HIGHER SCHOOL OF ECONOMICS AND BUSINESS

**Economics Department**

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| --- | --- | --- | --- |
| № | Discipline | Credits | Level |
| 1 | Shadow Economy : An Institutional Approach | 5 ECTS | Master, “Economics” specialty, 1 year |
| 2 | Applied Econometrics of Time Series | 5 ECTS | Master, “Economics” specialty, 1 year |
| 3 | Theory of Industrial Organization | 5 ECTS | Master, “Economics” specialty, 1 year |
| 4 | Modern Concepts of Economic siences | 5 ECTS | Master, “Economics” specialty, 1 year |
| 5 | Scientific writing | 2 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 6 | Macroeconomics (Level 2) | 3 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 7 | Data analysis and forecasting in the economy | 3 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 8 | National Economy | 2 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 9 | Public Sector Economics | 3 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 10 | Labor Economics | 2 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 11 | Risks in business activities | 2 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 12 | Entrepreneurship | 2 ECTS | Bachelor, “Economics” specialty, 3rd year |
| 13 | Institutional Economics | 6 ECTS | Bachelor, “Economics” specialty, 2nd year |
| 14 | Macroeconomics | 6 ECTS | Bachelor, “Economics” specialty, 2nd year |

**Management Department**

|  |  |  |  |
| --- | --- | --- | --- |
| № | Discipline | Credits | Level |
| 1 | Government regulation of economy | 6 | BSc, 6В04101-State and local government, 2 course |
| 2 | Government regulation of economy | 5 | BSc, 6В04102 -Management, 2 course |
| 3 | Management | 6 | BSc, 6В04102 -Management, 1 course |
| 4 | Business organization | 6 | BSc, 6В04102 – Management, 2 course |
| 5 | Аcademic writing | 2 | PhD, 8D04103-State and local government, 1 course |

**Business-technologies Department**

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| --- | --- | --- | --- | --- |
| **№** | **Specialty**  BSc | **Discipline** | **Year of study / semester** | **ECTS** |
| 1. | 6B11301 - Logistics (by branches) NIS | Logistics management | 2/4 | 5 |
| 2 | 5B090900 - Logistics (by branches ) | Commercial Logistics | 3/6 | 5 |
| 3. | 5B090900 - Logistics (by branches ) | Transport-Freight System | 3/6 | 3 |
| 4. | 5B090900 - Logistics (by branches ) | Supply Chain Management | 3/6 | 5 |
| 5 | 5B090900 - Logistics (by branches ) | Export-Import Operations in Logistics Systems | 3/6 | 3 |
| 6 | 6B11301 - Logistics (by branches) NIS | Information Logistics | 2/4 | 5 |
| 7 | 6B11301 - Logistics (by branches) NIS | Supply Chain Management | 2/4 | 5 |
| 8 | 5B090900 - Logistics (by branches ) | Purchasing Management in Logistics | 3/6 | 5 |
| 9 | 5B090900 - Logistics (by branches ) | Scientific Writing | 3/6 | 3 |
| 10 | 6B11301 - Logistics (by branches) NIS | Integrated Transport System | 2/4 | 6 |
| 11 | 6B11301 - Logistics (by branches) NIS | Simulation modeling in logistics | 2/4 | 5 |
| 12 | 5B090900 - Logistics (by branches ) | Simulation modeling in logistics | 3/6 | 3 |
| 13 | 5B090900 - Logistics (by branches ) | Mathematical Modeling in Logistics | 3/6 | 3 |
| 6B11301 - Logistics (by branches) NIS | Database Management Systems | 2/4 | 5 |

**Finance and accounting Department**

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| --- | --- | --- | --- |
| № | Discipline | Credits | Level |
| 1 | Introduction to finance | 6 ECTS | Bachelor,  "Finance" specialty, 1st year |
| 2 | Statistics | 5 ECTS | Bachelor,  "Finance", "Management", "Economics" specialties, 2nd year |
| 3 | Banking | 5 ECTS | Bachelor,  "Finance" specialty, 2nd year |
| 4 | Taxes and taxation | 6 ECTS | Bachelor,  "Finance" specialty, 2nd year |
| 5 | Insurance | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 6 | Banking risks | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 7 | Stocks and bods market (Securities market) | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 8 | Financial supervision and monitoring | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 9 | Currency transactions and modern monetary system | 6 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 10 | Forecasting and planning in taxation | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 11 | Accounting in tourism | 5 ECTS | Bachelor,  "Tourism" specialty, 2nd year |
| 12 | Scientific Writing | 3 ECTS | Bachelor,  "Accounting and Audit" specialty, 3rd year |
| 13 | Management analysis | 5 ECTS | Bachelor,  "Finance", "Accounting and audit " specialty, 3rd year |
| 14 | Practical audit | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 15 | Professional management accounting | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 16 | Information systems and control in accounting | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 17 | Money, credit, banks | 6 ECTS | Bachelor,  "Finance" specialty, 2nd year |
| 18 | Finance | 5 ECTS | Bachelor,  "Management", "Economics" specialty, 2nd year |
| 19 | Corporate finance | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 20 | Organization of investment financing | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 21 | Islamic finance | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 22 | Budget and budget system | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 23 | Financial risks | 5 ECTS | Bachelor,  "Finance" NIS specialty, 2nd year |
| 24 | Audit theory | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 25 | Management accounting 1 | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 26 | Financial accounting at a professional level | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 27 | International Financial Reporting Standards | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 28 | Internal audit of the company | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 3rd year |
| 29 | Audit | 5 ECTS | Bachelor,  "Economics" specialty, 3rd year |
| 30 | Information systems in accounting and auditing | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 4th year |
| 31 | Methodology for preparing financial statements | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 4th year |
| 32 | Tax accounting | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 4th year |
| 33 | Financial analysis | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 4th year |
| 34 | Accounting and reporting in financial institutions | 5 ECTS | Bachelor,  "Accounting and audit " specialty, 4th year |
| 35 | Tax administration | 5 ECTS | Bachelor,  "Finance" specialty, 4th year |
| 36 | Business taxation | 5 ECTS | Bachelor,  "Finance" specialty, 4th year |
| 37 | Bank accounting | 5 ECTS | Bachelor,  "Finance" specialty, 4th year |
| 38 | Tax management | 5 ECTS | Bachelor,  "Finance" specialty, 4th year |
| 39 | Organization of investment financing | 5 ECTS | Bachelor,  "Finance" specialty, 4th year |
| 40 | Taxation of CU countries | 5 ECTS | Bachelor,  "Finance" specialty, 4th year |
| 41 | Accounting in foreign economic activity | 5 ECTS | Bachelor,  "World economy" specialty, 3rd year |
| 42 | Financial management | 5 ECTS | Bachelor,  "automation and control" specialty, 4th year |
| 43 | Risk management | 5 ECTS | Bachelor,  "automation and control" specialty, 4th year |
| 44 | Academic writing | 5 ECTS | Doctorate,  "Finance" specialty, 1st year |
| 45 | Research methods | 5 ECTS | Doctorate,  "Finance" specialty, 1st year |
| 46 | Green finance | 5 ECTS | Doctorate,  "Finance" specialty, 1st year |
| 47 | Risk Management in Islamic Finance | 5 ECTS | Doctorate,  "Finance" specialty, 1st year |
| 48 | Financial engineering | 5 ECTS | Doctorate,  "Finance" specialty, 1st year |
| 49 | Financial risk management methodology | 5 ECTS | Doctorate,  "Finance" specialty, 1st year |

FACULTY OF ORIENTAL STUDIES

|  |  |
| --- | --- |
| № | Disciplines |
| 1 | Regional research methodology |
| 2 | Organization and planning of scientific research |
| 3 | Scientific writing |
| 4 | Research methods |
| 5 | Modernization of the Spiritual and Material Culture in Eastern countries |
| 6 | Basic Paradigms and methodology of foreign philological research |
| 7 | Comparative Study of Literature |
| 8 | Linguistic Doctrines and Theory of Linguistics |
| 9 | State-Political System of China |
| 10 | Socio-Economic Development of China |
| 11 | Scientific writing/Академическое письмо |
| 12 | Scientific Research Methods |
| 13 | Basic Foreign language (Level C1) |
| 14 | Basic Foreign language (Level B2) |
| 15 | Basic of Professional Activity of Translator |
| 16 | Practice of oral speech |
| 17 | Literature of Studying language country |
| 18 | Practice of literary translation |
| 19 | Business Eastern language |
| 20 | Translation of social and political texts |
| 21 | Linguoculturology |
| 22 | Practice of written communication |

GRADUATE SCHOOL OF PUBLIC HEALTH

FACULTY OF MEDICINE AND HEALTHCARE

**Department of Epidemiology, Biostatistics and Evidence-Based Medicine**

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| --- | --- | --- |
| **№** | Discipline | Study program |
| 1 | Patient and Society (Social Medicine Module) | 5B130100, General Medicine |
| 2 | Health promotion and disease prevention | 6B10104, Dentistry |
| 3 | Creation of databases and evaluation of scientific research results | 7M10102, Public Health |
| 4 | Sociological research in health care | 7M10102, Public Health |
| 5 | Fundamentals of Public Health Teaching Methodology | 7M10102, Public Health |
| 6 | Research methods | 7M10102, Public Health |
| 7 | Research ethics | 8D10101, Public Health |
| 8 | Biostatistics (advanced course) | 8D10101, Public Health |
| 9 | Epidemiology (advanced course) | 8D10101, Public Health |
| 10 | Academic writing | 8D10101, Public Health |

**Department of Health Policy and Organization**

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| --- | --- | --- |
| **№** | Discipline | Specialty |
| 1 | Precision medicine | 8D10102 - Medicine |
| 2 | Epidemiology -Advanced | 8D10102 - Medicine |
| 3 | Research methods | 8D10102 - Medicine |
| 4 | Academ letter | 8D10102 - Medicine |
| 5 | Basic understanding of the Python 3.0 programming language | 7М10104 - Medicine |
| 6 | Cell technologies in clinical diagnostics | 7М10104 - Medicine |
| 7 | Critical thinking | 7М10104 - Medicine |
| 8 | Introduction to R programming | 7М10104 - Medicine |
| 9 | Cell technologies in clinical diagnostics | 7М10104 - Medicine |

**Faculty of Philology and World Languages**

Departments of Foreign Philology and Translation Studies

|  |  |
| --- | --- |
| Course & Discipline | semester |
| 2 course | 1 semester |
| Phonetics in Use (English, German, French, Spanish) |  |
| Grammar in Use (English, German, French, Spanish) |  |
| Language in Use (B2) (English, German, French, Spanish) |  |
| Second foreign language (A1, A2) (German, French, English, Spanish, Chinese, Korean) |  |
| Literary propaedeutics |  |
| Basic foreign language in the context of intercultural communication (B2) |  |
| Typology of Ancient Languages ​​and Cultures (Latin) |  |
|  | 2 semester |
| Language in Use (C1) (English, German, French, Spanish) |  |
| Second foreign language (B1) (German, French, English, Spanish, Chinese, Korean) |  |
| Literature of the target language country |  |
| Stylistics and interpretation of the text |  |
| Basic foreign language in the context of intercultural communication (C1) |  |
| Pre-translation analysis and editing of translated texts |  |
| Linguistic propaedeutics and translation |  |

|  |  |
| --- | --- |
| 3 course | 1 semester |
| Translation practice |  |
| General professional foreign language (level C1) |  |
| Practical course of the second foreign language |  |
| Literature of the target language country and translation problems |  |
| Lexicology of the target language |  |
| Translation in the field of business communication |  |
| Translation of scientific and technical texts |  |
| Philology and smart technologies |  |
| Business correspondence |  |
| Basic foreign language |  |
| World literature |  |
| Analysis and evaluation of the original and translation |  |
| Foundations of the target language theory |  |
| Methodology of foreign language education |  |
| Foreign language (western continuing) |  |
| Classical and modern literature |  |
| Lexicology of the target language |  |
| History of the language |  |
| Stylistics |  |
|  | 2 semester |
| Scientific Writing |  |
| Modern methods of teaching foreign languages |  |
| History of the target language country |  |
| Basics of simultaneous translation |  |
| Analysis and technique of pre-translation recording |  |
| Theory and practice of simultaneous interpretation |  |
| Two-way translation |  |
| Practical course of the second foreign language (level 3) |  |
| Text stylistics and translation |  |
| Foreign language (western advanced) |  |
| Practice of speaking and writing (foreign, western language) |  |
| Specialized professional foreign language |  |
| Standardized Tests (TOEFL) (ITP, IBT), (DELF) (DAF) |  |
| Literary analysis and interpretation |  |
| 4 course | 1 semester |
| Specialized professional foreign language |  |
| Innovative methods of information processing in philology |  |
| Practical Listening (FCE) |  |
| Theory and practice of intercultural communication |  |
| World literature |  |
| Interpreting practice |  |
| Translation in the field of media and legal texts |  |
| Simultaneous translation of media texts |  |
| Innovative methods of information processing in philology |  |
| Foreign language for academic purposes |  |
| Terminological Corpus of Modern English |  |
| Standardized tests (IELTS) |  |
| Standardized Tests (TOEFL) (ITP), (DELF) (DAF) |  |
| Second foreign language for professional purposes |  |
| Method of writing a scientific work |  |
| Workshop on speech communication (2nd foreign language) |  |
| Fundamentals of Scientific Research |  |
| New concepts in teaching literature |  |
| Modern methods of teaching literature |  |
| Masters | 1 semester |
| Foreign language (professional) |  |
| Second language acquisition theory |  |
| Modern methodology of inophilological teachings |  |
| Literary Analysis and Interpretation of Fiction Text (British Literature) |  |
| Contemporary theories and trends in American literary studies |  |
| Methodological and technical requirements for scientific work |  |
| Linguodidactic Aspects of Translation Studies |  |
| Translation recording technique for interpreting |  |
| Consecutive and simultaneous interpretation basics |  |
| Practice of two-way translation |  |
| Intercultural aspects of interpretation |  |
|  | 2 semester |
| National variants of modern English |  |
| Speech impact and intercultural communication |  |
| Organization and planning of scientific research |  |
| Theory and practice of simultaneous interpretation |  |
| Organization and planning of scientific research on interpretation techniques |  |
| Translation of phraseological units and idioms |  |
| Translation of precision vocabulary and paremiological units |  |
| 2 course |  |
| Literary translation and literary comparative studies |  |
| Linguocultural specificity of translation |  |
| Media linguistics |  |
| Basics of public speaking |  |
| English in Global Business |  |
| Cultural linguistics in the study of English |  |
| Second foreign language |  |
| Translation of public speeches and international conferences |  |
| Interpretation of international negotiations and interviews |  |
| Simultaneous interpretation in the oil and gas industry |  |
| Simultaneous translation in the field of economics and law |  |
| Film discourse and its translation |  |
| PhD |  |
| Academic writing |  |
| Research methods |  |
| Scientific paradigms in inophilological research |  |
| Comparativism in literary criticism |  |
| Current trends in linguodidactics |  |
| Macrosociolinguistic research in modern linguistics |  |

**Faculty of History, Archeology and Ethnology**

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| **Discipline** | **Study program** |
| **Bachelor** | |
| Modern history of Kazakhstan |  |
| East and West in World History, | 5B020300- History |
| History of World Civilization, | 5B020300-History |
| Business etiquette | 5B051500, Archival science, records management and documentation support |
| Diplomatic documentation, | 5B051500, Archival science, records management and documentation support |
| Library Administration, | 5B091000, Librarianship |
| Librarian Ethics, | 5B091000, Librarianship |
| Business Records in Librarianship, | 5B091000, Librarianship |
| Book communications in the library and information sphere | 5B091000, Librarianship |
| European Research in Library Science | 5B091000, Librarianship |
| **Masters** | |
| Organization and Planning of Scientific Research, | 7М02210-History |
| New Technologies of Teaching History, | 7М0601-History and geography |
| Innovative Methods of Teaching of Geography | 7М0601-History and geography |
| **PhD** |  |
| Academic Writing, | 8D03205 Library Information Systems; 8D03204 Archiving, records management and documentation support |
| Research Methods, | 8D03205 Library Information Systems |
| Methods of scientific research, | 8D03204 Archival science, records management and documentation support |
| Case study as a historical method, | 8D02206 History |

**Faculty of Geography and Environmental Sciences**

Department of Cartography and Geoinformatics

|  |  |
| --- | --- |
|  | Digital technologies of environmental monitoring according to remote sensing data |
|  | Automation of information systems of land cadastre of Kazakhstan |
|  | Spatial databases and data management |
|  | Current problems of the water-air system |
|  | Mapping of natural and man-made geosystems and the creation of GIS |
|  | Geographical information system for research and analysis |
|  | Spatial statistical analysis |
|  | Big Data |
|  | Visualization and analysis of GIS data |
|  | GIS in the management of urban areas |
|  | Satellite methods of study of the gravitational field of Earth |
|  | Geospatial Technologies Data and Systems |
|  | Methods of scientific research |
|  | Monitoring of territorial infrastructure by the methods of the remote sensing |
|  | Geospatial 3D visualization in emergency situations response |

Department of Recreational Geography and Tourism

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| --- |
| 1. Basics of Tourist and Local-Lore Activities |
| 1. History of Hospitality |
| 1. Fundamentals of Tourismology |
| 1. Transport Service in Tourism |
| 1. Tourist and recreational mapping in tourism |
| 1. Hotel Industry |
| 1. Kazakhstan's Tourism Geography |
| 1. Service Activities in the Hospitality Industry |
| 1. Tourism Management |
| 1. Pricing in Tourism |
| 1. Pricing and Taxation in Tourism |
| 1. Museology |
| 1. Human Resource Management in Tourism Enterprises |
| 1. Tourism Marketing |
| 1. Standardization and certification in tourism |
| 1. Insurance in Tourism |
| 1. Thematic Parks of the World |
| 1. Adventure Tourism |
| 1. Information technologies in providing hotel activities |
| 1. Catering Industry in Tourism |
| 1. Excursion Studies 2. Global Distribution Systems in Tourism 3. Mountain Tourism 4. Tourism Statistics 5. Ensuring Safety in Tourism 6. State Regulation and Tourism Policy 7. Geography of International Tourism 8. Information Technologies in Tourism 9. Geographic Information Systems in Tourism 10. Design and development of tourist and recreational zones 11. Tourism Branding 12. Recreational Tourism 13. Standardization and certification in tourism |

Department of UNESCO and Sustainable Development

1. Quality management and protection of surface and ground water
2. Environmental management
3. Organization and planning of scientific research
4. Organization and planning of scientific research in meteorology
5. Regulation and Reduction of Environmental Pollution
6. Planning and management of research innovation activities
7. Economic Basics of nature use
8. Ecological and Economic Basics of Nature Management
9. Available potential of alternative energy sources
10. Scientific writing
11. Ecology and human life safety

**Faculty of Chemistry and Chemical Technology**

Chemical Engineering (7M071)

**Core disciplines (CD)**

Module on history and philosophy of science

1. History and philosophy of science
2. Foreign Language (professional)

Psychology and Pedagogy Module

1. Pedagogy of higher education
2. Psychology

**Elective Component (EC)**

Advanced process control module

1. Advanced process control
2. Applied Data Analysis
3. Advanced physical chemistry

Module of modern methods of process control

1. Applied process control for chemical engineering
2. Introduction to Data Science
3. Technical thermodynamics and heat engineering of chemical- technological production

**Major Disciplines (MD)**

Module of scientific research in the field of chemical engineering process design

1. Macrokinetics of chemical processes and reactor design
2. Organization and planning of scientific research

Petrochemical Engineering module

1. Conversion processing in the petroleum and petrochemical industry
2. Petroleum Processing and Gas Technologies
3. Environmental Catalysis
4. Unconventional Oil and Gas Resources
5. Transport of Oil and Gas
6. Additives for fuels and lubricants

Module of biochemical engineering

1. Strategy of organic synthesis of biologically active substances
2. Technologies for obtaining new plant growth regulators
3. Modern flavoring technology
4. Innovative technology phytopreparations
5. Production of biopolymers and their synthetic analogues
6. Polymers for biotechnological engineering

Module of electrochemical technologies

1. Modeling in electrochemistry
2. Electrochemical sensors
3. Design of materials and electrodes of chemical current sources
4. Electrochemical materials science
5. Electrochemical metallurgy
6. Electroplating technologies

Materials Science module

1. Nanochemistry
2. Supramolecular chemistry
3. Bioinorganic chemistry
4. Coordination chemistry. Modern aspects
5. Special practicum "Modern devices for the diagnosis of materials"
6. Physical and chemical bases of materials science

Food chemistry module

1. Basics of food chemistry
2. Food safety and quality
3. Stabilization of food systems
4. Ensymology
5. Principles of food analysis
6. Food toxins
7. Environmental engineering module
8. Membrane technology
9. Modeling of environmental systems
10. Environmental risk management
11. Environmental regulation
12. Physico-chemical basis of water treatment
13. Soil remediation technologies

Module of technology of processing natural and technogenic raw materials

1. Metallurgical processing of hard reach raw materials
2. Physical and chemical bases of processing non-ferrous metallurgy waste
3. Technology of silicate building materials
4. Pyrometallurgical Processes
5. Technology of uranium ore processing
6. Intensification of Hydrometallurgical Processes

**FACULTY OF MECHANICAL MATHEMATICS**

**Department of Mathermatics**

1. Mathematics in economics
2. Mathematics-2 (Mathematical analysis)
3. Discrete mathematics and mathematical logic
4. Discrete mathematics
5. The theory of languages and machines
6. Mathematical Foundations of Cryptography
7. Valid analysis
8. Pedagogy of Mathematics
9. Differential Equations
10. Math
11. Vector analysis
12. Functional analysis
13. Comprehensive analysis
14. General topology
15. Scientific Writing
16. Partial Differential Equations
17. Integral equations
18. Calculus of variations and optimization methods
19. Optimization methods
20. Pedagogy of Mathematics
21. Loaded equations theory
22. Filtration theory
23. Applied lattice theory
24. Computable ordinals
25. Complete theories
26. Math modeling
27. Boundary value problems for systems of differential equations
28. Linear and integro-differential equations
29. Boundary value problems with initial jumps for differential equations
30. Boundary value problems for systems in partial derivatives
31. Selected chapters of mathematical logic
32. Introduction to model theory
33. Differential equations with a small parameter
34. Theory of languages and automata
35. Calculus of variations and optimization methods
36. Boundary value problems of differential equations
37. Mathematical Foundations of Cryptography
38. Functional analysis
39. Methods of teaching mathematics in high school of all
40. Stochastic Analysis and Equations
41. General algebra
42. Computable functions
43. Effective computability
44. Mathematical analysis on metric spaces
45. Finite field theory

**Department of Mechanics**

Bachelor program

1. Electrical circuits 1
2. Mechanical design
3. Deformable Solid Mechanics
4. Fluid and Gas Mechanics
5. CAD \ CAM
6. Dynamical systems
7. Experimental methods in mechanics
8. Fundamentals of Composite Mechanics
9. Plasticity theory
10. Application packages for solving mechanical problems
11. Scientific data processing
12. Data mining
13. Information technology in the mechanics of machines and robots
14. Robotic Systems Control Basics
15. Theory of mechanisms with higher pairs
16. Computer-aided design system
17. Basics of the synthesis of lever mechanisms
18. Optimal design of mechanical systems
19. Writing scientific papers
20. Fundamentals of Composite Mechanics
21. Plasticity theory
22. Packages of applied programs for problems of theoretical and applied mechanics
23. Electric circuits2
24. Electric circuits2
25. An introduction to renewable energy
26. Computational Mechanics
27. Robotic systems control
28. Digital design
29. Mechanical design
30. Ballistics
31. Control theory
32. Programmable logic devices
33. Satellite communication systems
34. Orbital mechanics
35. CAD \ CAM
36. Material mechanics
37. Basics of inertial and satellite navigation
38. Spacecraft dynamics and motion control
39. Theory of vibrations and vibrations
40. Application packages for solving engineering problems
41. Data mining
42. Structural strength of space systems
43. Spacecraft design packages
44. Spacecraft Control Basics
45. Applied problems of motion of an artificial Earth satellite
46. Simulation of complex systems
47. Theoretical mechanics

Master’s program

1. Applied problems of mechanics and power engineering
2. Mathematical foundations for solving engineering problems
3. Fluid dynamics
4. French
5. Thermodynamics of energy systems
6. Numerical methods
7. Numerical analysis
8. Compressible fluid research methods
9. Similarity and Dimension Methods in Mechanics
10. Nanotechnology
11. Modeling reacting flows
12. Computational methods for turbulent flows

PhD program

1. Academic writing
2. Research methods
3. Numerical methods in hydrodynamics
4. Nanomechanics
5. Methods for calculating turbulent flows

**Department of Computational Science and Statistics**

1. Theory of Probability and Mathematical Statistics
2. Math statistics
3. Life insurance theory
4. Economic and mathematical models
5. Fundamentals of Cryptography and Information Security
6. SAS statistics
7. Fundamentals of data protection and cryptography

**Department of Mathematical and computer modeling**

Bachelor program

1. Mathematical and computer modeling of physical processes,

2. High performance computing,

3. Software development,

4. Basics of relational database design,

5. Introduction to mathematical methods in economics,

6. Mathematical modeling in biomedicine,

7. Technologies of the oil and gas industry,

8. Mathematical modeling in chemistry,

9. Parallel programming based on MPI and Open MP

Master’s program

1. Mathematical and computer modeling of meteorological problems

2. Modern methods of computational fluid dynamics

3. Mathematical modeling in computer graphics

FACULTY OF BIOLOGY AND BIOTECHNOLOGY

**Department of Molecular Biology and Genetics**

Bachelor program

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| **Autumn semester** |
| 1. Genetics |
| 1. Basics of biometrics |
| 1. General genetics |
| 1. Molecular biology |
| 1. Applied statistics in biological sciences |
| 1. Evolution theory |
| 1. Basics of biometrics |
| 1. Genetics and Molecular Biology |
| 1. Fundamentals of Gene and Molecular Diagnostics |
| 1. General genetics and breeding basics |
| 1. Molecular biology |
| 1. Biotechnology Basics |
| 1. Evolution theory |
| 1. Molecular biology |
| 1. Evolution theory |
| 1. Molecular diagnostics |
| 1. Molecular biology |
| **Spring semester** |
| 1. Molecular biology |
| 1. Evolution theory |
| 1. Biotechnology objects |
| 1. Fundamentals of Animal Biotechnology |
| 1. General and molecular genetics |
| 1. Biotechnology Basics |
| 1. Genetics |
| 1. Scientific writing |
| 1. Genetic Engineering |
| 1. General genetics and breeding basics |
| 1. Biometrics |

Master’s program

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| **Autumn semester** |
| 1. Organization and planning of scientific research |
| 1. Epigenetics |
| 1. Genotoxicology |
| 1. Systemic genetic research methodology |
| 1. Population genetics |
| **Spring semester** |
| 1. Carcinogenesis |
| 1. Genetic monitoring software |
| 1. Genetic databases |
| 1. Programming in Biostatistics |

PhD program

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| **Autumn semester** |
| 1. Academic writing |
| 1. Research methods |
| 1. Hormonal signalomics |
| 1. Molecular mechanisms of heredity and variability |
| 1. Genetic mechanisms of evolution |
| 1. Modern problems of plant genetics |
| 1. Problems of modern biology |

**Department of Biophysics, Biomedicine and Neuroscience**

Bachelor program

|  |
| --- |
| 1. Fundamentals of Human and Animal Physiology |
| 1. Age physiology and school hygiene |
| 1. Endocrinology |
| 1. Immunology |
| 1. Physiology of plants and animals |
| 1. Dynamics and kinetics of drugs |
| 1. Human and animal physiology |
| 1. Biological experiment at school |
| 1. Scientific Writing |
| 1. Gerontology |
| 1. CNS and behavior |
| 1. Age endocrinology |
| 1. Applied biophysics |
| 1. Biophysics and Engineering |
| 1. Chronophysiology of schoolchildren |
| 1. Biophysics |
| 1. Fundamentals of Radiation Biology |
| 1. Biology teaching methodology |
| 1. Biology teaching methodology |
| 1. Organization of laboratory work in biology lessons |
| 1. Biology teaching methodology |
| 1. Organization of extracurricular activities in biology |
| 1. Modern technologies for teaching biology |
| 1. Immunology |
| 1. New standards and curriculum in high school |
| 1. Chronobiology |
| 1. Fundamentals of Radiation Biology |
| 1. Organization of independent work of students in biology |
| 1. CNS and behavior |
| 1. Modern technologies for teaching biology |

Master’s program

1. Selected chapters of chronobiology
2. Theoretical biology
3. Selected Chapters of Biology
4. Interdisciplinary aspects of teaching biology
5. Digital Content in Biological Education

PhD program

1. Методы научных исследований
2. Академическое письмо
3. Физиология обмена веществ и энергии

**Department of Biotechnology**

**Autumn semester**

1. Microbiology and Virology
2. Bioorganic chemistry
3. Microbiology
4. Low molecular weight biological substances
5. Fundamentals of Biotechnology of Microorganisms
6. Environmental biotechnology
7. Biochemistry and physiology of plants
8. Scintific writing
9. Enzymology
10. Medical biotechnology
11. Medical microbiology
12. Agricultural biotechnology
13. Industrial biotechnology
14. Introduction to Biochemical Engineering
15. Computational Methods in Biochemical Engineering
16. Cell biotechnology
17. Pharmaceutical biotechnology
18. Microbial antibiotics
19. Biochemistry of medicines
20. Microbiological control of biotechnological industries
21. Molecular technologies
22. Microbiology
23. Post-genomic biotechnology
24. Genetics and genomics of microorganisms
25. Serial and mass production of food
26. Nanotechnology in the dairy industry
27. Physiology of microbial resistance
28. Bioinformatics in biomedicine
29. proteomics
30. Biotechnology products for agriculture, medicine and the environment
31. Physiology and biotechnology of phototrophic microorganisms
32. Academic writing
33. MNI 7202 Scientific Research Methods
34. Development and production of biotechnological products
35. Molecular biotechnology methods

**Spring semester**

1. Biochemistry
2. Fundamentals of the physiology of microorganisms
3. Fundamentals of Plant Physiology
4. Biochemistry
5. Physiology of plants and animals
6. Biotechnology objects
7. Enzymology
8. Plant Biotechnology Fundamentals
9. Industrial biotechnology
10. Food biotechnology
11. Scientific Writing
12. Processes and devices in biotechnology
13. Ecological biology
14. Modern biotechnology
15. Biomedical optical microscopy and biosensors
16. Molecular and Cellular Bioengineering
17. Modern methods in biotechnology
18. Genome regulation
19. Intracellular signaling

**Department of Biodiversity and Bioresources**

Bachelor program

1. Botany
2. Biodiversity of Plants and Animals
3. Human and Animals Anatomy
4. Bioresources Kazakhstan
5. Comparative Histology
6. Special Histology
7. Differentiation of Cells
8. Scientific writing
9. Cellular Pathology
10. Tissue Pathology
11. Mechanisms of Reparative Processes
12. Cell and Tissue Biology
13. Histology
14. Zoology
15. Biodiversity (cell biology)
16. Animal biodiversity
17. Biology of Plant Developmen
18. Plant Physiology
19. Phytodesign
20. Plant Introduction
21. Medicinal Plants
22. Developmental Biology
23. Cellular Mechanisms of Morphogenesis
24. Fundamentals of Microscopic Technology
25. Anatomy and Morphology of Plants
26. Cytology and Hystology
27. Systematics of Рlants
28. Embryology

Master’s program

1. Remote Sensing
2. Landscape Designing
3. Mapping
4. Protection of Rare and Endangered Spesies of Plants
5. Cell Biology
6. Environment and Preservation of Biodiversity
7. Stem Cells
8. Modern Problems of Tissue Biology
9. Embryology of Human and Animal
10. Applied Aspects of Developmental Biology
11. Botanical Geography
12. Carcinogenesis

PhD program

1. Vegetation in Kazakhstan and Its Protection
2. Reaction of plants under stress
3. Monitoring of Populations of Game Animals in Kazakhstan
4. Comparative ecomorphology of vertebrates
5. Modern problems of biodiversity conservation and sustainable economic development of societies
6. Assessment of the state of vegetation in conditions of modern nature management
7. Current problems of Geobotany
8. Biogeocenology
9. Population biology
10. Ecology of individuals, populations and communities
11. Current problems of Geobotany
12. Protection of Rare and Endangered Spesies of Plants
13. The Regional Flora

**INTERNATIONAL RELATIONS DEPARTAMENT**

1. Modern history and diplomacy in Europe and America
2. History and Diplomacy Eastern Countries
3. The history of International relations in modern age
4. Diplomatic and Consular Service
5. The technique of diplomatic negotiation
6. Contemporary System of International relations
7. The Foreign Policy of the Republic of Kazakhstan
8. Multilateral diplomacy
9. The history of USA
10. The Political system of USA
11. Informational – analytical work in International Relations
12. Culture. Science and education of USA
13. International Relations and Foreign Policy of USA
14. The history of international relations in recent times
15. The Diplomatic documentation and diplomatic protocol
16. The Diplomatic documentation
17. Diplomacy of the Republic of Kazakhstan
18. Diplomatic Service of USA
19. International relations and Foreign policy of USA
20. Scientific writing
21. Newest history of International relations
22. Regional security issues and the resolution of regional conflicts
23. Kazakhstan in the system of regional relations
24. History of USA and Canada
25. The Political System of USA and Canada
26. Contemporary issues of International Relations
27. Modern problems of the regions in the system of international relations
28. Negotiations conducting skills
29. International relations and Foreign policy of the USA and Canada
30. Economy of the USA and Canada
31. International economic organizations (in English)
32. International monetary and Financial relations
33. World Economy
34. International Banking Operations
35. World securities market
36. Management of Foreign economic activities
37. International transport operations
38. Customs tariff regulation of foreign economic activities
39. International logistic
40. Bases of Diplomatic service
41. Practice of conducting the international commercial negotiations (in English)
42. World economy and international economic relations
43. Financial systems of the countries of the world
44. International Business
45. Development Economics
46. International trade organizations (in English)
47. Financing and crediting of international investments
48. Analysis of financial statements
49. Theory of International Relations
50. Game theory in International Relations
51. Organization and planning of scientific research (in English)
52. Conceptual and practical bases of the Eurasian integration: Nazarbayev's doctrine
53. Sustainable development of the contemporary IR
54. Interaction of cultures in the global world
55. Global security and modern international conflicts
56. The Process of Globalization and International Relations
57. Megatrends and global problems of world politics
58. Transformation of global structure of IR
59. International situations’ forecasting
60. Modern Tendencies in Translation Studies
61. Modern Methodology of Theory and Practice of Translation
62. Intercultural Communication and Problems of Translation
63. Simultaneous translation
64. Note Taking in Interpreting
65. Simultaneous Translation of Monoloque and Dialogical Speech
66. Theoretical problems of international economic law
67. Philosophy of International Law
68. Criminal law RK (Special part)
69. Integration Law
70. Actual problems of diplomatic and consular law
71. Theoretical problems of modern international public law
72. International Penitentiary Law
73. Labor law of the Republic of Kazakhstan and foreign countries
74. Legal framework for combating corruption
75. International Public law
76. Legal framework for combating corruption
77. International civil process
78. Criminal law of the Republic of Kazakhstan
79. Actual Problems of International Trade Law
80. International Customs Law
81. Actual Problems of International Economic Law
82. International Law and Islam
83. Civil Law of the RK (General part)
84. Practical civil processes
85. History of State and Law of foreign countries

JOURNALISM DEPARTMENT

**Department of Printing and Electronic Media**

Bachelor program

1. Foreign Language (Professional)
2. Мanagement psychology
3. Organization and planning of scientific research
4. Popular Science Journalism
5. Methodology and Methods of Media Research
6. Digital Media Technology Journalism
7. History and Philosophy of Science
8. Pedagogy of higher education
9. Modern Concept of Mass Media
10. Modern Media Text
11. Convergence Journalism
12. Computational linguistics and text analysis
13. Data-reporting and data transformation
14. Data literacy and storytelling
15. Data Analytics in media management and business
16. Media design and Big data
17. Theoretical and practic bases of scientific journalism
18. Development Strategies for Traditional Forms of Mass Media
19. The scientific analysis of online communication
20. Mass media and the state: information dialogue
21. Specifics of Innovation and Technology Journalism
22. Sociology
23. Culturology
24. Psychology
25. Foreign Language
26. Kazakh (Russian) Language
27. Introduction in Journalism
28. Political Science
29. History of Kazakh Journalism
30. Al-Farabi and modernity
31. Modern history of Kazakhstan
32. Foreign Language
33. Kazakh (Russian) Language
34. Physical Training
35. History of Kazakh Journalism
36. Philosophy
37. History of Foreign Journalism
38. Media Literacy
39. Broadcast Journalism
40. Media Rhetoric
41. Multimedia jounalism
42. Information and Communication Technologies
43. Photojournalism
44. Basic Journalistic Tools
45. Academic Letter
46. Rewriting and Professional Editing
47. Creative Workshop of the Publicist
48. Technology of preparation of television broadcasts
49. Video editing
50. Management and Marketing in Mass Media
51. Multimedia jounalism
52. Online broadcasting
53. News Radio
54. Ethics of a journalist
55. Mediaethics
56. Foreign propaganda and information war
57. Technology of media events for journalists
58. Legislative Basis of Journalism
59. Analytical Journalism
60. Cinematography
61. Audio, video, computer - tape editing
62. Excellence of TV-radio host
63. Workshop on script writing
64. Producer at television and radio
65. Stereotypes in international reports
66. Journalism and diplomacy
67. World information services
68. Scientific Writing
69. Photojournalism
70. Mathematical methods of information (data) processing
71. Scientific Writing
72. The turkic world: information integration
73. Print and Digital Media Audience
74. Design of print media
75. Technology of preparation of printed materials
76. Conflictology and Journalism
77. Military Journalism
78. Sports Journalism
79. Writing and Presentation of Diploma Work (Project)
80. The preparation and submission of comprehensive examination
81. Training
82. Professional (pre-diploma) practice
83. Advertising and creativity
84. Theory and Practice of PR
85. Writing informational PR-materials
86. Multimedia and IT-support in PR
87. Management and marketing of modern communications
88. Theory and Practice of PR (course-paper)
89. Inner PR
90. Network PR and SMM
91. Assessment and measurement of public opinion
92. The Organization of PR-projects
93. Crisis PR
94. Big data in PR
95. Creating a business plan for the project
96. Imagelogy
97. Preparation of PR-activities With the Participation of Journalists
98. Media Relations
99. The System of Political Communication
100. Financial mechanisms in the structure of PR
101. Practice of Communication With Population
102. Social Media Marketing
103. Situation analysis in PR
104. The Experience of the Kazakh PR-agencies
105. Modern press service
106. Modern mens of mass communication and PR
107. Аdvertising
108. Spin-doctoring
109. Consulting in PR
110. Planning and Budgeting
111. Economy Advertising Business

Master’s program

1. Applied modeling of communication processes in the context of globalization
2. Digital PR Doctrines
3. Way of state developing in Kazakhstan: research and media content
4. Scientific bases PR
5. Strategy of еffective PR
6. The integrated PR-Decisions
7. Media Policy and Media Economics
8. World experience in investigative journalism: tools and legal framework
9. Theory and practice of communicational cyber defense
10. Transformation of the media space in terms of a clash of civilizations
11. The Basic Trends in Kazakhstan PR
12. Diagnostics of attention and coverage algorithms in social networks
13. Networking: Kazakhstan's opinion leaders and active audiences
14. Business-communications

**Department of Publishing, Editing and Design Art**

1. Management psychology
2. Foreign Language (Professional)
3. Organization and planning of scientific research
4. [Э] Font and visual communication in design
5. [Э] Advertising visual communication in mass media
6. [Э] Intellectual property and legal aspects in design
7. [Э] Design of advertising and visual communications
8. [Э] Design text in the space of visual communication
9. [Э] Modern design problems
10. [C] Research Seminar I
11. [C] Dissertation writing
12. History and Philosophy of Science
13. Pedagogy of higher education
14. Design theory
15. History and methodology of design
16. Scientific and conceptual approach in design
17. [П] Teaching Internship
18. [С] Research seminar II
19. [С] Dissertation writing
20. International design business management
21. [Э] Information and computer design technologies
22. [Э] Teaching methods of graphic design
23. [Э] Psychology of design
24. [Э] Innovative technologies of image design
25. [Э] Book design as an object of creative design
26. [Э] Business and professional design communication
27. [П] Research practice
28. [С] Dissertation writing
29. Master's dissertation preparation and defense
30. [С] Scientific Internship
31. [С] Research seminar III
32. [С] Dissertation writing
33. [С] Publication in the Proceedings of International Conferences

Publishing

1. Sociology
2. Culturology
3. Political Science
4. Psychology
5. Foreign Language
6. Kazakh (Russian) Language
7. History of domestic and foreign publishing
8. [Э] Legal bases of corruption control
9. [Э] Ecology and Human Life Safety
10. [Э] Entrepreneurship
11. [Э] Al-Farabi and modernity
12. Modern history of Kazakhstan
13. Foreign Language
14. Kazakh (Russian) Language
15. Physical Training
16. Common bibliology
17. Training Practice
18. Philosophy
19. Modern publishing and the literary process
20. Editing. General course
21. Standards in the book business
22. Stylistics and editing
23. Technology of editorial and publishing process
24. Information and Communication Technologies
25. Methods of text proofreading
26. Editorial preparation of Publication
27. Psychology and sociology of reading
28. Culture and Ethics in the book business
29. [П]Professional (industrial) Practice
30. Modern printing technology
31. Evolution of the language and style of the Kazakh books
32. Management and marketing of books
33. [Э] Theory and practice of book illustrating
34. [Э] Literary agencies and agents
35. [Э] Economics and Organization of publishing
36. [Э] Methods and tools for developing electronic publications
37. [Э] Computer graphics in publishing
38. [Э] The specifics of children's book publishing
39. Artistic and technical design of printed materials
40. Legal basis of book industry
41. [Э] Master class of the publisher-editor
42. [Э] The processes of design publishing and printing products
43. [Э] Technology of editing and printing of literature
44. [Э] Composition of publications
45. Technology of prepress processes
46. Innovative technologies in publishing
47. Training
48. Art criticism and review of works
49. Theory and methods of logistics in book business
50. Textual
51. Publication of translated literature
52. [Э] Editorial preparation of periodicals
53. [Э] Editorial preparation of textbooks
54. [Э] Editing electronic publications
55. [Э] Scientific and cognitive Kazakh journalism
56. [Э] Special types of printing
57. [Э] Editorial preparation of scientific publications
58. [Э] Writing and Presentation of Diploma Work (Project)
59. The preparation and submission of comprehensive examination
60. Training
61. [П] Professional (pre-diploma) practice

FACULTY OF PHYSICS AND TECHNOLOGY

**Department of Theoretical and Nuclear Physics**

1. Power stations and substations
2. Industrial practice
3. Operation of electrical equipment of power plants and substations
4. Reliability of electric power systems
5. Energy saving and quality of electrical energy
6. Power supply for industrial enterprises
7. Theoretical Foundations of Electrical Engineering II
8. Electrical apparatus
9. Industrial electronics
10. Electric machines
11. Academic writing
12. Research methods
13. Organization and planning of scientific research

**Department of Thermal Physics and Technical Physics**

1. Heat and mass transfer processes in combustion chambers
2. Physics -1
3. Thermal processes and calculation of aerodynamic characteristics of coal-fired power plants
4. Processes of heat and mass transfer in combustion chambers
5. Metrology, standardization and certification
6. Academic writing
7. Research methods
8. Organization and planning of scientific research
9. Thermal processes and calculation of the aerodynamic characteristics of coal-fired power plants
10. Convective heat and mass transfer in droplet liquids
11. Modeling of physicochemical processes occurring during the combustion of pulverized coal

FACULTY OF LAW

1. Modern history of Kazakhstan
2. Foreign language
3. Kazakh (Russian) language
4. Constitutional law
5. Educational practice
6. Physical education
7. Civil procedural law of the Republic of Kazakhstan
8. Criminal Procedure Law of the Republic of Kazakhstan
9. Component of choice2-Family and subsoil law
10. Family law
11. Subsoil use right
12. Professional practice module
13. Production
14. Optional Component 1-English Law and Criminology
15. Criminology
16. English law

FACULTY OF PHILOSOPHY AND POLITICAL SCIENCE

**7M031-Personality and organizational psychology**

* 1. Management psychology
  2. Organization and planning of scientific research
  3. History, Condition and Development Tendency of Modern Psychology
  4. Advanced Methods of Statistics in Psychology
  5. Surveying Organizations
  6. Group Dynamics
  7. Personnel Selection
  8. Personality and Organizational Behavior
  9. Leadership and supervision
  10. Workforce Training and Development
  11. Labor motivation and attitudes
  12. Organizational Climate and Culture

**8D03107-Psychology**

* 1. Actual Problems of General Psychology: Comparative Analysis of Foreign and Domestic Theories
  2. Cognitive processes and brain
  3. Research Methods in Neuroscience
  4. Cognition, emotion and psychopathology
  5. Research methods

**5В090500-SOCIAL WORK**

* 1. Conflictology in Social Work
  2. Understanding Kazakhstani Society: Diversity, Identity, Challenges
  3. Gender Issues in Social Work
  4. Family and Social Problems
  5. Social Work in Specialized Institutions
  6. Social Crises and Disasters

**7M10202 - Social work (URFU) / SOCIAL WORK (UFU)**

* 1. Extreme Youth Subcultures
  2. Management Support of Youth Policy

**8D03101 SOCIOLOGY / SOCIOLOGY**

* 1. Urban Studies and Practices
  2. Development and Social Inequality
  3. Design and Analysis of Sociological Research
  4. Social Processes in Modern Central Asia
  5. Household Economic Strategies

**8D11401-SOCIAL WORK**

* 1. Social Welfare Policy Analysis
  2. Bachelor's degree - in other faculties
  3. Sociology
  4. Culturology
  5. Pedagogy / Pedagogy
  6. Political science
  7. Inclusive Education
  8. Management in education
  9. Theory and technique of educational work
  10. Technologies of criterial estimation
  11. Philosophy
  12. Al-Farabi and Modernity
  13. History and Philosophy of Science

**7M01101-Pedagogy and Psychology**

* 1. Pedagogy of higher education
  2. Evaluation and Quality Management of Education
  3. Organization and planning of scientific research

**8D01101-Pedagogy and Psychology**

* 1. Theories and concepts of comparative education: domestic and foreign experience
  2. / Theories and Concepts of Comparative Education: Domestic and International Experience

**6B03102 Cultural studies**

* 1. Philosophy and Theory of Culture
  2. Ethics / Ethics
  3. Scientific Writing
  4. History of the Kazakh Culture
  5. The Culture Renaissance
  6. Aesthetics / Esthetics
  7. Theories of Kazakh Culture
  8. Semiotics
  9. Cultural Heritage and Monuments of World Culture
  10. History of New age Culture

**6B02203-Religious studies / Religious studies**

* 1. Theories of the origin of religion

**5В021500-Islamic studies**

* 1. Logic and Religious Rhetoric

**5B020600- Religious studies**

* 1. Ethnoconfessional Conflictology

**7M02203-Religious Studies, 7M02204-Religious Identity in Conflictology, 7M02205-Islamtanu, 7M03106-Culturology**

* 1. Organization and planning of scientific research

**8D02203-Religious Studies, 8D02204-Islamtanu, 8D03102-Culturology**

* 1. Methods of scientific research

**6В03106-Political Science**

* 1. Political-diplomatic activity of Kazakhstan in the world community
  2. Foreign policy and National security of the Republic of Kazakhstan
  3. International relations theory

**7М03110 Political Science**

* 1. USA and European Union in world politics
  2. East in world politics
  3. Integration processes in the modern world
  4. Central Asia in world politics

**8D03104 Political science, 8D03103 Conflictology**

* 1. Political Transitology
  2. Applied modeling of political processes and situations
  3. Research methods
  4. Methodology of modern political research
  5. Academic writing

8D02202 –Philosophy

* 1. Actual Problems To Philosophical Anthropology
  2. The Philosophy and Methodology of Scientific Research
  3. The Modern Philosophy of Conscience
  4. Urban society: cultural and philosophical analysis
  5. Philosophy of Pragmatism

FACULTY OF INFORMATION TECHNOLOGY

**6B07108 - Internet of Things and Big Data**

1. Information and Communication Technologies
2. Algebra and geometry
3. Differential Equations
4. Data structures
5. Fundamentals of Electronics and Electrical Engineering
6. Smart technologies and automation
7. (E) Computer networks
8. (E) Microprocessor complexes
9. Philosophy
10. Mathematical Statistics and Probability Theory
11. Algorithms and their complexity
12. Data warehouses
13. Electronics and Metrology
14. ([E]) Technologies for designing embedded microcontroller systems

**5B070200 - Automation and Management**

1. OS
2. Optimization and Numerical Methods
3. Linear automatic control systems
4. Electronics
5. Metrology and measurement
6. Data storage technologies
7. (E) Methods of artificial intelligence in management
8. ([E]) SCADA software
9. ([E]) Home automation tools and techniques
10. ([E]) Programming for Data Mining
11. ([E]) Fundamentals of Machine Learning
12. Functional programming
13. Non-linear automatic control systems
14. Data Mining
15. (E) Fuzzy modeling
16. (E) Neural networks of technological processes
17. (E) Risk management
18. (E) Islamic finance
19. (E) Financial management

**7M07128 - Intelligent control systems**

1. History and philosophy of science
2. Psychology of management\*
3. (E) Mathematical methods for calculating the impact of IoT systems on business performance
4. (E) IoT Firmware
5. Mathematical methods in intelligent control systems
6. Machine-to-machine communication models
7. Semester 2
8. Foreign language (professional)
9. Higher education pedagogy
10. Optimal control of automation objects
11. IoT Design Systems
12. ([E]) Construction and analysis of algorithms

**7M07115 - Machine Learning and Data Analysis**

1. Predictive analysis
2. (E) Engineering Deep learning
3. (E) Image recognition algorithms
4. (E) Applied data mining project

**6B06102 Information Systems**

1. Algorithms, data structures, and programming
2. Programming technologies
3. Business II (Finance and Accounting)
4. Basics of information systems
5. OS
6. Object Oriented Programming
7. Business-I (Management and Marketing)

**6В06301 Information security systems**

1. Information bases of information protection
2. Computer architecture
3. Computer networks and telecommunications
4. OS
5. Database theory
6. Object Oriented Programming

**5В070300 Information Systems (NIS)**

1. Intelligent data analysis
2. Data Science Fundamentals
3. Methods and models of neural networks
4. Network administration and sensor networks
5. Databases in IS
6. Information systems software development
7. Parallel programming
8. Cladding technologies
9. Information security basics
10. Intelligent data analysis
11. Business process management
12. IIS strategy, management and collection
13. Project management of industrial information systems
14. Enterprise architecture and ERP systems
15. Monitoring and control of processes
16. Industrial information systems service standards
17. Implementation and maintenance of industrial information systems

**8D06301 Information security systems**

1. Academic writing
2. Research methods
3. Models and methods for assessing information security
4. Assessments of the strength of cryptographic algorithms
5. Theory, methods and tools of cryptography
6. Machine learning methods for information security

**6В06103-Computer Engineering**

1. Introduction to algorithms and programming

2. Algorithmization and programming

3. Database management systems

4. Programming in algorithmic languages

5. Architecture and organization of computer systems

6. System programming

7. Operating systems

8. Object-oriented programming

9. System programming

10. Software development tools

11. Digital circuitry

12. Object-oriented programming

13. Computer networks

14. Object-oriented analysis and design

15. Data Mining

16. Database management systems

17. Scientific writing

18. Intelligent Simulation

19. Electronic data storage

20. Introduction to Machine Learning

21. UML modeling

22. Digital signal processing

23. Web programming

24. Artificial intelligence system

25. Software architecture

26. Software modeling and analysis

27. Technologies for the development of cryptographic systems

**6В06104 - Computer Science**

1. Imperative programming

2. Algorithms and data structures

3. System programming

4. Database theory

5. Computer networks

6. Programming in Python

7. Parallel programming

8. Object-oriented programming

9. Computer graphics and visualization

10. Data mining

11. Human-computer interaction

12. Scientific work

13. Routing and communication of networks

14. Design and analysis of parallel algorithms

15. Development of database systems

16. OS administration

17. Artificial intelligence systems

18. Programming computer games

19. Development of operating systems

20. Introduction to computing

21. Advanced computer graphics

22. Development of database applications

**7M06104, Computer Science**

1. Development of mobile applications

2. Digital image processing

3. The theory of distributed systems

4. Organization and planning of scientific research

5. Advanced data structures, algorithms and analysis

6. Development of dynamic web applications

7. Software development technology

**7M01506 - Informatics**

1. Organization and planning of scientific research

2. Innovative processes in education

3. Informatization of education and learning problems

4. Programming in high-level language

5. Mobile learning technology

6. Programming in multimedia environments

7. Modern problems of teaching methods of informatics

8. Pedagogical professionalism in updated computer science teaching

9. Theory and practice of teaching the basics of robotics

**8D06103-Computer Science**

1. Academic writing

2. Methods of scientific research

3. Numerical methods for scientific computational problems

4. Advanced algorithms and their complexity

5. High performance programming with multi-core and GPU

6. Computational algorithms for engineering problems in fluid dynamics on high-performance systems

**8D06105, Systems Engineering**

1. Academic writing

2. Methods of scientific research

3. Management of IT infrastructure and services

4. Large-scale high-performance computing systems

5. Object-oriented paradigm

6. Development of applied software