management decisions on the implementation of innovative projects in the digital economy and technological changes. After completing this module, master students will be able to: - analyze the external and internal environment of innovation activities, identify market opportunities and assess the potential of an innovation project; - substantiate innovative ideas and form the concept of an innovative project taking into account industry and technological trends in the development of the economy; - develop the structure and content of the business plan of the innovative project taking into account the strategic goals of the organization and the requirements of investors; - apply investment analysis methods to assess the economic efficiency of an innovative project (NPV, IRR, profitability index, payback period); - form a financial model of an innovative project and predict the main economic indicators of its implementation; - assess the risks of an innovative project and develop management solutions to reduce them in conditions of uncertainty; - use digital tools and modern methods of economic analysis to develop and evaluate innovative projects; - conduct a comparative assessment of alternative options for the implementation of an innovative project and justify the optimal strategy for its implementation; - develop design solutions to introduce innovations and improve the efficiency of the organization.
Content of the Module	**Lectures:** Modern approaches to business planning of innovative projects and its role in the development of the economy. Analysis of the external environment of the innovation project and methods of market research. Formation of an innovative idea and generation of innovative concepts. Business models of innovative projects and the structure of the business plan. Innovative project marketing strategy and competitive landscape analysis. Organizational planning and management of innovative project implementation. Innovative project financial planning and cash flow generation. Methods for assessing the investment efficiency of innovative projects (NPV, IRR, payback period, profitability index). Risk analysis and uncertainty management in innovative projects. Legal and ethical aspects of innovation and intellectual property protection. Digital tools for analyzing and supporting business planning of innovative projects. Financial modeling and evaluating the effectiveness of an innovative project using ProjectExpert. **Practical classes:** Analysis of successful and unsuccessful

	innovative projects based on international cases. Analysis of the innovation project environment using SWOT and PESTEL tools. Formation of an innovative idea and analysis of technological trends. Innovative Product Market Analysis: Market Capacity Assessment, Segmentation, and TAM-SAM-SOM Methodology. Development of the structure and key sections of the business plan of the innovative project, taking into account the requirements of investors. Calculation of forecast revenues, costs and cash flows of an innovative project. Calculation of investment efficiency indicators of an innovative project (NPV, IRR, payback period, break-even point). Innovative project risk assessment and sensitivity analysis. Justification of funding sources for an innovative project (venture capital, business angels, grants, crowdfunding). Development of a financial model of an innovative project using the ProjectExpert software product. Analyze the results of project financial modeling in ProjectExpert and interpret performance indicators. Development and presentation of business plan of innovative project.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master's student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Task for development of innovative project business plan elements Formation and justification of key sections of the business plan of an innovative project: analysis of the market for an innovative product, selection of a business model, development of a marketing and organizational strategy, formation of a financial plan, assessment of project funding sources. 2. Solution of calculation and analytical problems Calculation of indicators of economic efficiency of an innovative project using investment analysis methods (NPV, IRR, payback period, profitability index), cash flow analysis, determination of a break-even point, assessment of the cost structure and investment resources of the project. 3. Case analysis of an innovative project/open questions Analysis of the practical situation of the development or implementation of an innovative project, including an assessment of the market potential of an innovative product, identification of key project risks, justification of sources of financing, selection of a strategy for the implementation of an innovative project and areas for increasing its economic efficiency.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Colin Barrow The Business Plan Workbook: A Step-By-Step Guide to Creating and Developing a Successful Business. – Croydon, 2021. –313p. 2.Hyland J. et al. (ed.). Changing the dynamics and impact of innovation management: A systems approach and the ISO standard.

	– World Scientific, 2022. – T. 40. 3. Lorenzo O., Kawalek P., Wharton L. Entrepreneurship, innovation, and technology: A guide to core models and tools. – Routledge, 2023. - 238 p. 4. Kerzner H. Innovation project management: Methods, case studies, and tools for managing innovation projects. Second edition– John Wiley & Sons, 2023. – 565 p. 5. Minko I.S. Business planning of innovative projects: Tutorial. St. Petersburg: St. Petersburg National Research University of Information Technologies, Mechanics and Optics, 2021. - 171 p.
Date of update	28.08.2025

Module Title	**M 6.2. Strategic Planning of Investments**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Zhakeshova Aimzhan Pashkenovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Basic discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Bachelor Program Modules
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop students' theoretical knowledge and practical skills in strategic investment planning aimed at ensuring the sustainable development of organizations, industries, and regions. After completing this course, master's students will be able to: - define key concepts and categories of strategic investment planning; - explain the role of investments in implementing a long-term economic development strategy; - clarify the influence of macroeconomic factors on an organization's investment policy; - use strategic analysis tools using artificial intelligence and business process transformation; - analyze investment risks and their impact on expected returns; - evaluate the investment attractiveness of projects, companies, and industries based on systemic criteria; - justify management decisions in the investment sphere, taking into account strategic and economic factors; - - apply mathematical modeling methods to strategic investment planning.
Content of the Module	**Lectures:** Theoretical Foundations of Strategic Investment Planning. Investments in Long-Term Economic Development. Macroeconomic Factors of Investment Planning. Strategic Analysis

	of the Investment Environment. Methods of Assessing Investment Attractiveness. Financial Methods for Assessing Investment Decisions. Investment Risks. Portfolio Strategies and Diversification. Methods of Mathematical Investment Modeling. Organizational Investment Strategy. Digitalization and Investment Planning. Artificial Intelligence in Strategic Investment Analysis. Assessing the Investment Attractiveness of Regions and Industries. Strategic Justification of Investment Decisions. Integration of Strategic Investment Planning. **Practical Classes:** Basic Categories of Strategic Investment Planning. The Role of Investments in Economic Development. Analysis of the Macroeconomic Environment. Application of Strategic Analysis (PESTEL, SWOT). Assessing the Investment Attractiveness of a Project. Financial Evaluation of an Investment Project. Investment Risk Analysis. Investment Portfolio Formation. Mathematical Modeling of Investment Decisions. Developing an Organizational Investment Strategy. Investing in Digital Transformation. Application of Artificial Intelligence in Investment Analysis. Assessing the Investment Attractiveness of an Industry and Region. Strategic investment decision making (case study). Developing and defending an investment strategy.
Forms of Examination / Assessment	The exam is a 60-minute written exam. The master's student must answer three questions in writing. Each exam question includes: 1. Solving computational and analytical problems Solving a complex problem on the strategic assessment of an investment project using financial and quantitative methods. 2. Assignment on strategic investment analysis tools Constructing and interpreting strategic investment analysis models. 3. Comprehensive justification of an investment strategy Analysis of a strategic investment situation using theoretical models and formulating substantiated conclusions.
Requirements for Learning and Examination	During the semester, the master's student must complete assignments according to the syllabus and score a minimum of 30, maximum 60 points, and score a minimum of 20, maximum 40 points on the exam.
Reading List	1. Grigorieva, N.A. Investment design: textbook / N.A. Grigorieva, L.K. Korban; - Minsk: BNTU, 2022. - 104 p. (in Russian) 2. Lysenkova, M.V. Justification of investment and innovation projects: a textbook for the master's degree program "Economics" / M.V. Lysenkova. - Minsk: RIVSh, 2021. - 607 p. (in Russian) 3.Joseph Calandro Jr., Creating Strategic Value, Columbia Business School Publishing, 2020.-288 p. (in Russian) 4.Nikiforos T. Laopodis, Understanding Investments: Theories and Strategies, 2nd ed., Routledge, 2020.-758 p. 5.John Mihaljevic, The Manual of Ideas: The Proven Framework for Finding the Best Value Investments, 2nd ed.,Wiley,2025.-416 p. 6.Tony Kenck, Strategic Business Portfolio Management: Make Better Asset and Project Decisions With Practical Portfolio Analysis, Practical Portfolio Management LLC, 2025.-346 p.
Date of update	28.08.2025

Module Title	**M 7.1. Economic Security of the State**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Kolotayeva Lyudmila Petrovna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Basic discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Bachelor Program Modules
Module Objectives / Intended Learning Outcomes	**Purpose:** formation of students' theoretical knowledge about the national economic security system, as well as practical skills in analyzing economic threats, determining ways, forms and methods of ensuring the country's economic security, taking into account modern challenges and threats, global economic processes and trends. After the master students have completed this course, they can: - conduct a comprehensive strategic analysis of the activities of enterprises, industries and territories; - use artificial intelligence tools to analyze data and support management decisions; - identify bottlenecks and reserves for improving the efficiency of business processes; - develop proposals for transformation and optimization of processes taking into account resource limitations; - evaluate the economic efficiency of implementing AI solutions; - assess the level of economic security and identify key risks and threats; - develop management solutions and competitiveness improvement programs; - justify the proposed measures on the basis of economic calculations, modeling and data analysis; - assess the effectiveness of the implementation of management tools; - assess the social, environmental and economic impacts of the proposed solutions.
Content of the Module	**Lectures:** The system of national economic security and its main components. Monitoring and analysis of the state of national economic security. Forecasting threats to national economic security. Kazakhstan's economic security system: structure and mechanisms. Security of foreign economic activity of the state. Risk management in the economic security system. Shadow economy as a threat to economic security. **Practical classes:** Analysis of indicators and thresholds of economic security indicators as a basis for monitoring the

	sustainability of the economy. Systematization of indicators of innovation and investment security and their role in maintaining economic stability. Assessment of the main directions of the economic security strategy and their impact on the long-term development of the country. Analysis and assessment of threats to household economic security in the context of contemporary economic realities. Systematic study of factors affecting the economic security of the region and assessment of risks for its sustainable development. Assessment of risks faced by business entities and their impact on financial stability and competitiveness. Analysis and classification of shadow and criminal economy types and their impact on economic security.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Problem solving Analysis of the impact of the implementation of AI solutions on the economic security of the state. Calculate the effectiveness of AI implementation in business processes by assessing risks and impact on costs and profits. 2. Graphical analysis Build a model illustrating the impact of economic factors (e.g. taxation, changes in legislation) on the economic security and competitiveness of an enterprise or industry. 3. Case analysis Assess current threats to economic security in a particular industry. Develop strategic measures to increase resilience and competitiveness, taking into account identified risks, justifying decisions through data analysis and economic calculations.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Mykhailo Bryk, Andrii Petruk. Economic security of the state in the era of globalization: challenges, strategies and perspectives. January 2023. 2. Dmytrenko Alla. Information space of controlling information in the context of joint activities: economic security aspect. National University "Yuri Kondratyuk Poltava Polytechnic". 2023 3. Gadzhiev, Nazirhan, Magomed Gazimagomedov, Andrey Doronin, et al. Economic security. INFRA-M Academic Publishing LLC., 2020. 4. Economic security = EconomicSecurity: tutorials-practices. English language allowance/aut.-com. L. D. Ermolaeva; We own. state. university named after A. G. and N. G. Stoletovs. - Vladimir: Publishing House of VlSU, 2023. - 95 p. (in Russian) 5. Zharikov A.A. Economic security of the state: a textbook/A.A. Zharikov; North-Western Institute (branch) of the Kutafin University. - Vologda, 2021. - 74 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 7.2. Innovative Entrepreneurship**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Alzhanova Aigul Alibekovna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Basic discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Bachelor Program Modules
Module Objectives / Intended Learning Outcomes	**Purpose:** formation of students' fundamental knowledge of the concepts of innovative development, modern approaches and methods of entrepreneurial activity in the field of new and high technologies, as well as practical skills aimed at creating and developing innovative enterprises that ensure competitiveness in the market and sustainable growth in the face of dynamic changes in the economic environment. After the master students have completed this course, they can: - conduct a comprehensive strategic analysis of the activities of enterprises, industries and regions using quantitative and qualitative methods; - develop sound development strategies and programmes, taking into account resource, institutional and market constraints; - develop management solutions aimed at increasing the competitive advantages of organizations, industries and regions; - develop investment and innovation projects taking into account risk factors and uncertainties; - apply methods of quantitative assessment of efficiency of innovation and investment solutions; - use modeling and scenario analysis tools to assess the stability of design solutions; - present innovative projects to potential investors and stakeholders.
Content of the Module	**Lectures:** Innovation process and concepts of innovative development. Forms of innovative entrepreneurship: startups, corporate innovation, venture capital. Factors and conditions for the development of innovative entrepreneurship. Innovation market infrastructure: innovation clusters, technology parks, accelerators. Technology and product innovation strategies. Competitive strategies of innovative organizations. Managing change in innovative entrepreneurship. Development of an innovative product commercialization model. Financing business activities in the field of new and high technologies. **Practical classes:** Comparative analysis of innovation infrastructure in Kazakhstan and abroad: achievements, challenges and development prospects. Evaluation of innovative project management methods and strategies and their impact on

	implementation efficiency. Analysis of the relationship between knowledge intensity of production and product pricing: economic aspects and practical models. Evaluation of methods of transfer and commercialization of scientific developments: from theory to practice in the context of a market economy. Systematization of approaches to managing innovative processes and assessment of their impact on the competitiveness of the organization. Analysis of the dynamics and trends of the international technology market: opportunities for development and participation in the global economy. Evaluation of high-tech business management strategies and the role of venture capital in supporting innovative startups. Systematic analysis of change management practices in organizations and their impact on business sustainability and adaptability.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Problem solving Analysis of the effectiveness of the innovative project taking into account market restrictions. Calculate metrics such as profit, cost, ROI using supply and demand models and estimate the economic feasibility of the project. 2. Graphical analysis Disclose a model illustrating the impact of innovative solutions on enterprise competitiveness. Analyze how the introduction of innovations affects market structures, for example, to improve competition or create monopolies. 3. Case analysis Evaluate a potential innovation project for an enterprise or region. Develop a strategy for its implementation, taking into account market and institutional constraints, as well as risks and uncertainties, and suggest ways to increase competitive advantages.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. John R. Bessant,JoeTidd Innovation and Entrepreneurship, 4th Edition. - March 2024. - 624 p. 2. Mike Kennard Innovation and Entrepreneurship1st Edition. - By Copyright 2021. - 124 p. 3. Ralph F. Brueggemann Charles H. Matthews Innovation and Entrepreneurship. Second edition published 2025 by Routledge 605 Third Avenue, New York, NY 10158 and by Routledge 4 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN. 2025. 62p. 4. Sokolova M.I., Khotyasheva O.M., Dementieva A.G. Innovative entrepreneurship: Textbook: Publishing house: Master. – 2023. - 568 p. (in Russian) 5. Yessirkepova, A.M. Modern entrepreneurship [Text]: textbook/A.M. Yessirkepova, 2021. - 308 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 8.1. Planning and Design in Regional Economy**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Ilasheva Saule Ashurovna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 180 hours: Lectures – 45 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 60 hrs; Intermediate independent study – 15 hrs; Guided self-study – 30 hrs.
Number of credits	6 ECTS
Prerequisites (required and recommended)	Modules: Business Planning of Innovative Projects
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop students' knowledge and practical skills in strategic planning and design of regional socioeconomic development, as well as master the tools for developing and implementing regional programs and projects. After completing this course, master's students will be able to: - identify effective strategies for planning and developing enterprises, industries, regions, and the national and global economy; - effectively manage regional economic planning and design tools; - apply planning and forecasting methods to improve regional competitiveness; - define the principles of regional governance; - apply mathematical modeling methods to evaluate regional policy activities, projects, and programs and make strategic decisions at the national and regional economic levels; - participate in the development of forecasts, projects, and corresponding models to improve the development of regional socioeconomic systems; - - conduct research and analysis (analysis and forecasting, development of social projects and technologies) on regional economic issues for the purpose of developing programs and projects.
Content of the Module	**Lectures:** Strategic planning in the face of uncertainty and global challenges. The relationship between national goals, sectoral strategies, and regional programs. A systems approach and principles of sustainable development. Comparative analysis of planning models in the EU, USA, and Asian countries. Principles of regional governance: legal, economic, and administrative foundations for territorial development. Strategies for enhancing regional competitiveness: creating unique advantages and managing investment image. Cluster policy and innovation ecosystems. Spatial development management: urbanization, agglomerations, and rural planning. Methods for diagnosing problem areas in the regional economy. Developing projects to improve quality of life and develop human capital. Scenario planning, the Delphi method, and foresight technologies. Assessing the impact of government

	programs on economic growth. Econometric modeling: forecasting regional socio-economic indicators using Big Data. Simulation modeling and "Digital Twins" of regions. Designing target programs: from creating a project passport to monitoring key performance indicators (KPIs). **Practical classes:** Analysis of the national economy's position within the global economic system. Case study: "Decomposing National Goals into Regional Development Indicators." Constructing a comprehensive SWOT analysis and a matrix of regional socioeconomic challenges. Ranking regions by investment attractiveness and quality of life. Designing a Special Economic Zone (SEZ) model for a specific territory. Mapping potential industrial or tourism clusters in a region. Developing an urban agglomeration development concept: infrastructure, logistics, and environment. Conducting a desk study to identify "hidden" development resources for a region. Developing a project to develop the region's human resources (education, healthcare, migration). Constructing a "Goal Tree" and long-term regional development scenarios (15-20 years). Using correlation analysis to assess the relationship between infrastructure costs and business growth in the region. Constructing a short-term forecast of key regional socioeconomic indicators in Excel/R/Python. Mathematical justification for selecting a priority investment project for inclusion in the state program. Development of a regional target program document (goals, objectives, indicators, budget). Presentation and defense of the developed strategy for the development of the socio-economic system.
Forms of Examination / Assessment	The exam is a 60-minute written examination. The master's student must answer three questions in writing. Each exam question includes: 1. Solving computational and analytical problems Solving a complex problem on strategic planning and forecasting of a region's socioeconomic development using econometric and scenario analysis methods. 2. Applying strategic regional analysis tools Constructing and interpreting models of spatial and strategic regional development. 3. Comprehensive design of a regional development strategy This exam tests the student's ability to develop and justify regional development projects and programs.
Requirements for Learning and Examination	During the semester, the master's student must complete assignments according to the syllabus and score a minimum of 30, maximum 60 points, and score a minimum of 20, maximum 40 points on the exam.
Reading List	1. Chupina, Irina Pavlovna. Regional Economics and Management: a textbook / I.P. Chupina. Ekaterinburg: Publishing house of the Russian state prof.-ped. University, 2021. 146 p. (in Russian) 2. Regional Economics [Text]: a lecture course / co-authors; edited by Ya.P. Silin, E.G. Animitsa; foreword by V.P. Chichkanov; Ministry of Science and Higher Education of the Russian Federation, Free Economic Society of Russia, Ural State Economic University. - Ekaterinburg: Publishing house of the Ural State

	Economic University, 2020. - 417 p. (in Russian) 3. Arapov S.V., Kurochkina A.A., Petrova E.E. Regional management and territorial planning/S.V. Arapov, A.A. Kurochkina. E.E. Petrova. - St. Petersburg: Russian State Medical University, 2021. - 460 p.4. Ugo Fratesi, Regional Policy: Theory and Practice, Routledge, 2024.-314 p. (in Russian) 5.Vincent Nadin, Giancarlo Cotella, Peter Schmitt (Eds.), Spatial Planning Systems in Europe: Comparison and Trajectories, Edward Elgar, 2025.-380 p. 6.J. Ernst Drewes, Mariske van Aswegen (Eds.), Regional Policy in the Southern African Development Community, Routledge, 2024.-290 p.
Date of update	28.08.2025

Module Title	**M 8.2. Artificial Intelligence in the Analysis of Economic Systems**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Ilasheva Saule Ashurovna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 180 hours: Lectures – 45 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 60 hrs; Intermediate independent study – 15 hrs; Guided self-study – 30 hrs.
Number of credits	6 ECTS
Prerequisites (required and recommended)	Modules: Business Planning of Innovative Projects
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop students' theoretical knowledge and practical skills in applying artificial intelligence (AI) methods to analyze, model, and forecast economic processes and systems. After completing this course, master's students will be able to: - understand the architecture of intelligent systems; - explain the operating principles of AI algorithms and their role in interpreting and forecasting economic processes; - apply AI methods to analyze macro- and microeconomic indicators; - use AI tools to build forecasting models in economics; - analyze the behavior of economic agents based on data processed using AI methods; - develop economic models that integrate AI methods and classical economic analysis; - evaluate the reliability and accuracy of forecasts obtained using AI; - - justify the choice of specific AI methods for analyzing economic systems, taking into account the research objectives and the quality of the source data.

Content of the Module	**Lectures:** Classification of AI, the structure of neural networks, and data flows in economic systems. Operating principles of linear models, decision trees, and their role in interpreting economic dependencies. RNN and LSTM architectures for time series analysis and long-term forecasting. Clustering and segmentation of economic agents based on big data. Demand modeling, pricing optimization, and consumer behavior analysis using classification methods. Analysis of GDP, inflation, and unemployment using neural network models. Game theory and agent-based modeling (ABM) enhanced by AI algorithms. Using NLP (natural language processing) to analyze news and central bank reports. Combining econometrics (regression analysis) and machine learning to improve the interpretability of forecasts. Using AI to model "black swans" and shock states of economic systems. The architecture of AI tools for strategic planning at the enterprise and regional levels. Metrics for the accuracy and reliability of AI forecasts. The "black box" problem in economics. Rationale for the selection of AI methods. Ethical and regulatory aspects of AI in economics. **Practical classes:** Introduction to the software environment. Preprocessing economic data. Comparative analysis of the accuracy of models for asset price forecasting. Clustering of market agents. Neural networks for classification: building a borrower creditworthiness assessment model (scoring). Forecasting exchange rates or inflation using recurrent neural networks. Modeling GDP dynamics based on historical data. Sentiment analysis of financial news to predict stock market reactions. Collecting price data from aggregator websites for real-time inflation analysis (internet inflation). Modeling firm behavior in an oligopoly using AI algorithms. Building hybrid models: integrating a classical econometric model (ARIMA) and machine learning (XGBoost). Workshop on calculating metrics (R2, RMSE, MAPE) and cross-validating economic forecasts. Application of SHAP or LIME methods to explain the "decisions" made by a credit scoring model. Analysis of the quality of the source data and defense of the choice of a specific algorithm for a given economic case. Presentation of the developed intelligent system for analyzing or forecasting the economic system.
Forms of Examination / Assessment	The exam is a 60-minute written exam. The master's student answers three questions in writing. The questions in each exam include: 1. Solving computational and analytical problems Solving a complex problem of modeling and forecasting macroeconomic indicators using machine learning and econometric methods. 2. Artificial intelligence methods and algorithms in modeling economic systems Construction and interpretation of AI models in the analysis of economic systems. 3. Comprehensive analysis and application of AI for economic decision-making Analysis of the application of artificial intelligence to solving a strategic economic problem.

Requirements for Learning and Examination	During the semester, the master's student must complete assignments according to the syllabus and score a minimum of 30, maximum 60 points, and score a minimum of 20, maximum 40 points on the exam.
Reading List	1. Utkin VB Information systems and technologies in economics: a textbook for universities / Utkin VB, Bal'din KV. - Moscow: UNITY-DANA, 2023. - 336 p. (in Russian) 2. Orlov, AI Artificial intelligence: statistical methods of data analysis: a textbook / A.I. Orlov. - Moscow: IPR Media, 2022. - 843 p. (in Russian) 3. Kovalenko, AV Artificial intelligence in business: analysis and application / A.V. Kovalenko, E.V. Kazakovtseva. - Moscow, Almaty: IPR Media, EDP Hub (IdpiHub), 2023. - 354 p.RagupathyVenkatachalam (Ed.), Artificial Intelligence, Learning and Computation in Economics and Finance, Springer, 2023.-350 p. (in Russian) 4. Bhabani Shankar Nayak, Nigel Walton, Political Economy of Artificial Intelligence, Palgrave Macmillan, 2024.-275 p. 5. Abdalmuttaleb M. A. Musleh Al-Sartawi, Manaf Al-Okaily, Anas Ali Al-Qudah, FadiShihadeh (Eds.), From Machine Learning to Artificial Intelligence: The Modern Machine Intelligence Approach for Financial and Economic Inclusion, Springer, 2025.-410 p.
Date of update	28.08.2025

Module Title	**M 9.1. Methods of Scientific and Applied Researches in Economy**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Kolotayeva Lyudmila Petrovna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: History and Philosophy of Science
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop a comprehensive understanding of the methodology and methods of research used in market practice and in the academic environment, as well as instrumental tools and technologies for conducting research in economics. After completing this module, master students will be able to: - demonstrate the methodology of scientific research and the organization of scientific research - to learn the theoretical and methodological foundations of

	business research in economics, taking into account modern digital and AI data analysis technologies;, - to consider the main structural components of scientific and applied research, the principles of the organization of scientific and applied research, as well as the possibilities of using AI in forming hypotheses and designing research;; - interpret the main theoretical and methodological provisions of scientific and applied research in economics - to master the skills of conducting scientific and applied research in economics, - conduct investment analysis and financial modeling - to practice cognitive methods in economic activity research and methods of scientific and applied research in economics, - use data analysis tools and analytical platforms in scientific research.
Content of the Module	**Lectures:** Scientific research in economics: the essence, functions and role in the development of market systems. Methodology of economic research and levels of scientific knowledge in economics. The logic of scientific research: problem, purpose, hypothesis, objectives and design of research. Theoretical research methods: analysis, synthesis, modeling and a systematic approach. Empirical methods of economic research and sources of economic data.Economic and statistical methods of analysis and interpretation of economic information. Economic and mathematical modeling and its application in applied research. Business research methods, marketing research and market environment analysis. Methods of investment analysis and financial modeling in economic research. The Statistica program in scientific research: modern methods of statistical analysis and ensuring reproducibility of results. The use of digital technologies, big data and artificial intelligence in economic research. The organization of a scientific project, academic ethics and requirements for scientific publications. Interpretation of research results and preparation of scientific and analytical reports. **Practical classes:** Formulation of a scientific problem, goals, objectives and hypotheses of economic research. Development of a program of scientific or applied research in economics. The choice of research methods depends on the object, data and research task. Analysis of economic information using statistical methods. Construction of economic and mathematical models for solving applied problems. Application of the Statistica program for the analysis of empirical data of the master's research. Conducting marketing or business research and interpreting its results. Performing an investment analysis of the project and developing a financial model. The use of digital analytical tools and data processing platforms. The use of AI tools to generate hypotheses and analyze economic data. Preparation of a scientific article, analytical report, or research project. Presentation of the research results and protection of the research project.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. The questions of each exam assignment

	include: 1. Solving computational and analytical problems Solving problems related to the selection of research methodology, the construction of econometric models, statistical data processing, investment analysis and financial modeling, including the calculation of performance indicators, interpretation of data analysis results and substantiation of research conclusions. 2. Assignment on graphical and instrumental analysis Interpretation of research models and analytical schemes: visualization of the structure of scientific research, graphical representation of statistical dependencies, correlation and regression models, data distribution diagrams and conceptual research models using digital analytical tools. 3. Case analysis / open questions Analysis of the research situation in economics with the formulation of a scientific problem, the development of hypotheses, the choice of research methods, the identification of data sources, the use of analytical platforms and artificial intelligence technologies, as well as the formulation of scientifically sound conclusions and practical recommendations.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Tugarinova E.V. Methods of Scientific Research: Teaching and Methodical Guide for Bachelor Students, Major 09.03.03 – Applied Computer Science, Programme "Applied Computer Science in Economics". – Kaliningrad: Publishing House of Kaliningrad State Technical University, 2023. – 41 p. (in Russian) 2. Kabulov Kh.A. Methodology of Scientific Research. – Study Guide. – Tashkent, 2020. – 257 p. (in Russian) 3. Bukvich R. Subject and Methods of Economic Sciences (Scope and Method of Economic Sciences). – Knyaginino: Nizhny Novgorod University of Engineering and Economics, 2024. – Available at: SSRN: https://ssrn.com/abstract=4778314 or http://dx.doi.org/10.2139/ssrn.4778314 (in Russian) 4. Dmitriev M.N. Methodology and Research Methods in Economics: Study Guide. – 2nd ed., revised and enlarged. – Nizhny Novgorod: NNGASU, 2018. – 102 p. ISBN 978-5-528-00264-4. (in Russian) 5. Kolmogorov Yu.N., et al. Methods and Tools of Scientific Research: Study Guide. – Yekaterinburg: Ural University Publishing, 2017. – 152 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 9.2. Theoretic and Methodological Problems of Innovative Economy**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the	Abdikerimova Gulzhanar Imanbayevna, Candidate of Economic

module	Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: Innovative Entrepreneurship
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop skills in analysing, evaluating, and managing innovative economic development and making managerial decisions in solving problems of the innovative economics. After completing this module, master students will be able to: - - to make an overview of the methodological foundations of innovative development to increase competitiveness; - classify the methods of scientific research of innovation management; - master the forms of practical implementation and updating in the field of development of integration processes in the innovative research environment; - use scientific research methods; - evaluate the potential of innovative projects; - to critically interpret and compare theoretical and methodological approaches to the study of innovative economics, to justify the choice of methodology taking into account interdisciplinarity and principles of scientific ethics - develop strategies, programs, and forecasts for the innovative development of enterprises, industries, regions, and the economy as a whole, taking into account global technological trends and the uncertainty factor; - to present the results of scientific research and innovative projects in a reasoned manner in a professional and academic environment.
Content of the Module	**Lectures:** Innovative economics as a scientific field: the evolution of theoretical approaches. J. Schumpeter's theory of innovation and its modern interpretation. National and regional innovation systems. Institutional theory and innovation. Methodology of innovation process research. Knowledge economy and human capital. Digital transformation and the innovative economy. State innovation policy: theoretical dilemmas. Innovation financing: theoretical and methodological aspects. Risks, uncertainty and innovative dynamics. Measuring innovation activity: indicators and constraints. Globalization and international diffusion of innovations. Social and ethical aspects of the innovative economy. Modern methodological discussions in the innovative economy. **Practical classes:** Comparative analysis of theoretical schools of innovative economics. The application of the "creative destruction" model to modern markets. Analysis of the national innovation system. Identification of institutional barriers to innovative development. Substantiation of the methodological design of

	innovation research. Assessment of the role of human capital in innovative development. Analysis of digital platforms and network effects. Assessment of the state innovation policy. Modeling the financial constraints of innovative firms. Innovation risk analysis and scenario modeling. Critical assessment of international innovation indices. Global value chains and diffusion of innovations. Social consequences of innovation and sustainable development.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. The questions of each exam assignment include: 1. Solving computational and analytical problems Solving problems related to assessing the innovative potential of projects, calculating innovation performance indicators, analyzing the factors of innovative economic development, comparing methodological approaches to the study of innovation processes, predicting the innovative growth of enterprises, industries and regions, taking into account uncertainty and technological trends. 2. Graphical analysis assignment Interpretation of analytical models of the innovation economy: visualization of models of innovation cycles, innovation ecosystems, integration processes in the scientific and technological field, comparative schemes of theoretical and methodological approaches, as well as graphical representation of innovation development strategies and forecast scenarios. 3. Case analysis / open questions Analysis of the practical situation of innovative development of an enterprise, industry or region using the methodology of scientific research: selection of a theoretical approach, justification of an innovation development strategy, assessment of risks and potential of innovations, comparison of alternative models of innovation management and formulation of scientifically based conclusions and recommendations.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Jon-Arild Johannessen — Innovation and Economic Development: A Microeconomic Perspective Publisher: Routledge, 2026.-325p 2. Pier Paolo Saviotti — Innovation, Complexity and Economic Evolution: From Theory to Policy Publisher: Routledge, 2023.-253 p. 3. Sidorova E. Y. (ed.) — Innovative Economics: a textbook for universities — Moscow: Yurayt Publishing House, 2026.(in Russian) 4. Economics of innovation: an educational and methodological guide for bachelors / Edited by N.P. Ivashchenko, Moscow: Faculty of Economics, Lomonosov Moscow State University, 2021, 194 p. (in Russian)

	5. Vaganov P.I. Theory and methodology of innovative management and managerial innovations, Moscow : Ekonomika, 2020, 303 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 10.1. Economy of Industry's Branches**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Mukhan Bakhytzhan Sabitullayevich, PhD, Senior Lecturer
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Basic discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 210 hours: Lectures – 45 hrs; Practical classes – 45 hrs; Current independent study (self-study) – 65 hrs; Intermediate independent study – 17.5 hrs; Guided self-study – 37.5 hrs.
Number of credits	7 ECTS
Prerequisites (required and recommended)	Modules: Economic Security of State, Strategic Planning of Investments
Module Objectives / Intended Learning Outcomes	**Purpose:** the formation of students' system theoretical knowledge and professional competencies in the field of economics of industries, providing the ability to analyze the mechanisms of functioning of the industrial sector of the Republic of Kazakhstan, identify the effect of objective economic laws and factors in the development of industries, assess the effectiveness of production activities and make informed management decisions in the context of industrial-innovative development of the economy. After the master students have completed this course, they can: - conduct a comprehensive strategic analysis of enterprises, industries, regions and the national economy; - to formulate sound plans and programs for the development of economic systems; - assess risks and effectiveness of proposed strategic solutions; - develop proposals for process transformation taking into account resource constraints and strategic goals; - assess the economic feasibility and sustainability of implementing AI solutions; - assess the level of economic security and identify key risks and threats; - develop management solutions and programs to improve competitiveness and sustainability of systems; - justify the proposed measures on the basis of economic calculations, modeling and data analysis.
Content of the Module	**Lectures:** Industrial structure of the economy and structural changes in the conditions of industrial-innovative development. Fixed assets and working capital of industry: formation, evaluation and efficiency of use. Mineral resources and secondary resources in industrial production. Fuel and energy resources and energy

	efficiency of industries. Cost of industrial production: cost structure and industry features. Profit, profitability and factors of increasing profitability of industrial enterprises. State industrial policy and territorial location of production facilities. **Practical classes:** Analysis and systematization of changes in the industrial structure and their economic consequences. Critical assessment of the structure of fixed and current assets of industry and their effectiveness. Systematization of the use of natural and secondary resources in industry and assessment of their economic significance. Analysis of the structure of energy consumption and fuel consumption in the industry. Systematization of the cost structure of industrial production and industry features of cost formation. Assessment of factors affecting profitability and profitability of industrial production and identification of growth reserves. Analysis of state policy on the location of production facilities and its impact on the economic development of the regions.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Problem solving Calculate the cost effectiveness of implementing innovative technologies in the industry (for example, mechanical engineering). Analyze the effects on market equilibrium, costs and profits, taking into account taxes and subsidies. 2. Graphical analysis Build a model that reflects factors that affect the competitiveness of the industry (for example, monopolistic competition). Analyze the effects of these factors on the market structure. 3. Case analysis Analyze the economic situation in the industry (for example, oil and gas) and develop a strategy to increase the competitiveness of the enterprise, justifying decisions taking into account risks and economic feasibility.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. ByMary Paley Marshall, Alfred Marshall. The Economics of Industry. Women's Economic Writing in the Nineteenth Century Edition1st Edition, First Published 2023, ImprintRoutledge. 14p. 2. János Kornai. Excessive centralization in economic management: a critical analysis based on the experience of the Hungarian light industry. Oxford University Press, 2023 272p. 3. Richard Peet. International Capitalism and Industrial Restructuring: A Critical Analysis. Taylor & Francis. 2024 r. 336p. 4. Korabelnikov I.S. Economics of the industry: a textbook/I.S. Korabelnikov. - Volgograd: FSBEI HE Volgograd GAU, 2022. - 176p. (in Russian) 5. Strich, N.I., Economics of production in the paradigm of sustainable development of enterprises and industries: a

	textbook/N.I. Strich., 2024. - 132 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 10.2. Modern Models of Branch Economy**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Aidarova Aina Bailarovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Basic discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 210 hours: Lectures – 45 hrs; Practical classes – 45 hrs; Current independent study (self-study) – 65 hrs; Intermediate independent study – 17.5 hrs; Guided self-study – 37.5 hrs.
Number of credits	7 ECTS
Prerequisites (required and recommended)	Modules: Business Planning of Innovative Projects, Innovative Entrepreneurship
Module Objectives / Intended Learning Outcomes	**Purpose:** systematic study of modern models of functioning of the branch economy of Kazakhstan and acquisition of practical skills in the field of analysis and forecasting of branch markets. After the master students have completed this course, they can: - analyze business processes using artificial intelligence tools; - assess the distribution and use of resources in organizations and industries; - analyze socio-economic systems in order to identify internal and external development reserves; - - assess the level of competitiveness and economic security of organizations and industries; - - select and apply adequate methods of data collection and analysis; - - assess the reliability and validity of the obtained results; - - interpret the results of the study taking into account social and environmental consequences; - - present the results of the study in the form of a scientific publication or analytical report.
Content of the Module	**Lectures:** General economic and sectoral structure. Industry is its place in the development of the economy. Economic boundaries of the industry and their determining factors. The place of the industry in the national economy. Complexing properties of the industry. Industry productive forces and their structure. Industry workforce, productivity and pay in the industry. Market power: organizational forms. Principles and factors of location of industry enterprises. Integration and diversification of production. Industry and economic performance. **Practical classes:** Analysis and systematization of approaches to defining the industry. Analyze the role of the enterprise as a basic element of the industry. Research of industry markets and systematization of business entities. Classification and comparative

	analysis of types of industries in various market structures. Analysis of factors and patterns of location of enterprises. Industry labor market research. Evaluation of industry management mechanisms. Analysis and interpretation of economic indicators of the industry development.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Model-theoretic analysis Disclosure of the content of modern models of the sectoral economy and key categories (competitiveness, economic security, resources, business processes). Rationale for the choice of analysis methods, including digital tools and artificial intelligence technologies. 2. Data analysis and interpretation Analysis of industry and organizational indicators, allocation and use of resources. Assessment of competitiveness, economic security, reliability and validity of results. Interpretation of the obtained data taking into account social and environmental consequences. 3. Case analysis/open questions Analysis of the industry or organizational situation with the identification of internal and external development reserves. Formulation and justification of management decisions. Presentation of results in the form of an analytical report or a fragment of a scientific publication in compliance with academic standards.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Don E. Waldman, Elizabeth J. Jensen, and Qi Ge. Industrial Organization Theory and Practice, Sixth Edition - Pobytov/Getty Images, New York, 2025 2.Salet, W. (2021) The complex ecology of the city-region, In: W. Zonneveld& M. Neumann (Eds) Routledge Handbook of Regional Design, (New York and London: Routledge). 3.Weinig, M., Alaily-Mattar, N., &Thierstein, A. (2023) Disseminating regional design: Potentials and barriers in existing spatial planning and governance, Planning Practice & Research, pp. 1–18. 4. Zazdravnykh, A.V. Economics of sectoral markets: textbook and workshop for universities/A.V. Zazdravnykh, E. Yu. Boytsova. - 2nd ed. - Moscow: Yurayt Publishing House, 2025. - 359 p. (in Russian) 5. Grebennikov, P.I. Economics: a textbook for universities/P.I. Grebennikov, L.S. Tarasevich. - 6th ed., Revised. and add. - Moscow: Yurayt Publishing House, 2025. - 348 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 11.1. Labour Economics and Human Development Management**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Baineyeva Parida Turgunbayevna, Candidate of Economic Sciences, Professor Apsenbetova Gulnara Tursynbekovna, Candidate of Economic Sciences, Senior Lecturer
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: Behavioral Economics (Advanced Course), Economic Security of State
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop the ability to systematically analyze the labor market, assess human capital, and develop strategic decisions and forecasts for organizations, industries, and regions using economic-analytical, statistical, digital, and managerial tools, including innovations and uncertainty factors. After completing this course, master students will be able to: - Analyze the labor market, human capital, and workforce resources at micro-, meso-, and macro-levels using economic-analytical, statistical, and digital methods. - Design human development management strategies, including recruitment, motivation, training, and retention, considering their impact on organizational and industry efficiency. - Develop economic-management tools and HR technologies to increase organizational efficiency and strengthen sectoral and regional system resilience. - Form strategic forecasts and recommendations for enterprises, industries, and regions, considering uncertainty, digital technologies, and innovations. - Conduct critical and reflective analysis of human resource management practices, identifying opportunities to improve competitiveness and socio-economic security.
Content of the Module	**Lectures:** Introduction to labor economics and human capital management. Key concepts, structure, and trends in the labor market; the role of human capital in the economy. Methods for analyzing the labor market and human capital: economic-analytical, statistical, digital, and econometric approaches. Human development management strategies. Recruitment, training, motivation, and retention; impact on organizational and sectoral efficiency. HR tools and digital technologies for workforce management. AI, HR analytics, optimization models, forecasting. Strategy and forecast development for organizations, industries, and regions. Application of analytics and management tools to improve efficiency and competitiveness. Reflective analysis and

	improvement of human capital management practices. Assessment of effectiveness, identification of reserves, and process optimization. **Practical classes:** Labor market and human capital analysis at micro- and macro-levels. Working with data from organizations, industries, and regions; building charts; calculating key indicators. Modeling human resource and human capital management strategies. Recruitment, training, motivation, and evaluating the effectiveness of implemented strategies. Using digital tools and AI for forecasting and management. Case studies for resource optimization, personnel needs forecasting, and risk assessment. Development of strategic plans and recommendations for organizations, industries, and regions. Integrating HR strategies with industry and regional indicators, identifying efficiency improvement reserves. Reflective analysis and presentation of results. Preparation of analytical reports and strategic recommendations considering innovations, digital tools, and uncertainty factors.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master's student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Conceptual and theoretical question. Disclosure of the theoretical foundations of the labor economy and human development management, the laws of the functioning of the labor market, the essence of human capital, employment factors, motivation, labor productivity, human resources development, as well as modern approaches to human capital management in the context of digitalization, innovation and uncertainty. 2. Calculation and analytical task. Calculation and analysis of labor market indicators, human capital and human resources at the level of an organization, industry or region, comparative, structural, factor or dynamic analysis, interpretation of results, identification of trends, problems and reserves to increase the efficiency of the use of labor resources. 3. Case-analytical task. Analysis of the specific situation in the organization, industry or region related to human capital and labor resources management, identification of key problems and risks, development of recommendations for improving efficiency, improving HR practices, reducing personnel risks and improving strategic planning, taking into account digital tools, innovations and uncertainties.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Borjas, G. J. Labour Economics. - New York: McGraw-Hill Education, 2020. – 576 p. 2. Martin Edwards, Kirsten Edwards, Daisung Jang Predictive HR Analytics (3rd ed.) - 2024- 528 p.

	3. Kaufman, B. E. The Economics of Labor Markets. - Boston: Pearson, 2020. – 528 p. 4. Aliyev, I. M., Gorelov, N. A., Ilyina, L. O. Labour Economics: Textbook and Practical Guide for Universities. 4th ed., revised and supplemented. Moscow: Yurayt, 2022. – 486 p. (in Russian) 5. Friedman, P. M. Strategic Human Resource Management. Moscow: Financial Press, 2021. – 320 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 11.2. Risks of Education, Migration and Labor**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Abdikerimova Gulzhanar Imanbayevna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: Economic Security of State
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop a systematic understanding of the nature, sources, and consequences of risks in education, migration, and labor markets, as well as the ability to apply economic-analytical tools for assessing, forecasting, and managing socio-economic risks at micro, meso, and macro levels. After completing this course, master students will be able to: - Analyze risks and improvement potential in socio-economic systems, identifying opportunities to enhance efficiency and competitiveness, including evaluation of business processes using digital tools and AI. - Model the impact of demographic, institutional, and macroeconomic factors on labor mobility, human capital, and organizational behavior, considering participant psychology, skills, and motivation. - Assess socio-economic consequences of educational and migration processes, including inequality, unemployment, brain drain, and structural imbalances, and identify areas for process improvement. - Develop management, forecasting, and risk mitigation tools at the level of organizations, industries, regions, and the state using AI, digital methods, optimization models, and scenario analysis. - Formulate evidence-based strategic recommendations and project solutions to enhance efficiency, competitiveness, and security of socio-economic systems, including human resource management considering employee psychology, motivation, and skills.

Content of the Module	**Lectures:** Introduction to socio-economic risks and business process management: sources, types, and consequences for education, migration, and labor. Methods of risk analysis and forecasting using AI and digital tools: quantitative, qualitative, statistical, and digital approaches (scenario analysis and resource optimization). Human capital management and organizational behavior: labor psychology and employee motivation. Influence of demographic and institutional factors on efficiency. Assessment of socio-economic consequences of educational and migration processes: identifying efficiency and competitiveness reserves. Analysis of structural imbalances, inequality, and brain drain. Risk management and competitiveness enhancement tools. Policy and strategy development using AI and digital methods. Integration of innovations, investments, and uncertainty factors. Designing strategic solutions and recommendations for organizations and national economies. Recommendations for improving business processes. Managing employee actions and motivation. **Practical classes:** Analysis of risks and efficiency reserves in organizations and education/labor systems. Use of statistical and digital tools. Modeling factor impacts on human capital and organizational behavior. Application of AI for forecasting and optimizing business processes, including motivation, psychological aspects, and employee skills. Cases on resource allocation, process management, and risk minimization. Assessment of socio-economic consequences of migration and education. Analysis of structural imbalances and opportunities for improving system efficiency. Project work on strategic recommendations and management tools. Integration of AI, digital methods, and uncertainty factors. Managing people and their actions considering psychology and motivation.
Forms of Examination / Assessment	The exam is conducted in a written form lasting 60 minutes. The student provides written answers to 3 questions in the exam assignment. The questions of each exam assignment include: 1. Analytical problem-solving task Analysis of quantitative and qualitative indicators of the labor market, education, and migration (employment, unemployment, migration flows, educational indicators), conducting horizontal, vertical, or factor analysis, interpreting results, and identifying risks for socio-economic policy. 2. Task on risk assessment and forecasting Application of methods to assess and forecast risks in labor, education, and migration, including quantitative indicators, index, and comparative methods, explaining the economic and social significance of the identified patterns and their impact on strategic decisions. 3. Situational / management case Analysis of a specific socio-economic situation related to education, migration, or labor processes, formulation of justified conclusions, and development of recommendations to reduce risks, improve policy effectiveness, and enhance socio-economic system resilience.
Requirements for Learning	Current assessment: colloquiums, written assignments, and both

and Examination	written and oral questioning. During the semester, the master's student must complete the tasks according to the syllabus and earn a minimum of 30 and a maximum of 60 points, and in the exam, a minimum of 20 and a maximum of 40 points.
Reading List	1. Gerber, J. International Economics: Global Edition (8th Edition) – Pearson, 2024. – 896 c. 2. Krugman, P., Obstfeld, M., & Melitz, M. International Economics: Theory & Policy – Pearson, 2021. – 944 c. 3. Bulatov, A. (ed.) World Economy and International Business: Theories, Trends, and Challenges. – Springer (Contributions to Economics Series), 2023. – 830 c. 4. Kovalyov, V. L., Kovalyova, I. V. Labor Economics and Socio-Labor Relations – Textbook for universities. Moscow: Yurayt, 2022. – 384 p. (in Russian) 5. Mironova, T. A., Sizova, E. G. Social Policy and the Social State: Textbook – Moscow: Yurayt, 2024. – 360 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 12.1. Cluster Policy and Industrial Development of Region**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Khassenova Laura Aibekovna, PhD, Senior Lecturer
Language of instruction	English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: Planning and Design in Regional Economy, Economy of Industry's Branches
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop students' knowledge of the patterns of territorial industrial organization and cluster policy instruments, as well as practical skills in analyzing, designing, and evaluating the effectiveness of cluster initiatives in the context of regional socioeconomic development. After completing this course, master's students will be able to: - identify effective strategies and cluster policies for priority industrial sectors; - identify challenges in the development and implementation of state cluster policy; - design a cluster management system and define mechanisms for interaction between participants; - apply mathematical modeling methods to assess regional industrial development; - use AI tools to forecast the effectiveness of cluster policies; - - master a methodology for monitoring the effectiveness of

	regional industrial policy.
Content of the Module	**Lectures:** Industrial Policy in the National Economy: Objectives, Tools, and Stages of Evolution. The Concept of an Industrial Cluster, the Agglomeration Effect, and Participant Synergy. Global Experience and National Priorities. Legislative Framework. Methodology for Selecting Sectors for Priority State Support. Architecture and Design of Cluster Systems: Structure, Key Participants, and Specialized Development Organizations. Cooperation Models, Public-Private Partnerships (PPPs), and Technology Transfer. Analysis of Barriers (Institutional, Financial, and Infrastructure) and Ways to Overcome Them. Industrial Support Infrastructure: Technology Parks, Industrial Parks, and Innovation Centers. Methods of Mathematical Modeling of Industrial Development. A System of Key Performance Indicators (KPIs) for Assessing Industrial Policy Implementation. Assessing Multiplier Effects. AI Tools in Forecasting. Forecasting Market Conditions and Supply Chains for Cluster Participants. Intelligent Decision Support Systems (DSS). Algorithm for Generating a Policy Document, From Analysis to Monitoring. **Practical classes:** Analysis of the industrial potential of the territory. Strategic selection of priority industries. Identification of cluster groups. Design of a cluster management system. Modeling of interaction mechanisms. Analysis of problems and risks: case study "Resuscitation of a depressed cluster" - identification of barriers and search for mechanisms to overcome them. Calculation of the parameters of an industrial park or technology park for the needs of a specific industry. Construction of the Cobb-Douglas production function to assess the impact of capital and labor on output in the industry. Calculation of multiplier effects: application of the input-output model (V. Leontief) to assess the impact of investments in the cluster on related industries. Development of a KPI (key performance indicator) dashboard for the regional industrial policy monitoring system. Construction of a machine learning model to predict production volumes in the cluster. Analysis of the model's sensitivity to changes in government support measures (taxes, subsidies) using AI. Visualization and optimization of logistics links within the cluster using data mining methods. Development of a cluster project passport. Justification of the region’s industrial development strategy to “investors” and the “state”.
Forms of Examination / Assessment	The exam is a 60-minute written exam. The master's student must answer three questions in writing. The questions in each exam include: 1. Solving computational and analytical problems Solving a complex problem on assessing the effectiveness of industrial policy and developing a regional cluster. 2. Methodological tools for analyzing cluster and industrial development Construction and interpretation of a cluster system model and regional industrial development. 3. Case analysis/open-ended questions Analysis and design of a regional industrial development program.

Requirements for Learning and Examination	During the semester, the master's student must complete assignments according to the syllabus and score a minimum of 30, maximum 60 points, and score a minimum of 20, maximum 40 points on the exam.
Reading List	1. Lapygin Yu.N., Kovalev E.A. Cluster Policy in Regional Development. Monograph. Vladimir. 2021. p. 161. (in Russian) 2. Regional Economy: Textbook for Universities/E.L. Plisetsky [et al.]; edited by E.L. Plisetsky. - 3rd ed., revised and enlarged. - Moscow: Yurait Publishing House, 2021. - 532 p. (in Russian) 3.Evgeniya Lupova-Henry, Nicola Francesco Dotti (Eds.), Clusters and sustainable regional development: a meta-organisational approach, Routledge, 2023.-240 p. 4.Matthias Kiese, Rasmus C. Beck, Dirk Fornahl, Christian Ketels (Eds.), Beyond innovation hotspots: clusters for competitiveness and transformation in real regions, Edward Elgar Publishing, 2024.-320 p. 5.Arkadiusz Kowalski, Clusters and Cluster Policy Models: Driving Competitiveness in the Global Economy, Edward Elgar Publishing, 2025.-298 p. 6.Joanna Bohatkiewicz-Czaicka, Marta Gancarczyk, Industrial Clusters in International Value Chains: Conceptual Advancement and Empirical Evidence from European ICT Clusters, Routledge, 2025.-211 p.
Date of update	28.08.2025

Module Title	**M 12.2. Innovative Development of Regional Economy**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Alzhanova Aigul Alibekovna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: Theoretical and Methodological Problems of Innovative Economy, Planning and Design in Regional Economy
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop students' systematic understanding of the patterns and mechanisms of innovative development in regional economies, as well as practical skills in developing and implementing strategies for innovative growth in territories. After completing this course, master's students will be able to: - identify the formation models and characteristics of innovative development in regional economies; - understand the methodology of the innovation process in regional economies; - use artificial intelligence tools for the innovative development of

	regional economies; - apply acquired knowledge in managing innovation processes in regions; - conduct research on various elements of the innovation process, infrastructure, and climate for the creation and implementation of innovations; - forecast and evaluate the actual dynamics of innovation processes using economic and mathematical modeling methods; - analyze processes in the field of regional innovative development, determine directions, goals, stages, and methods for improving innovation activities, identifying its strengths and weaknesses; - - develop a program of activities to develop the region's innovative potential.
Content of the Module	**Lectures:** Theoretical Foundations of Regional Innovative Development. Models for Developing a Regional Innovative Economy. Methodology for the Innovation Process in the Regional Economy. Regional Innovative Infrastructure. Analysis of a Region's Innovative Potential. State Policy for Innovative Development of Regions. Management of Innovative Processes in the Region. Economic and Mathematical Modeling of Innovative Processes. Forecasting the Dynamics of Innovative Processes. Artificial Intelligence in Regional Innovative Development. Innovative Clusters and Regional Specialization. Human Capital Development as a Driver of Innovation. Analysis of a Region's Innovative Climate. Development of a Regional Innovative Development Program. Current Trends and Global Challenges in Innovative Development. **Practical Classes:** Introduction to Regional Innovative Development. Models for Developing a Regional Innovative Economy. Methodology for the Innovation Process. Regional Innovative Infrastructure. Analysis of a Region's Innovative Potential. State Policy for Innovative Development. Management of Innovative Processes in the Region. Economic and Mathematical Modeling of Innovative Processes. Forecasting the Dynamics of Innovative Processes. Use of Artificial Intelligence in Innovative Development. Cluster Policy and Regional Specialization. Development of Human Capital and Innovation. Analysis of a Region's Innovative Climate. Developing a regional innovation development program. Current trends and global challenges.
Forms of Examination / Assessment	The exam is a 60-minute written examination. The master's student must answer three questions in writing. Each exam question includes: 1. Solving computational and analytical problems. Solving problems to assess a region's innovation potential, calculate innovation activity indicators, the effectiveness of innovation projects, and innovation development indices, as well as applying methods of economic and mathematical modeling of regional innovation processes. 2. Analytical and structural modeling task. Constructing and interpreting regional innovation infrastructure diagrams, models of innovation clusters, and mechanisms for interaction between science, business, and government, as well as analyzing regional innovation development strategies using graphical and logical-structural tools. 3. Case analysis/open-ended questions. Analysis of a real or simulated regional innovation development situation, assessment of innovation growth factors, identification of innovation policy constraints, formulation of proposals for developing innovation potential, and development of management solutions to improve the region's competitiveness.
Requirements for Learning	During the semester, the master's student must complete assignments according to the syllabus and score a minimum of 30, maximum 60

and Examination	points, and score a minimum of 20, maximum 40 points on the exam.
Reading List	1. Regional Aspects of Innovative Development: a textbook / D. Yu. Fraimovich; Vladimir State University named after A. G. and N. G. Stoletov. - Vladimir: VlSU Publishing House, 2021. - 315 p. (in Russian) 2. Burov, M. P., Regional Economy and Spatial Development Management: a textbook / M. P. Burov. - 2024. - 488 p. (in Russian) 3. Poltarykhin, A. L., Sycheva, I. N. Regional Economy: a textbook. - Alfa-M Publishing House, 2023. - 400 p. (in Russian) 4. Matthias Kiese, Rasmus C. Beck, Dirk Fornahl, Christian Ketels (Eds.), Beyond Innovation Hotspots: Clusters for Competitiveness and Transformation in Real Regions, Edward Elgar Publishing, 2024.-320 p. 5.Qinyue Zheng, ChunbingBao, Regional Innovation Evolution: An Emerging Economy Perspective, Springer, 2022.-256 p. 6.Federico Alexander Carriere, Regional Innovation Ecosystems: Drivers of Sustainable Competitiveness, Università di Torino, 2024.-210 p.
Date of update	28.08.2025

Module Title	**M 13.1. National Economic Systems**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Tulemetova Aigul Sainovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 180 hours: Lectures – 45 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 60 hrs; Intermediate independent study – 15 hrs; Guided self-study – 30 hrs.
Number of credits	6 ECTS
Prerequisites (required and recommended)	Modules: Planning and Design in Regional Economy, Artificial Intelligence in the Analysis of Economic Systems
Module Objectives / Intended Learning Outcomes	**Purpose:** formation the ability of undergraduates to comprehensively analyze national economic systems, develop strategies and forecasts for their development, identify reserves for increasing efficiency and competitiveness, conduct research and analytical work using modern methods, including economic, mathematical, digital and AI tools, as well as to develop innovative and design solutions in conditions of uncertainty. After the master students have completed this course, they can: - critically analyze the laws of functioning, institutional features and development models of national economic systems based on modern theoretical approaches and comparative analysis; - assess macroeconomic, structural, social and institutional parameters of national economy development, identify key factors, limitations and risks of its functioning; - develop strategies, priorities and forecasts for the development of national economic systems, taking into account global challenges, sustainability and competitiveness; - identify reserves for improving the efficiency, competitiveness and economic security of national socio-economic systems and

	propose economic policy measures; - use modern analytical, digital and intellectual tools, including artificial intelligence tools, to analyze and substantiate decisions in the field of national economy; - perform research and applied analysis of problems of development of national economic systems using quantitative, comparative and economic-mathematical methods; - - synthesize innovative and design solutions aimed at modernizing the national economy and increasing its stability in conditions of uncertainty.
Content of the Module	**Lectures.** Theoretical approaches to the study of national economic systems. Institutional framework and structure of the national economy. Types and models of national economic systems in world practice. Macroeconomic parameters and indicators of the development of the national economy. Government regulation and economic policy in national systems. Structural transformation and modernization of the national economy. National competitiveness and economic security. Social aspects and sustainability of national economic systems. Innovative development and technological transformation of the national economy. Digitalization and the application of artificial intelligence in the analysis of national economic systems. Global challenges, risks and restrictions on the development of national economies. Economic and mathematical methods and forecasting the development of the national economy. Integration of national economies into the global economic system. Strategies and priorities for the development of the national economy in conditions of uncertainty. Design and innovative solutions in the modernization of national economic systems. **Practical classes.** Comparative analysis of models of national economic systems. Analysis of the institutional structure and development factors of the national economy. Assessment of macroeconomic indicators and structural parameters of the national economy. Analysis of the impact of state economic policy on the development of the national system. Assessment of competitiveness and economic security of the national economy. Identification of reserves for improving the efficiency of the socio-economic system. Analysis of social factors and sustainability of the national economy. Analysis of innovative and technological development of the national economy. Application of digital and AI tools in the analysis of national economic systems. Solving problems of forecasting and interpreting trends in the development of the national economy. Research analysis of problems of functioning of national economic systems. Developing a strategy for modernizing the national economy in the face of global challenges. Preparation of design solutions to improve the sustainability and competitiveness of the national economy. Case analysis of national economic systems: international experience and opportunities for adaptation.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. The questions of each exam assignment include:

	1. Solving computational and analytical problems Solving problems related to the analysis of macroeconomic indicators of the national economy (GDP, inflation, unemployment, productivity), assessment of the resource potential of the economy and enterprises, calculation of performance indicators of national economic systems, analysis of institutional factors of development, identification of reserves of economic growth and justification of management decisions. 2. Graphical analysis assignment Interpretation of models of national economic systems: graphical representation of macroeconomic equilibrium, dynamics of economic growth, structural interrelationships of industries, institutional models of development, comparative schemes of types of economic systems and visualization of interrelationships of socio-economic and environmental factors. 3. Case analysis / open questions Analysis of the socio-economic situation of a country or region using theoretical models of national economic systems: formulation of scientific problems and research hypotheses, identification of key development factors, assessment of the current state of the economy, development of recommendations for improving the efficiency of the economic system and a reasoned presentation of conclusions based on objective data analysis.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Malaev V.V., Nizamutdinov I.K. Macroeconomic forecasting - An educational and methodical manual. — Kazan: Kazan University, 2022. — 60 p. (in Russian) 2 Dmitrieva L.V., Novikov V.A. Fundamentals of national and regional economics - A textbook. Ivanovo: Ivan State University, 2025. 164 p. (in Russian) 3 National Economy: A textbook Bokizhanova F.I., Kasenova A.M. Almaty: Nur-Press Publishing House, 2020. 200p. (in Russian) 4. New trends in the economic systems management in the context of modern global challenges. VUZF University of Finance, Business and Entrepreneurship (Sofia, Bulgaria) 2020 5 The Future of Work in Diverse Economic Systems. The Varieties of Capitalism Perspective. Published online by Cambridge University Press: 09 January 2024
Date of update	28.08.2025

Module Title	**M 13.2. Globalization and Modernization of Economic Systems**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Tulemetova Aigul Sainovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English

Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 180 hours: Lectures – 45 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 60 hrs; Intermediate independent study – 15 hrs; Guided self-study – 30 hrs.
Number of credits	6 ECTS
Prerequisites (required and recommended)	Modules: Artificial Intelligence in the Analysis of Economic Systems, Planning and Design in Regional Economy
Module Objectives / Intended Learning Outcomes	**Purpose:** To form a comprehensive understanding of the social economic and political economic systems of major world states, global development models, and their strengths and weaknesses in a modern globalised world. After completing this module, master students will be able to: - analyze the processes of globalization and modernization of economic systems, identifying patterns of transformation of global and national economies; - interpret modern theories of global development, digitalization, and structural modernization, and critically evaluate their methodological foundations; - develop strategies and forecasts for the modernization of enterprises, industries, regions and the national economy, taking into account global challenges, integration processes and geo-economic factors; - make management decisions using artificial intelligence tools and analytical platforms to optimize business processes, allocate resources and manage risks in a globally competitive environment; - to identify reserves for increasing competitiveness and economic security of socio-economic systems in the context of globalization; - to assess the consequences of the integration of the national economy into global economic relations and to develop mechanisms for adaptation to external shocks and uncertainty
Content of the Module	**Lectures:** Theoretical foundations of the globalization of economic systems. Classification of socio-economic systems. International economic institutions and global governance. Global value chains and multinational corporations. Selection and formation of a new socio-economic system. Financial globalization and international capital markets. Kazakhstan's place in the global economic system. Global challenges of our time and the choice of the direction of economic development Digital globalization and transformation of economic systems. Theories and models of modernization of economic systems. Innovative development and structural modernization. Social consequences of globalization and modernization. Sustainable development in the context of globalization. Geo-economic challenges and transformation of the global economic system. **Practical classes:** Analysis of the theories of globalization: a comparative research seminar. International economic institutions: a case study of the impact on the national economy. Global Value Chains (GVC). Financial globalization and macrofinancial risk assessment. Digital globalization: assessment of the digital maturity

	of the economy. Comparative analysis of modernization models. Analysis of the national innovation system. The social consequences of globalization: an empirical analysis. ESG and sustainable development: assessment of the national strategy. Global development models, their common and specific features. Selection and formation of a new socio-economic system. Geo-economic risks: scenario modeling.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. The questions of each exam assignment include: 1. Solving computational and analytical problems Solving problems related to the analysis of global integration and economic modernization indicators: calculating competitiveness indices, economic openness, export specialization, assessing the impact of globalization on macroeconomic parameters, analyzing the efficiency of resource allocation and assessing the risks of economic systems functioning in the context of global competition and external shocks. 2. Graphical analysis assignment Interpretation of models of global economic processes: graphical representation of the dynamics of globalization, structural transformations of the economy, integration processes, models of international competitiveness, schemes of modernization of industries and visualization of the interrelationships between global and national economic factors. 3. Case analysis / open questions Analysis of the economic situation of a country, industry or company in the context of globalization using modern theories of international development: assessment of the consequences of integration into the global economy, identification of competitiveness factors, development of a strategy for modernization and adaptation to global challenges, justification of management decisions using analytical platforms and artificial intelligence tools, formulation of reasoned conclusions and recommendations.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. New trends in economic globalization / Edited by A.S.Bulatov, N.V.Galishcheva, M.A.Maksakova. - Moscow: Aspect Press, 2023. - 505 p. (in Russian) 2. Bondarenko V.V. Globalization and institutional modernization of the Russian economy: theory and practice: monograph / V.V. Bondarenko, E.M. Shcherbakov. Moscow : Prometheus, 2019. 654 p. (in Russian) 3. Competitiveness in the New Era. Part of the book series: Business, Management and Economics. – 184 p. 4. Government Policies and Business Strategies for Environmental, Social, and Governance (ESG) / June 2023. – 400 p.

	5. Simonov S.G., Khamatkhanova M.A., Khusnutdinova G.F. Modern national economy- Textbook. Kirov: Interregional Center for Innovative Technologies in Education, 2021. 152 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 14.1. Competitiveness of National Economy**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Mukhamedkhanova Ainur Batyrkhanovna, PhD, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Modules: Planning and Design in Regional Economy, Economy of Industry's Branches
Module Objectives / Intended Learning Outcomes	**Purpose:** formation of systemic theoretical knowledge and analytical competencies in the field of ensuring the competitiveness of the national economy, allowing to generalize modern scientific and practical approaches, identify factors and mechanisms for the formation of competitive advantages of the country, justify the choice of methods and tools for their development, taking into account global economic trends and processes of international integration. After the master students have completed this course, they can: - analyze various scientific facts, phenomena and processes from the standpoint of the philosophy of science; - define scientific problems, hypotheses and categories underlying modern research; - critically evaluate arguments and conclusions in scientific works, identify logical and methodological inconsistencies; - formulate sound plans and programs for the development of economic systems; - assess the level of economic security and identify key risks and threats; - justify the proposed measures on the basis of economic calculations, modeling and data analysis; - model alternative scenarios for project implementation; - present and protect innovative projects to experts and investors.
Content of the Module	**Lectures:** Theoretical and practical approaches to increasing the country's competitiveness. The main methods and tools for ensuring competitive advantages taking into account current global trends. Methodology for assessing the competitiveness of the economy. The main directions of creating national competitive advantages.

	Improving the competitive environment of the national economy. Foreign and domestic experience in economic reforms that increase the country's competitiveness. **Practical classes:** Analysis of factors affecting the competitiveness of the country. Assessment of the competitive advantages of the national economy. Systems analysis of competitiveness tools. Methodology for assessing the competitiveness of the economy. Analysis of directions for the formation of national competitive advantages. Assessment and improvement of the competitive environment. Comparative analysis of foreign and domestic experience of economic reforms.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Problem solving Analysis of the competitiveness of the national economy in terms of supply and demand. Calculate the impact of changes in economic factors (taxation, costs) on market equilibrium and economic efficiency. 2. Graphical analysis Interpret a model that reflects market structures (for example perfect competition, monopoly). Analyze its impact on the country's competitiveness and economic development. 3. Case analysis Assess the economic security and competitiveness of a particular industry in the national economy. Identify key risks and threats to its development, propose measures to improve the situation, justifying them with the help of economic calculations and analysis.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Michael J. Mazarr The Societal Foundations of National Competitiveness. Rand Corporation. 2022 г. 418p. 2. Paul Cammack. The Politics of Global Competitiveness. Oxford University Press, 2022. 224p. 3. N Kuprina. Competitiveness of the national economy: current aspects of management. Periodicals of Engineering and Natural Sciences. 2024. – 158p. 4. Kazakhstan's economy: trends, challenges and opportunities/Kazakhstan-2023: trends of the present and contours of the future. Collective monograph. - Astana: Kazakhstan Institute for Strategic Studies under the President of the Republic of Kazakhstan, 2023. - 294 p. (in Russian) 5. Gribanovskaya S.V., Bikezina T.V., Ostrovskaya E.N., Panova A.Yu. Theory of economic competition. Textbook/S.V. Gribanovskaya, T.V. Bikezina, A.Yu. Panova, E.N. Ostrovskaya. - St. Petersburg, 2023. - 448 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 14.2. Innovative Potential of Economic Systems**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Mukhamedkhanova Ainur Batyrkhanovna, PhD, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 120 hours: Lectures – 30 hrs; Practical classes – 15 hrs; Current independent study (self-study) – 50 hrs; Intermediate independent study – 10 hrs; Guided self-study – 15 hrs.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Modules: Theoretical and Methodological Problems of Innovative Economy, Planning and Design in Regional Economy
Module Objectives / Intended Learning Outcomes	**Purpose:** formation of system theoretical knowledge and practical competencies in the field of innovative process management, allowing to evaluate and develop the innovative potential of economic systems, apply modern methods of diagnostics and forecasting of innovation activity, justify management decisions aimed at increasing the efficiency and competitiveness of the economy in the context of technological transformation. After the master students have completed this course, they can: - conduct a comprehensive strategic analysis of the internal and external environment of organizations and territories; - develop medium-term and long-term development strategies taking into account resource constraints and uncertainties; - present the results of strategic analysis and forecasting in the form of analytical reports and management recommendations; - carry out comprehensive diagnostics of socio-economic systems to identify reserves for increasing efficiency and competitiveness; - analyze economic relations of economic entities (state, business, households, international partners) using quantitative and qualitative methods; - assess the social, environmental and economic consequences of the decisions made; - integrate the results of scientific research and innovation into the content of the educational process.
Content of the Module	**Lectures:** Innovative potential of the economic system: essence and basic elements. Methods for assessing the innovative potential of the economic system: identifying strengths and weaknesses. Innovative diffusion in economic systems: processes of diffusion of innovations. Methodology for assessing the impact of innovation potential on the parameters of the development of economic systems. Factors characterizing the innovative potential of the economic system. The structure of the innovative potential of the economic system: components and their interaction. Practical approaches to assessing the innovative potential of the economic system. **Practical classes:** Analysis of innovation potential as a key object of planning and project management in modern economic systems.

	Systematization of methods of strategic planning and programming of innovative potential for sustainable development of organizations. Assessment of the essence, functions and classification of innovative projects as a tool for the development and modernization of enterprises. Analysis of the innovation potential management system and its impact on the efficiency of implementation of innovation processes. Systematization and critical assessment of methods for assessing innovation potential at different levels of the economy. Analysis of methodological approaches to assessing the impact of innovation potential on the dynamics of economic indicators and the growth of systems. Assessment of factors determining the innovative potential of the economic system and their impact on long-term development.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Problem solving Analysis of the impact of innovative technologies on the internal and external environment of the organization. Calculate economic indicators, such as costs, profits, and competitiveness, taking into account resource constraints and uncertainties. 2. Graphical analysis Build a model illustrating the introduction of innovations into the economic system, for example, in conditions of monopoly or perfect competition. Analyze its impact on competitiveness and long-term development. 3. Case analysis Assess the innovation potential of a particular industry or enterprise. Conduct strategic analysis and propose measures to improve efficiency and competitiveness, taking into account the social, environmental and economic impacts of decisions.
Requirements for Learning and Examination	During the semester, master students must complete all assignments in accordance with the syllabus and obtain a minimum of 30 and a maximum of 60 points through continuous assessment. In the final examination, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Abdalmuttaleb M. A. Musleh Al-Sartawi, Anas Ali Al-Qudah, Fadi Shihadeh . Transforming Industrial Operations for Innovation and Sustainability. Springer Nature, 19 янв. 2024 г. 683p. 2. Government Policies and Business Strategies for Environmental, Social, and Governance (ESG) / June 2023. – 400 p 3. Baldev Singh Shergill, Swati Mehta. Innovation Systems, Economic Development and Public Policy 1st Edition. Publisher: Routledge India. 2023. – 426p 4. Abdullaev, N.V. Economics and Innovation Management [Electronic Resource]: study. manual/N.V. Abdullaev, I. Yu. Kulikova, N.V. Muravyova; We own. state. university named after A. G. and N. G. Stoletovs. - Vladimir, 2025. - 212 p. (in Russian) 5. Spiridonova, E. A. Innovation management: textbook and workshop for universities/E. A. Spiridonova. - 2nd ed., Revised and add. - Moscow: Yurayt Publishing House, 2025. - 314 p. (in Russian)

Date of update	28.08.2025

Module Title	**M 15.1. Economy of Foreign Countries**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Polezhayeva Inna Sergeyevna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 180 hours: Lectures – 45 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 60 hrs; Intermediate independent study – 15 hrs; Guided self-study – 30 hrs.
Number of credits	6 ECTS
Prerequisites (required and recommended)	Modules: Economy of Industry's Branches, Risks of Education, Migration and Labor
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop in master's students a systemic understanding of the structure, mechanisms, and dynamics of national economies of various countries, and the ability to analyze international economic processes and compare economic models of foreign states to make strategic and research-based conclusions. After completing this course, master students will be able to: - critically analyze economic systems of foreign countries, identifying features of macro- and microeconomic structures, institutions, and economic policies. - compare economic models of different countries, identifying factors of resilience and vulnerability, and evaluate potential efficiency improvements. - assess the impact of global and regional economic processes on national economies and international markets, including risk and competitiveness analysis. - apply quantitative and qualitative analysis methods (econometric models, performance indicators, comparative indices) to study foreign economies, identify reserves, and evaluate potential for system efficiency and security. - formulate evidence-based recommendations and forecasts for enterprises, sectors, regions, and national and global economies using effective management tools.
Content of the Module	**Lectures:** Introduction to international economics: methods for studying national economies. Main economic systems of foreign countries: market, mixed, planned. Macroeconomic indicators: GDP, inflation, employment, balance of payments. Comparative analysis of economic policies in developed countries using digital tools. Economics of developing countries: structure, dynamics, social and environmental aspects. Global financial and trade markets: impacts on national economies. Institutional aspects of foreign economies (government regulation, tax systems, social programs). Models of resilience, vulnerability, and efficiency reserves. Strategic management tools and digital transformation in

	economics. Case analysis: impacts of global crises on individual countries' economies. Formation of strategic recommendations and forecasts considering ethical and environmental factors. **Practical classes:** Collecting and analyzing statistical data of national economies. Creating comparative tables and charts of macroeconomic indicators. Econometric analysis of global factors and digital transformation impact. Case studies of the 2008–2009 financial crisis and COVID-19: country-level consequences, risk assessment, and efficiency reserves. Development of strategic recommendations for enterprises and sectors considering social, environmental, and ethical contexts. Modeling resilience, vulnerability, and competitiveness reserves using AI tools. Presentation of an analytical report on the economy of a selected foreign country while ensuring academic integrity.
Forms of Examination / Assessment	The exam is conducted in a written form lasting 60 minutes. The master student provides written answers to 3 questions in the exam assignment. The questions of each exam assignment include: 1. Analytical problem-solving task Calculation and analysis of key macroeconomic and sectoral indicators of foreign countries, horizontal, vertical, or factor analysis, interpretation of results, identification of economic issues and trends in national economies. 2. Comparative and sectoral analysis task Application of comparative and sectoral analysis methods for foreign economies, assessment of GDP structure, productivity, and country competitiveness, interpreting findings and their implications for strategic decisions. 3. Case study / managerial task Analysis of a complex economic or sectoral situation in one or more foreign countries, formulation of evidence-based conclusions, and development of recommendations to improve efficiency, competitiveness, and national economic resilience, considering global and regional economic trends.
Requirements for Learning and Examination	Current assessment: colloquiums, written assignments, and both written and oral questioning. During the semester, the master's student must complete the tasks according to the syllabus and earn a minimum of 30 and a maximum of 60 points, and in the exam, a minimum of 20 and a maximum of 40 points.
Reading List	1. Krugman, P., Obstfeld, M., & Melitz, M. International Economics: Theory & Policy – Pearson, 2021. – 944 p. 2. Baldwin, R. The Great Convergence: Information Technology and the New Globalization – Harvard Univ. Press, 2020. – 368 p. 3. Gerber, J. International Economics: Global Edition (8th Edition) – Pearson,2024**. -** 896 p. 4. Dyachkov, A. A., Onoprienko, S. M. Economic System of Foreign Countries – Moscow: Infra-M, 2021. – 336 p. (in Russian) 5. Khasbulatov, R. I. (ed.) World Economy in 2 vols. – Moscow: Yurait, 2024. – Vol.1: 689 p., Vol.2: 691 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 15.2. Economy and Industry Structure of World Economy**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Polezhayeva Inna Sergeyevna, Candidate of Economic Sciences, Associate Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 180 hours: Lectures – 45 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 60 hrs; Intermediate independent study – 15 hrs; Guided self-study – 30 hrs.
Number of credits	6 ECTS
Prerequisites (required and recommended)	Modules: Modern Models of Branch Economy, Economy of Industry's Branches
Module Objectives / Intended Learning Outcomes	**Purpose:** To provide master's students with a systemic understanding of the sectoral structure of the global economy, identify the role of key economic sectors in global production and trade, and develop the ability to analyze international economic chains and their effects on national economies to produce strategic and research-based decisions. After completing this course, master students will be able to: - Critically analyze the sectoral structure of the global economy, identify key sectors, and evaluate their contribution to global production and economic development. - Compare the sectoral organization of different countries, identify patterns of specialization, and determine sources of competitive advantage. - Assess the impact of global production and trade chains on national economies and international markets. - Apply quantitative and qualitative analysis methods (statistical indicators, sectoral specialization indices, input-output models) to study the sectoral structure of the world economy. - Formulate strategic recommendations and forecasts in sectoral development and international trade based on analysis of global and national trends.
Content of the Module	**Lectures:** Introduction to the sectoral structure of the world economy: analytical methods. Key sectors of the global economy: industry, agriculture, services. Sectoral indicators and indices: share in GDP, productivity, employment. International specialization and competitive advantages of countries. Global production chains and international trade. Sectoral trends and their impact on economic growth. Input-output analysis and sectoral modeling. Regional and sectoral integration: examples from the EU, USA, ASEAN. Case studies: crises in specific global sectors. Formulation of strategic recommendations for sectoral development. **Practical classes:** Collection and analysis of sectoral statistics for countries and regions. Comparative analysis of sectoral structure across two or three countries. Construction of graphs and charts for sectoral structures. Input-output modeling of the impact of individual sectors on the economy. Case studies: impact of global

	crises on key sectors. Development of strategic recommendations for sectoral and international trade development. Presentation of an analytical report on the sectoral structure of a selected country.
Forms of Examination / Assessment	The exam is conducted in a written form lasting 60 minutes. The student provides written answers to 3 questions in the exam assignment. The questions of each exam assignment include: 1. Analytical problem-solving task Calculation of key economic indicators of a sector or enterprise in the global economy, horizontal, vertical, or factor analysis, interpretation of results, identification of strategic operational and development issues. 2. Sectoral structure and competitiveness analysis task Application of methods for analyzing sectoral structure, assessment of key sectors' share in the economy, productivity, and competitiveness of countries or regions, with interpretation of findings and their implications for strategic decisions. 3. Case study / managerial task Analysis of a complex sectoral or international economic situation, formulation of evidence-based conclusions, and development of strategic recommendations to improve efficiency, competitiveness, and resilience of enterprises, sectors, and national economies, considering global economic trends.
Requirements for Learning and Examination	Current assessment: colloquiums, written assignments, and both written and oral questioning. During the semester, the master's student must complete the tasks according to the syllabus and earn a minimum of 30 and a maximum of 60 points, and in the exam, a minimum of 20 and a maximum of 40 points.
Reading List	1. Zhang, X. The Industrial Processes of Large Economies: The Quartet of US, China, Germany and Japan. Springer Singapore. - 2022. – 185 p. 2. Gerber, J. International Economics, Global Edition.8th ed. Pearson, 2024. – 896 p. 3. Bulatov, A. (ed.) World Economy and International Business: Theories, Trends, and Challenges. Cham: Springer, 2023. – 830 p. 4. Khasbulatov, R. I. (ed.) World Economy in 2 vols. – Moscow: Yurait, 2024. – Vol.1: 689 p., Vol.2: 691 p. (in Russian) 5. Zavolokina, L. I., Diesperova, N. A. World Economy. Moscow: Books.ru, 2023. – 233 p. (in Russian)
Date of update	28.08.2025

Module Title	**M 16.1. Environmental Economics and Climate Change**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor Niyazbekova Roza Kalmanbayevna, Doctor of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes

Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: Economy of Industry's Branches, Planning and Design in Regional Economy
Module Objectives / Intended Learning Outcomes	**Purpose:** formation the ability of master students to comprehensively analyze the relationship between economic development, the state of the environment and climatic changes, assess environmental and climatic risks, use economic, digital and economic-mathematical tools to justify management decisions, develop strategies and design solutions in the field of sustainable environmental management and adaptation of the economy to climatic changes. After the master students have completed this course, they can: - critically analyze the relationship of economic development, the state of the environment and climate change on the basis of modern theoretical approaches; - assess environmental damage, climate risks and economic consequences of various environmental management scenarios and climate policies; - use economic, digital and intellectual tools, including artificial intelligence tools, to analyze environmental processes and justify environmental decisions; - use quantitative, econometric, simulation and scenario methods to study environmental and climatic problems; - identify reserves for improving the environmental, economic and social efficiency of environmental management and propose measures for sustainable development; - develop strategies, adaptation measures and project solutions in the field of environmental and climate policy, taking into account uncertainties; - substantiate the choice of economic and managerial approaches to environmental management and climate risk reduction.
Content of the Module	**Lectures.** Theoretical foundations of environmental economics and climate change. Economic growth and environmental impacts. Natural resources, environmental benefits and methods of their economic evaluation. Methods of economic assessment of environmental damage. Climate change and its economic consequences. Climate policy scenarios and economic adaptation to climate change. Economic instruments for environmental management and protection. Application of artificial intelligence and digital technologies in ecological economy. Econometric methods for studying environmental and climatic processes. Simulation and scenario methods of analysis of ecological and economic systems. Assessment of the effectiveness of environmental measures, environmental projects and climate policy. Integration of economics and ecology into the sustainable development system. Identification of reserves for improving environmental, economic and social efficiency of nature management. Climate and environmental risk management.

	International aspects of environmental economics, sustainable development and ecological transformation of the economy. **Practical classes.** Analysis of the relationship between economic growth, environmental management and environmental consequences. Assessment of natural resources and environmental benefits. Calculation of economic damage from pollution of air, water and other environmental components. Assessing the economic impact of climate change on industries and regions. Calculating the costs of adapting the economy to climate change. Scenario analysis of climate policy and its economic consequences. Application of economic instruments for environmental management and protection. Using artificial intelligence and digital tools to analyze pollution and resource use. Application of econometric methods in the analysis of environmental and climatic processes. Use of simulation and scenario methods in the study of ecological and economic systems. Assessment of the effectiveness of environmental measures, environmental projects and climate policy. Identification of reserves for improving environmental, economic and social efficiency of nature management. Analysis of climate and environmental risks in the economy. Development of adaptation measures and mitigation of environmental damage taking into account economic factors. Preparation of design solutions in the field of sustainable development and environmental transformation of the economy.
Forms of Examination / Assessment	The exam is conducted in the form of a written exam lasting 60 minutes. The master's student answers 3 questions of the examination assignment in writing. Questions on each exam assignment include: 1. Conceptual and theoretical question. Disclosure of the theoretical foundations of the economy of the environment and climatic changes, the essence of natural resources and environmental benefits, the economic consequences of environmental pollution, climatic changes, the principles of sustainable development, economic instruments for environmental management, mechanisms of environmental and climatic policy, as well as international approaches to solving environmental problems. 2. Calculation and analytical task. Analysis of environmental, economic and climatic indicators based on calculated, statistical and comparative data, assessment of environmental damage, costs of adaptation, effectiveness of environmental measures, consequences of climatic risks, results of the use of economic instruments for environmental management, as well as the formulation of reasonable conclusions on the development of the ecological and economic system. 3. Case-analytical task. Analysis of a specific environmental and economic situation at the level of an industry, region or national economy, identification of key environmental and climatic risks, assessment of economic consequences, justification of adaptation measures, reduction of environmental damage, improvement of the effectiveness of environmental policy, as well as development of design and

	management solutions in the field of sustainable development and environmental transformation of the economy.
Requirements for Learning and Examination	Current assessment: colloquiums, written assignments, and both written and oral questioning. During the semester, the master's student must complete the tasks according to the syllabus and earn a minimum of 30 and a maximum of 60 points, and in the exam, a minimum of 20 and a maximum of 40 points.
Reading List	1. Tietenberg T., Lewis L. Environmental and natural resource economics. - Routledge, 2023. - 612 p. 2. Stuart P. M. Mackintosh Climate Crisis Economics. London&New York: Taylor & Francis. Knowledge Unlatched (KU), 2022 - 286 p. 3.Richard S.J. Tol, Climate Economics: Economic Analysis of Climate, Climate Change and Climate Policy, 3rd ed., Edward Elgar Publishing, 2023.-510 p. 4.Edward B. Barbier, Joanne C. Burgess, Economics for a Sustainable World: An Introduction to Natural Resource and Environmental Economics, Cambridge University Press,2025.-300p. 5.Abakanov, N.N., Baymaganova, A.K., Suleimenova, Z.B., and others. Environmental policy in Kazakhstan: fundamentals and prospects", Almaty: LuxeMediaPublishing, 2021. 250 p. (in Russian) 6. Pischulov, Viktor Mikhailovich. Global ecology. Economics and Finance: a monograph / V. M. Pischulov. - Moscow: INFRA-M, 2022. – 324p. (in Russian)
Date of update	28.08.2025

Module Title	**M 16.2. Green Economy and Resource-Saving Management**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	Profile discipline Elective component
Teaching methods	Lectures, practical classes
Workload (including contact hours and self-study):	Total workload – 150 hours: Lectures – 30 hrs; Practical classes – 30 hrs; Current independent study (self-study) – 55 hrs; Intermediate independent study – 12.5 hrs; Guided self-study – 22.5 hrs.
Number of credits	5 ECTS
Prerequisites (required and recommended)	Modules: Economy of Industry's Branches, Planning and Design in Regional Economy
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop students' theoretical knowledge and practical skills in green economy development and resource conservation management, aimed at ensuring sustainable socio-economic development and the rational use of natural resources. After completing this course, master's students will be able to: - demonstrate knowledge of key concepts, principles, and

	approaches to green economy and resource conservation management; - list the main international and national programs aimed at sustainable development and resource conservation; - describe methods and tools for managing resource conservation activities; - analyze the impact of resource-saving technologies on environmental sustainability and economic efficiency; - apply economic and mathematical modeling methods to forecast and manage the green economy; - use tools for assessing the environmental and economic performance of green economy projects using AI; - identify risks and barriers in the implementation of resource conservation management projects; - critically evaluate the effectiveness of green economy programs and policies; - - justify the choice of strategies and methods for resource conservation management based on scientific and practical data.
Content of the Module	**Lectures:** Introduction to the green economy. International and national sustainable development programs. Environmental and economic efficiency of projects. Methods of resource-saving management. The impact of resource-saving technologies. Economic and mathematical modeling. Artificial intelligence tools. Risks and barriers to project implementation. Energy and material resource management. Green investments and financial instruments. Integration of economics and ecology at the enterprise level. Green economy program management. Comparative analysis of international experience. Environmental and economic sustainability. Current trends and digitalization of the green economy. **Practical exercises:** assessing the current state of resource use at an enterprise or region. Analysis of national resource conservation programs. Calculating project performance indicators. Developing a technology implementation plan at an enterprise or region. Calculating the economic impact of energy-saving and water-saving solutions. Building a model to forecast the economic impact of resource-saving measures. Using AI to assess the economic and environmental efficiency of projects. Identifying financial, technological, and institutional risks. Calculating energy savings from implementing energy-saving solutions. Assessing the investment attractiveness of green projects. Developing proposals for the implementation of resource-saving technologies. Planning green economy programs. Studying the experience of the EU, US, and Asian countries in resource conservation. Sustainability assessment and scenario modeling. Digitalization and innovation in the green economy.
Forms of Examination / Assessment	The exam is a 60-minute written exam. The master's student must answer three questions in writing. Each exam question includes: 1. Solving computational and analytical problems Solving a complex problem to assess the environmental and economic efficiency of a resource-saving project.

	2. Graphical analysis task Constructing and interpreting a resource-saving management model. 3. Comprehensive analysis and development of a resource-saving strategy Analysis and development of a program for implementing green economy principles at the enterprise or regional level.
Requirements for Learning and Examination	During the semester, the master's student must complete assignments according to the syllabus and score a minimum of 30, maximum 60 points, and score a minimum of 20, maximum 40 points on the exam.
Reading List	1. Khamzina Sh.Sh. Fundamentals of the green economy. Moscow: First Economic Publishing House, 2020. 240 p. (in Russian) 2. Methodologies for GHG Emissions Inventories and Paris Agreement Reporting. Moscow: IGCE, 2021. 237 p. (in Russian) 3. Petrova E.E., Kurochkina A.A., Volotovskaya O.S. Economics of Nature Management. St. Petersburg: Russian State University of the Humanities and Natural Resources, 2021. 236 p. (in Russian) 4. Tietenberg T., Lewis L. Environmental and natural resource economics. - New York: Routledge, 2023. - 612 p. 5. AnshumanJaswal, Debjani Mukherjee, AngappaGunasekaran, Vinay Kandpal, Green Futures: Navigating the Path to Environmental Resilience, Springer Nature, 2025.-350 p. 6. Gitte Haar, The Great Transition to a Green and Circular Economy: Climate Nexus and Sustainability, Springer, 2024.-210 p.
Date of update	28.08.2025

Module Title	**M 17. Pedagogical Practice**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	The practice is logically based on the disciplines of the methodological and professional block of the master's program, which provide theoretical training in the fields of economics, scientific research, and academic communication. Pedagogical practice ensures the integration of theoretical training with practical experience in teaching economic disciplines in higher education and serves as a link between the master student's scientific training and their future professional activity in the field of higher education.
Teaching methods	During the pedagogical practice, methods are used that are aimed at developing the master student's independence and professional responsibility. These include: individual pedagogical design of classes; consultation and scientific-methodological guidance from the practice supervisor; observation and analysis of classes; independent delivery of lectures and practical classes; application of active learning methods; use of digital educational tools; reflective analysis of one's own teaching activities; discussion of results and adjustment of pedagogical decisions.

Workload (including contact hours and self-study):	Total workload – 120 hours.
Number of credits	4 ECTS
Prerequisites (required and recommended)	Modules: Pedagogy and Psychology of Higher School
Module Objectives / Intended Learning Outcomes	**Purpose:** To form and develop master students' professional pedagogical competencies that ensure their readiness to independently design, conduct, and evaluate classes in higher education using modern educational technologies, digital tools, and the principles of student-centered learning. After completing their pedagogical practice, master students will be able to: - design and conduct classes in economic disciplines taking into account learning objectives and the level of students' preparation; - interpret and explain theories and concepts of economic science within the educational process; - apply modern pedagogical technologies and active learning methods; - use digital educational resources to organize the learning process; - analyze students' educational needs and adapt the content and teaching methods accordingly; - develop teaching and methodological materials and assessment tools; - evaluate the effectiveness of pedagogical interaction and carry out professional reflection.
Content of the Module	The preparatory stage involves familiarization with the department's regulatory documentation, the study program, and the teaching and methodological support of the discipline. It includes defining the learning objectives and expected learning outcomes, developing a thematic plan of classes, and selecting the content and teaching methods in accordance with the students' level of preparation. The main stage includes the independent design and delivery of lectures and practical classes in economic disciplines using modern pedagogical technologies, active learning methods, and digital educational tools. It also involves organizing pedagogical interaction with students and applying tools for the current assessment of learning outcomes. The analytical stage involves analyzing the conducted classes, evaluating the effectiveness of the applied teaching methods and forms, identifying students' learning difficulties and adjusting pedagogical decisions, carrying out professional reflection, and developing recommendations for improving teaching activities. The final outcome of the practice is the preparation of a report that includes: a plan and description of the conducted classes; the pedagogical methods and technologies used; the application of digital and interactive resources; analysis of students' educational needs and adaptation of teaching materials; conclusions and recommendations for improving teaching activities; and a critical assessment of own experience.
Forms of Examination / Assessment	Assessment is carried out through the submission of a final report on the completed pedagogical practice and an evaluation of the

	master student's readiness to conduct independent classes and educational projects. Upon completion of the pedagogical practice, master students submit a report to the department. The report is reviewed by the practice supervisor and defended before a commission established by the order of the head of the department. The evaluation takes into account the quality of class organization, the use of innovative teaching methods, the effectiveness of pedagogical interaction, the analysis of students' feedback, and the master student's readiness for independent teaching activities. Final assessment format: differentiated pass.
Requirements for Learning and Examination	During the pedagogical practice, master students must complete all assignments in accordance with the pedagogical practice program and obtain a minimum of 30 and a maximum of 60 points. In the pedagogical practice report defense, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Innovative Pedagogical Practices for Higher Education 4.0 / M. M. Asad, P. Churi, F. Sherwani, R. Hassan. – CRC Press, 2025. – 351 p. 2. Teaching and Learning in Higher Education / S. Wang, Z. Zhou, S. Marginson (ed.). – Springer, 2025. – 373 p. 3. Teaching Innovations in Economics / M. del C. Valls Martínez, J.-M. Montero (ed.). – Springer, 2024. – 580 p. 4. Malchukova N.N. Pedagogical Practice: Textbook / N.N. Malchukova, I.E. Shemyakina. Tyumen: State Agrarian University of the Northern Urals, 2024. – 70 p. (In Russian) 5. Savin E.Yu. Pedagogical Psychology: Textbook / E.Yu. Savin, A.E. Fomin. Moscow: IPR Media, 2024. – 338 p. (In Russian)
Date of update	28.08.2025

Module Title	**M 18. Research Practice**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	The practice is based on previously completed courses from the methodological, analytical, and professional modules, including methods of scientific research, strategic analysis, and managerial analysis. The module ensures the practical application of the methodological tools used in the preparation of the master's thesis and is aimed at developing the research competencies specified in the study program.
Teaching methods	During the research practice, methods are applied that are aimed at developing the master student's independent research activity. These include: individual scientific consultation and methodological supervision; formulation and clarification of research objectives; independent collection and processing of empirical data; application of quantitative and qualitative methods of economic analysis; analytical work with regulatory, statistical,

	and reporting materials; interpretation of results and their comparison with theoretical models; preparation of analytical materials and substantiation of conclusions; and scientific reflection and discussion of the obtained results. These methods are research-oriented and aimed at developing the master student's ability to independently conduct scientific analysis and prepare materials for the master's thesis.
Workload (including contact hours and self-study):	Total workload – 180 hours.
Number of credits	6 ECTS
Prerequisites (required and recommended)	Modules: Pedagogical Practice, Methods of Scientific and Applied Research in Economy
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop master students' ability to conduct independent scientific research in the field of economics through the systematization and deepening of professional knowledge, the application of methodological approaches, the collection and analysis of empirical data, their comparison with theoretical models, and the formulation of well-grounded conclusions and recommendations within the framework of preparing a master's thesis. After completing this module, master students will be able to: - analyze economic processes and indicators by comparing empirical data with theoretical models and scientific concepts; - apply methods of collecting, processing, and evaluating economic and statistical data for conducting scientific research; - justify the choice of analytical methods and interpret the obtained results; - formulate well-grounded conclusions based on empirical analysis; - develop recommendations aimed at improving efficiency and fostering the innovative development of socio-economic systems; - critically assess the reliability, relevance, and limitations of the obtained data; - integrate theoretical knowledge and analytical results in the preparation of a master's thesis.
Content of the Module	The research practice includes the analysis of an organization's activities and its economic and managerial processes, the study of regulatory and governing documents, and the assessment of their impact on the functioning of the socio-economic system. Within the framework of the practice, factual and statistical materials are collected, processed, and systematized in accordance with the topic of the master's thesis, forming the empirical basis of the research and assessing the reliability of the obtained data. The master student applies economic and statistical methods of analysis, compares the obtained results with theoretical models and scientific concepts, and identifies patterns and problem areas in development. An individual research assignment is carried out, aimed at testing the methodological tools of the master's thesis. Based on this work, well-grounded conclusions are formulated and recommendations are developed to improve efficiency and foster the innovative development of the socio-economic system. The final outcome of the practice is the preparation and defense of a

	report that substantiates the applied methods of analysis, interprets the results obtained, and evaluates the limitations of the conducted research. The report includes: a description of the organization and its economic and managerial processes; the objectives and tasks of the practice corresponding to the topic of the master's thesis; the methods used for collecting, processing, and analyzing factual and statistical data; the results of the analysis and the key performance indicators identified for the organization; the formulation of conclusions and the development of recommendations aimed at improving efficiency, competitiveness, and innovative development of the organization; an assessment of the reliability, relevance, and completeness of the collected data; and a critical evaluation of the student's own experience and the research methods applied.
Forms of Examination / Assessment	Assessment is carried out through the submission of a final report on the research practice and the evaluation of the master student's readiness to conduct independent scientific research and develop recommendations for improving the efficiency of the organization's economic processes. Upon completion of the research practice, students submit a report to the department. The report is reviewed by the practice supervisor and defended before a commission established by the order of the head of the department. The evaluation takes into account the quality of the completed practical and research tasks, the level of analytical work, the application of scientific models and methods, the validity of the conclusions and recommendations, as well as the master student's ability to integrate theoretical knowledge with practical experience. Final assessment format: differentiated pass.
Requirements for Learning and Examination	During the research practice, master students must complete all assignments in accordance with the research practice program and obtain a minimum of 30 and a maximum of 60 points. In the research practice report defense, master students must achieve a minimum of 20 and a maximum of 40 points.
Reading List	1. Null W. Curriculum: From theory to practice. – Bloomsbury Publishing USA, 2023. – 341 p. 2. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches / Creswell J. W., Creswell J. D. – 5th ed. – Sage, 2018. – 304 p. 3. Doing Economics: What You Should Have Learned in Grad School - But Didn't / Hamermesh D. S. – Princeton University Press, 2019. – 240 p. 4. Gryaznova A.G., Nikolaeva I.P. Methodology of Scientific Research in Economics: Textbook. – Moscow: Knorus, 2023. – 182 p. (In Russian) 5. Milner B.Z. Methodology and Methods of Organizational and Economic Research. – Moscow: Infra-M, 2022. – 155 p. (In Russian) 6. Savelyev E.A. Scientific Research: Methodology, Methods, and Organization. – Saint Petersburg: Piter, 2021. – 265 p. (In Russian) 7. Chernyshev V.N. Research Practice of Master Students: Organization, Content, and Methodological Support. – Moscow:

	Yurait, 2020. – 188 p. (In Russian)
Date of update	28.08.2025

Module Title	**M 19. Research Work of Master Student 1**
Semester(s) in which the module is taught	1st semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor Yessengeldina Anar Satybaldinovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	The module is implemented at the initial stage of the master's program and ensures the development of the master student's basic research competencies. It is connected with courses of theoretical and methodological training and is aimed at selecting the thesis topic and developing the research concept.
Teaching methods	Individual scientific supervision. Consultations on selecting the research topic and methodology. Independent work with scientific literature and academic databases. Discussion of research ideas at departmental research seminars. Preparation of a report on research work.
Workload (including contact hours and self-study):	Total workload – 30 hours.
Number of credits	1 ECTS
Prerequisites (required and recommended)	Bachelor Program Modules
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop master students' methodological foundations for scientific research, including skills in formulating a research problem, selecting a research topic, defining the object, subject, purpose, and objectives of the study, and mastering the principles of academic writing and research ethics. After completing this stage of research work, master students will be able to: - formulate a scientific problem, research objectives, tasks, and hypothesis; - conduct a search and critical analysis of scientific sources in English, Kazakh, Russian, and other foreign languages; - apply methodological approaches of modern science when substantiating the research topic; - adhere to the principles of academic integrity and research ethics; - develop the structure of a scientific paper and a research plan.
Content of the Module	Study of scientific literature on the research topic. Justification of the choice of the dissertation topic and formulation of the research problem, objectives, and tasks. Identification of the object and subject of the study. Development of the methodological framework and the structure of the dissertation. Preparation of a working research plan. Implementation of the individual research plan under the supervision of a scientific advisor. Participation in departmental research seminars and discussions on research topics.

Forms of Examination / Assessment	Assessment is carried out through the submission of a semester report on research work and its discussion at the department meeting with the participation of Deputy Dean for Research. The report includes: justification of the research topic; formulation of the research problem, objectives, tasks, and hypothesis; a literature review; description of the methodological approach; the plan for completing the dissertation; and the contribution of the completed work to the master's thesis. Evaluation is conducted by the scientific supervisor and the department, taking into account the quality of the report, the degree of the master student's independence, participation in research seminars, and compliance with the deadlines of the individual research plan. Final assessment format: differentiated pass.
Requirements for Learning and Examination	The master student must: select and justify the topic of the master's thesis; formulate the research problem, objectives, tasks, object, and subject of the study; conduct a search and critical analysis of scientific sources, including international academic databases; justify the methodological approach of the research; develop the structure of the thesis and a working research plan; comply with the principles of academic integrity and research ethics; prepare a semester report on the research work reflecting the research concept and the contribution of the completed work to the master's thesis. Admission to the pass is granted upon submission of the report and confirmation by the scientific supervisor that the individual research plan has been fulfilled. The final grade is awarded based on the defense of the research work and is assessed on a 100-point scale. Final defense – 100 points, including the following criteria: justification of the chosen research topic and formulation of the scientific problem – up to 20 points; quality of the literature review and analysis of scientific sources – up to 20 points; correctness in defining the object, subject, objectives, and tasks of the research – up to 15 points; justification of the methodological approach and the structure of the dissertation – up to 20 points; quality of the developed research plan – up to 15 points; argumentation and clarity of answers to the commission's questions – up to 10 points.
Reading List	1. Hair J., Page M., Brunsveld N. Essentials of Business Research Methods, 5th ed. – New York: Routledge 2023. – 528 p. 2. Emma Bell, Bill Harley, Alan Bryman Business Research Methods. – UK: Oxford University Press, 2022. – 647 p. 3. Flick U. Introducing Research Methodology, 4th ed.- Hamburg 2025. – 349 p. 4. Williams M., Vogt W.P., Wiggins R.D. Beginning quantitative research. – 2022. 5. Roy, O. Methodology of Scientific Research in Economics and Management. 3rd ed., revised and expanded. Study Guide for Universities. – LitRes, 2023. – 211 p. (In Russian)
Date of update	28.08.2025

Module Title	**M 20. Research Work of Master Student 2**
Semester(s) in which the module is taught	2nd semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor Yessengeldina Anar Satybaldinovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	The module continues the development of research competencies and is aimed at designing the methodological framework of the study, selecting analytical methods, and forming the empirical research base. It is connected with the specialized disciplines of the program and the preparation of the theoretical part of the dissertation.
Teaching methods	Individual scientific supervision and consultations. Independent analytical work with scientific sources and statistical data. Use of digital tools for data analysis. Participation in research seminars and discussion of intermediate results. Preparation of a report on research work. Completion of a 14-day research internship in a research organization, analytical center, government body, enterprise, or a structural unit of the university related to the topic of the master's thesis.o the topic of dissertation research.
Workload (including contact hours and self-study):	Total workload – 120 hours.
Number of credits	3 ECTS
Prerequisites (required and recommended)	Module: Research Work of Master Student 1
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop master students' ability to methodologically substantiate scientific research, conduct an in-depth analysis of scientific sources, select appropriate research methods, and develop a conceptual model of a scientific study, including the preparation of the empirical research base. After completing this stage of research work, master students will be able to: - refine and operationalize the research problem, objectives, tasks, object, and subject of the study within the logic of the proposed hypothesis; - justify the choice of the theoretical and methodological approach, research methods, and the conceptual model of the scientific study; - search for, interpret, and systematize data from scientific literature, analytical and regulatory sources, including the use of international scientific databases (Scopus, Web of Science, etc.); - collect, systematize, and conduct the initial processing of factual, statistical, and empirical materials, forming the empirical research base; - apply methods of scientific analysis for an in-depth study of the topic and the development of the research concept.
Content of the Module	Refinement of the research objectives and the research concept. Selection and justification of research methods. Formation of the empirical research base. Collection and primary processing of data using digital tools. Preparation of the theoretical and methodological section of the dissertation. Participation in research

	projects and seminars. Completion of a 14-day research internship, carrying out an individual assignment related to the dissertation topic, collecting practical materials, and preparing a report based on the internship results. Fulfillment of the individual research work plan.
Forms of Examination / Assessment	Assessment is carried out through the submission of a semester report on research work and its discussion at the department meeting with the participation of Deputy Dean for Research. The report includes: a refined formulation of the research problem; justification of the research methods; description of the empirical research base; results of the initial data processing; results of the internship and their contribution to the dissertation; and an evaluation of the implementation of the individual research plan. Evaluation is conducted by the scientific supervisor and the department, taking into account the validity of methodological decisions, the quality of source analysis, the results of the internship, the level of readiness of the theoretical and methodological section of the dissertation, and the completion of the individual research plan.
Requirements for Learning and Examination	The master student must: complete the individual research work plan within the established deadlines; maintain regular interaction with the scientific supervisor; conduct an analysis of scientific sources and justify the research methodology; form the empirical research base and carry out the initial processing of data; complete a 14-day research internship and perform an individual assignment; prepare a semester report on research work reflecting the contribution of the completed work to the master's thesis. Admission to the pass is granted upon completion of the individual research work plan, completion of the internship, and submission of the report. The final grade is awarded based on the defense of the report on research work and the internship and is assessed on a 100-point scale. Final defense – 100 points, including the following criteria: justification of the research problem formulation and methodology – up to 20 points; quality of the analysis of scientific sources – up to 15 points; formation of the empirical research base and correctness of data processing – up to 20 points; results of the research internship and their integration into the dissertation – up to 20 points; level of readiness of the theoretical and methodological section of the dissertation – up to 15 points; reasoned and well-structured answers to the commission's questions – up to 10 points.
Reading List	1. C. George Thomas Research Methodology and Scientific Writing Second Edition. – Springer Nature Switzerland, 2021. – 611 p. 2. Hausman D.M. The inexact and separate science of economics. – Cambridge University Press, 2023. – 537 p. 3. Tinh D.T., Thuy N.T., Ngoc Huy D.T. Doing Business Research and Teaching Methodology for Undergraduate, Postgraduate and Doctoral Students – Case in Various Markets Including Vietnam // Ilkogretim Online. – 2021. – V. 20. – No. 1. 4. Dubey U.K.B., Kothari D.P. Research methodology: Techniques and trends. – Chapman and Hall/CRC, 2022. – 273 p.

	5. Golovina O.D., Vorobyeva O.A. Research Activities of a Master Student: Teaching and Methodological Guide. – 2023. – 40 p. (In Russian)
Date of update	28.08.2025

Module Title	**M 21. Research Work of Master Student 3**
Semester(s) in which the module is taught	3rd semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor Yessengeldina Anar Satybaldinovna, Candidate of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	The module is focused on conducting empirical research and obtaining scientific results. It is connected with analytical and applied disciplines and ensures the preparation of the analytical part of the master's thesis.
Teaching methods	Individual scientific supervision and consultations. Independent conduct of research and data analysis. Application of economic-mathematical and statistical methods. Preparation of publications and participation in conferences. Presentation of research results at the department.
Workload (including contact hours and self-study):	Total workload – 90 hours.
Number of credits	3 ECTS
Prerequisites (required and recommended)	Module: Research Work of Master Student 2
Module Objectives / Intended Learning Outcomes	**Purpose:** To develop master students' ability to conduct empirical research, analyze the obtained data, apply economic and analytical methods, and produce scientific results that substantiate the conclusions and recommendations of the study. After completing this stage of research work, master students will be able to: - apply methods of economic analysis and modeling, including tools of system analysis, correlation and regression methods, and strategic analysis methods, depending on the subject area of the research; - identify relationships, factors, and patterns in the development of economic processes based on the analysis of the obtained data; - interpret research results using quantitative and qualitative methods, forming preliminary scientific conclusions; - compare the obtained results with theoretical provisions and scientific publications of other authors, conducting critical analysis; - formulate scientifically grounded research results that confirm or refine the proposed hypothesis and serve as a basis for further conclusions and recommendations.
Content of the Module	Conducting empirical research. Application of methods of economic analysis and modeling using computer technologies. Interpretation and scientific reflection on the obtained results. Comparison of research results with contemporary scientific

	approaches. Preparation of the analytical part of the dissertation. Testing (approbation) of the research results, including the preparation of scientific publications and presentations at research seminars and conferences. Fulfillment of the individual research work plan.
Forms of Examination / Assessment	Assessment is carried out through the submission of a semester report on research work and its discussion at the department meeting with the participation of Deputy Dean for Research. The report includes: a description of the applied methods of analysis and modeling; the results of the economic analysis and interpretation of the obtained data; preliminary scientific conclusions and the contribution of the results to the dissertation; and information on the approbation of the results (presentations, publications). Evaluation is conducted by the scientific supervisor and the department, taking into account the scientific validity of the results, the correctness of the analysis, the level of readiness of the analytical part of the dissertation, the completion of the individual research plan, and the master student's activity in the scientific community. Final assessment format: differentiated pass.
Requirements for Learning and Examination	The master student must: conduct empirical research in accordance with the individual research work plan; apply methods of economic analysis, modeling, and statistical data processing; identify factors, relationships, and patterns of economic processes based on the obtained results; interpret the research results and compare them with theoretical provisions and scientific publications; prepare the analytical part of the master's thesis; carry out the approbation of research results in the form of reports, publications, or presentations at scientific seminars; prepare a semester report on research work reflecting the obtained scientific results and their contribution to the master's thesis. Admission to the pass is granted upon submission of the report and confirmation by the scientific supervisor that the individual research plan has been fulfilled. The final grade is awarded based on the defense of the research work report and is assessed on a 100-point scale. Final defense – 100 points, including the following criteria: scientific validity of the applied methods of analysis and modeling – up to 20 points; correctness of data processing and interpretation – up to 20 points; identification of factors and patterns of economic processes – up to 15 points; level of readiness of the analytical part of the dissertation – up to 20 points; results of the approbation of the research and their scientific significance – up to 15 points; reasoned and well-structured answers to the commission's questions – up to 10 points.
Reading List	1. Dubey U.K.B., Kothari D.P. Research methodology: Techniques and trends. – CRC Press is an imprint of Taylor & Francis Group, LLC. – Chapman and Hall/CRC, 2022. – 273 p. 2. Gupta A., Gupta N. Research methodology. – SBPD publications, 2022. – 240 p. 3. Fellows R.F., Liu A.M.M. Research methods for construction. – John Wiley & Sons, 2021. – 363 p.

	4. Samoilenko S., Osei-Bryson K.M. Quantitative methodologies using multi-methods: models for social science and information technology research. – Routledge: Taylor & Francis Group, LLC, 2021. – 283 p. 5. Gorovaya V. Research Work: Study Guide for Universities. – Moscow: Yurait, 2021. – 103 p.
Date of update	28.08.2025

Module Title	**M 22. Research Work of Master Student 4**
Semester(s) in which the module is taught	4th semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor Yessengeldina Anar Satybaldinovna, Candidate of Economic Sciences, Professor
Relation to the curriculum	Russian, Kazakh, English
Teaching methods	The module completes the master student's research training and is aimed at systematizing the research results, formulating conclusions, and preparing the master's thesis for defense. It is directly related to the final attestation of the graduate.
Workload (including contact hours and self-study):	Individual scientific supervision. Consultations on the preparation of the dissertation and scientific publications. Independent work on summarizing the research results. Presentation of the results at the department. Preparation of the final report on research work.
Number of credits	Total workload – 510 hours.
Prerequisites (required and recommended)	17 ECTS
Relation to the curriculum	Module: Research Work of Master Student 3
Module Objectives / Intended Learning Outcomes	**Purpose:** To complete the master student's research study, integrate theoretical and empirical results, formulate scientifically grounded conclusions and practical recommendations, and prepare the master's thesis for presentation and defense in the academic and professional environment. After completing this stage of research work, master students will be able to: - structure and generalize research results, identifying key factors and patterns in the development of the studied economic processes; - develop and substantiate analytical models, concepts, and practical recommendations based on the obtained results; - synthesize research results into a logically consistent system of scientific arguments, conclusions, and proposals corresponding to the objectives and tasks of the study; - finalize and format the master's thesis, ensuring its compliance with academic, methodological, and ethical standards of the scientific community; - present and defend research results in a reasoned manner, critically evaluating their scientific significance, limitations, and prospects for further research.
Content of the Module	Systematization of research results. Formulation of conclusions and practical recommendations. Preparation and formatting of the

	master's thesis text. Preparation of a scientific publication and presentation of the research results at a scientific and practical conference. Presentation of the research results at the department and preparation for the defense. Preparation and submission of the final report on the master student's research work. Completion of the individual research work plan.
Forms of Examination / Assessment	Assessment is carried out through the submission of the final report on research work, discussion of the results at the department meeting with the participation of Deputy Dean for Research, and evaluation of the readiness of the master's thesis for defense. The report includes: systematization of the research results; conclusions and practical recommendations; information on publications and the approbation of the results; the level of readiness of the dissertation; and the contribution of the research work to the final thesis. Evaluation is conducted by the scientific supervisor and the department, taking into account the scientific novelty of the results, their practical significance, the quality of the dissertation formatting, the completion of the individual research plan, and the master student's readiness for defense. Final assessment format: differentiated pass.
Requirements for Learning and Examination	The master student must: complete the research study in accordance with the individual research work plan; systematize and generalize the theoretical and empirical results of the research; formulate scientifically grounded conclusions and practical recommendations; prepare the full text of the master's thesis in accordance with academic requirements; ensure the approbation of the research results through publications and presentations; present the research results at the department; prepare the final report on research work, reflecting the contribution of the conducted study to the master's thesis. Admission to the pass is granted upon submission of the report, confirmation by the scientific supervisor that the individual research plan has been completed, and confirmation of the thesis's readiness for defense. The final grade is awarded based on the defense of the research work report and is assessed on a 100-point scale. Final defense – 100 points, including the following criteria: degree of completeness and scientific integrity of the research – up to 20 points; justification of conclusions and practical recommendations – up to 20 points; scientific novelty and significance of the obtained results – up to 15 points; quality of the master's thesis formatting – up to 15 points; level of readiness of the thesis for defense and publication activity – up to 20 points; reasoned and well-structured answers to the commission's questions – up to 10 points.
Reading List	1. Recker J. Scientific research in information systems: a beginner's guide. – Springer Nature, 2021. – 217 p. 2. Coe R. et al. (ed.). Research methods and methodologies in education. – SAGE Publications Limited, 2025. – 243 p. 3. Putri P.Y.A., Saputra K.A.K. Writing of scientific works in a dissertation context and the difference with thesis // International Journal of Business, Economics and Law. – 2021. – V. 24. – No. 4. – C. 1-7.

	4. Roush K. A nurse's step-by-step guide to writing a dissertation or scholarly project. – Sigma Theta Tau, 2023. – 243 p.
Date of update	28.08.2025

Module Title	**M 23. Execution and Defense of Master`s Thesis**
Semester(s) in which the module is taught	4th semester
Person(s) responsible for the module	Yessirkepova Altyn Makhmudovna, Doctor of Economic Sciences, Professor
Language of instruction	Russian, Kazakh, English
Relation to the curriculum	The module is a form of final attestation and completes the master's degree program. It integrates the results of the completed courses and research work and is aimed at confirming the development of the graduate's professional and research competencies.
Teaching methods	Individual scientific supervision. Consultations on dissertation formatting and preparation for the defense. Pre-defense at the department. Preparation of the report and presentation materials. Public defense of the master's thesis and scientific discussion.
Workload (including contact hours and self-study):	Total workload – 360 hours.
Number of credits	8 ECTS
Prerequisites (required and recommended)	Modules: Research Work of Master Student (1,2,3,4)
Module Objectives / Intended Learning Outcomes	**Purpose:** To confirm the level of scientific and professional training of the master's graduate, complete the master's research, prepare the dissertation in accordance with academic requirements, and present it for defense by demonstrating the ability to apply the methodology of scientific inquiry, formulate scientifically grounded conclusions, and develop practical recommendations. After completing this module, master students will be able to: - present the results of scientific research in the form of a completed master's thesis prepared in accordance with academic, methodological, and ethical standards; - apply the acquired knowledge and methods of scientific analysis to solve research and applied problems in the professional field; - identify cause-and-effect relationships and patterns in the development of the studied socio-economic processes; - develop scientifically grounded conclusions, proposals, and managerial decisions that contain elements of scientific novelty and practical significance; - present and defend research results in a well-argued manner, demonstrating skills of scientific communication and professional interaction; - critically evaluate the methodology, results, and limitations of their own research, identifying directions for further scientific and professional activity.
Content of the Module	Completion of the master's research and systematization of the obtained results. Preparation and formatting of the master's thesis in accordance with the established academic and methodological requirements of the university. Verification of the thesis for

	compliance with academic integrity requirements and plagiarism detection procedures. Preparation of the abstract, presentation materials, and research report. Presentation of the thesis at the department and obtaining permission for the defense. Preparation for the public defense of the master's thesis. Public defense of the master's thesis before the State Attestation Commission. Evaluation of the defense results and confirmation of the graduate's level of scientific and professional training.
Forms of Examination / Assessment	Final attestation is conducted in the form of a public defense of the master's thesis. Master students are admitted to the defense if they have successfully passed the pre-defense procedure at the department, received a positive review from the scientific supervisor, obtained a review from an external expert, received confirmation of the university's plagiarism check in accordance with established procedures, and fulfilled the publication activity requirements of the educational program. The defense of the master's thesis is conducted at an open meeting of the State Attestation Commission and includes: the master student's presentation of the research results; answers to questions from the members of the commission; discussion of the scientific novelty, practical significance, and validity of the conclusions; assessment of the graduate's readiness for professional and research activities. Evaluation is carried out by the State Attestation Commission, taking into account: the scientific novelty and practical significance of the research results; the justification of methodological approaches and the correctness of the analysis; the completeness of the use of contemporary scientific literature; the quality of the master's thesis formatting; the level of argumentation during the defense and the quality of the presentation of the results; the master student's ability to provide well-reasoned answers to the commission's questions. The final grade is determined by the decision of the State Attestation Commission based on an open vote of its members.
Requirements for Learning and Examination	Based on the results of the master's thesis defense, a final grade is awarded. Assessment of learning outcomes in the master's degree program is carried out using a point-rating system based on a 100-point scale, with conversion into the letter grading system.
Reading List	1. Single P.B., Reis R.M. Demystifying dissertation writing: A streamlined process from choice of topic to final text. – Routledge, 2023. 2. Álvarez G., Difabio de Anglat H. Writing a Dissertation - Expanding the Borders of the Virtual Teaching and Learning Process // Cultural Views on Online Learning in Higher Education: A Seemingly Borderless Class. – Cham: Springer International Publishing, 2021. – P. 157-175. 3. Galvan M. C. Writing empirical research reports: A basic guide for students of the social and behavioral sciences. – Publication New York: Routledge, 2023. – 196 p. 4. Nemirovskaya E.P., Tarakanova O.V. Methodology of Scientific Research. – Moscow: DirectMedia, 2024. – 108 p.
Date of update	28.08.2025