MINISTRY OF EDUCATION AND SCIENCE OF THE KYRGYZ REPUBLIC

I. RAZZAKOV KYRGYZ STATE TECHNICAL UNIVERSITY

REPORT

ON SELF-EVALUATION OF THE EDUCATIONAL PROGRAMME 580500 "BUSINESS INFORMATICS" (BACHELOR'S DEGREE) TO CONDUCT INDEPENDENT ACCREDITATION OF HIGHER PROFESSIONAL EDUCATION PROGRAMME IN PILOT MODE BASED ON THE STANDARDS OF THE EUROPEAN NETWORK FOR ENGINEERING EDUCATION ACCREDITATION (ENAEE - THE EUROPEAN NETWORK FOR ACCREDITATION OF ENGINEERING EDUCATION

COMPOSITION OF THE SELF-EVALUATION COMMITTEE:

Full name	Position	Caption
M. Chynybaev	Rector, Chairman of the Commission	
E. Syrymbekova	Vice-Rector for Academic Affairs, Deputy Chairman of the Commission	
A. Arzybaev	Vice-Rector for Research	
Zh. Sydykov	Vice-Rector for International Relations	
A. Asiev	Vice-Rector for Administrative and Economic Work	
H. Madanbekov	Vice-Rector for Digitalisation	
M. Myrzalieva	Director of the Department of Educational Work	
M. Dzhusupova	Head of the Department of Postgraduate and Doctoral Studies	
K. Dykanaliev	Head of the Training Department	
A. Esenkulova	Director of the Department of Educational Quality	
M. Chimchikova	Chief Specialist of the Department of Education Quality	
N. Tagaeva	Chief Specialist of the Department of Education Quality	
D. Bayalieva	Chief Specialist of the Department of Education Quality	
E. Asanalieva	Chief specialist of the Publishing House	
О. Шапошникова	Chief Specialist of the Training Department	
G. Kabaeva	Director of the Institute of Information Technology	
S. Karabayeva	Chairman of the Institute's CBMK	
K. Duishokov	Head of PLO	

Kyrgyz Republic,,
Bishkek, 66 Ch. Aitmatov prospect
Date : «_____»_____2025

Bishkek – 2025

CONTENTS

LIST OF ABBREVIATIONS

AC – Academic Council
AD&MD – Department of Postgraduate, Doctoral and Master's Studies
AEB – Association of Electronic Libraries
AMI – Applied Mathematics and Informatics
AMI (PMI**)*** – Applied Mathematics and Informatics
*Here and below, transliterations from Cyrillic to Latin are given in brackets.
BEP HPE (OP HEP**) –** basic educational programme of higher professional education
BI – Business Informatics
CTTOP – Centre for Technology Transfer, Education and Entrepreneurship
DB – database
EC – electronic catalogue
ED (UO**)** – Educational Department
EDD – electronic delivery of documents
EL (EB**)** – electronic library
EMC (UMS**)** – and methodical council
EMComiss (UMC**)** – educational-methodical commission
EMCompl (UMC**)** – educational-methodical complex
EMD (UMO**)** – educational-methodical department
EMM (UMM**)** – educational-methodical materials
EP (OP**) –** educational programme
EP (OP**)** – educational programme
EQD (DKO**)** –Education Quality Department
ESTC – European Credit Transfer System
FPI – Frunze Polytechnic Institute
GEC (ONK**)** – General Scientific Competences
GED – General Education Disciplines
GQW (VKR**) –** graduate qualification work
HEI – higher educational institution
HPE (VPO**) –** higher profesional education
HRD (OK**)** – Human Resources Department

HSEB – Higher School of Economics and Business
I. Razzakov KSTU – Kyrgyz State Technical University names after I. Razzakov
IBA – interlibrary loan
IC – instrumental competences
IEF – Faculty of Engineering and Economics
IIT – Information Technology Institute
IP – individual plan
IS – information system
ISO – is an international system of standards
ITC – information technology centre
IWMS (SRM**)** – independent work of a master's student
IWS (SRS**)** – independent work of the student
JSC – Open Joint–Stock Company
KPIs – key performance indicators
KR – Kyrgyz Republic
KSUGMNRD – Kyrgyz State University of Geology, Mining and Natural Resources Development
KSUCTA – Kyrgyz State University of Construction, Transport and Architecture
LLC – limited liability company
MOE&S KR – Ministry of Education and Science of the Kyrgyz Republic
MRS (MPC) – modular rating system
NAS – National Academi of Science
PC – Professional competences
QA – quality management team
QASSE – quality assurance systems of education
QC – Quality Council
RNE (ORT) – Republican National Examination
RW – research work
SAC (GAK**) –** State Attestation Commission
SC – Scientific Council
SES HVE (GOS VPO) – State Educational Standard of Higher Profesional Education
SPGCC – Social, personal and general cultural Competences
SRW – Student's research work
STEM – Science, Technology, Engineering and Mathematics.
STL (NTB**)** – Scientific and Technical Library
SVE – secondary vocational education
SWOT – strengths, weaknesses, favourable opportunities and threats
TME (TCO**)** – technical means of education
TPC (UPC**)** – Training and Practical Centre
TS (PPS**)** – teaching staff
WEP (RUP) – work education plan

INTRODUCTION

Mailing address: 720044, Kyrgyz Republic, Bishkek, 66, Ch. Aitmatov
Ave. Phone: Rectory: +996-312-545125, fax: +996-312-545162.
Website: http://kstu.kg
e-mail: rector@kstu.kg

Data on the establishment of the educational institution:

- The Kyrgyz State Technical University was established in October 1954 as the Frunze Polytechnic Institute (FPI) on the basis of the Technical Faculty of the Kyrgyz State University.
- In 1992, the Kyrgyz Technical University was established on the basis of FPI.
- The Kyrgyz Technical University was named after I. Razzakov by the Resolution of the Government of the Kyrgyz Republic No. 522 dated .12.1995.
- By the Decree of the President of the Kyrgyz Republic on 5 October 2004, the Kyrgyz Technical University named after I. Razzakov was awarded the status of "National".
- On 3 May 2005, by the Decree of the President of the Kyrgyz Republic, the university was renamed into the Kyrgyz State Technical University named after I. Razzakov (KSTU). I. Razzakov Kyrgyz State Technical University (KSTU).
- The Decree of the President of the Kyrgyz Republic "On measures to increase the capacity and competitiveness of educational organisations of higher professional education of the Kyrgyz Republic" from 18.06.2022 № 243 and the Resolution of the Cabinet of Ministers of the Kyrgyz Republic. Ministers "On Some Issues of Reorganisation of Higher Education Institutions of the Kyrgyz Republic" dated 29 July 2022 №414 Kyrgyz State Technical University named after I. Razzakov was reorganised by establishing the status of legal successor and joining the Kyrgyz State University of Construction, Transport and Architecture named after I. Razzakov. I. Razzakov Kyrgyz State Technical University was reorganised by establishing the status of legal successor and joining it with the Kyrgyz State University of Construction, Transport and Architecture named after N. Isanov, Kyrgyz State University of Geology, Mining Engineering named after U. Asanaliev.

Bishkek Technical College was established as Bishkek Machine-Building Technical College by the Decree of the Government of the USSR and Order of the Minister of Armament of the USSR No. 404 of 18.06.51. Orders of the Ministry of Education and Science of the Kyrgyz Republic No. 36\1 of 05.02.96 was renamed into Bishkek Technical College and No. 182\1 of 18.03.09 was renamed into Bishkek Technical College. On the basis of the order of the Ministry of Education and Science of the Kyrgyz Republic from 16.12.2022 № 2770/1 Kyrgyz State Technical University named after I. Razzakov was reorganised. I. Razzakov Kyrgyz State Technical University was reorganised by joining Bishkek Technical College.

Data on the university's organisational and legal form and form of ownership:

I. Razzakov KSTU by its organisational and legal form is a state educational institution of higher professional education, carrying out educational, research, cultural and educational, production and commercial and other activities in the field of higher professional education, postgraduate, additional professional, secondary professional, secondary general education.

Certificate of state re-registration of the legal entity was obtained from the Chui Bishkek Department of Justice No. 54742- 3301-U-e, dated 2 May 2023. The University operates on the basis of the Charter approved 3 March 2023.

Details of the university management responsible for accreditation and their contact details:

Chynybaev Mirlan Koichubekovich Chynybaev, Rector, tel.: 0312-545125, e-mail: rector@kstu.kg;

Esenkulova Aida Zarylbekovna, Director of the Department of Education Quality - responsible person for accreditation, tel: +996 312 54 51 68; +996700 027 049, e-mail:a.esenkulova@kstu.kg / esenkulovaa16@bk.ru

Duishokokov Kairatbek Duyshokovich, responsible for educational programme 580500 Business Informatics, tel.:+996502678345, e-mail: kairatbekd@kstu.kg , proger2002@mail.ru

Commission for self-assessment of educational programmes (see Annex 0.1_Order on the composition of the commission)

Chairman – Chynybaev M.K., Rector,

Deputy Chairperson – E.I. Syrymbekova, Vice-Rector for AR; Members:

Arzybaev A.M. – Vice-Rector for Research Work;

Asiev A.T. – Administrative Work;

Sydykov J.D. – Vice-Rector for Development and Attraction of Investments;

Madanbkov N.J. – Vice–Rector for Digitalisation;

Myrzalieva M.A. – Director of the Educational and Social Activities Department;

Dykanaliev K.M. – Head of the Educational Department;

Esenkulova A.Z. – Director of Education Quality Department;

Dzhusupova M.A. – Head of Postgraduate and Doctoral Studies Department;

Asanalieva E.U. – Chief Specialist of the Publishing House;

Tagayeva N.I. – Chief Specialist of Education Quality Department;

Chimchikova M.K. – Head Specialist of Education Quality Department;

Bayalieva D.A. – Head Specialist of Education Quality Department;

Shaposhnikova O.E. – Chief Specialist of Educational Department;

Kabaeva G.D. – Director of IIT;

Karabayeva S. – Chairman of the Methodological Council of IIT;

Duishokov K.D. – Associate Professor of Applied Mathematics and Informatics Department, Head of Business Informatics Programme.

List of implemented educational programmes of I. Razzakov KSTU:

1. **Bachelor's Degree Directions:**
   - 510200 Applied mathematics and informatics
   - 531200 Computer Linguistics
   - 540300 Organisation of work with youth
   - 550500 Technology education
   - 550800 Profesional training
   - 570400 Design
   - 570700 Costume and textile art
   - 580100 Economy
   - 580200 Management
   - 580300 Commerce
   - 580500 Business Informatics
   - 580600 Logistics
   - 580700 Business management
   - 580800 Personnel management
   - 581000 Marketing
   - 590100 Information security
   - 600300 Hospitality
   - 620100 Geodesy and remote sensing
   - 630100 Applied Geology
   - 630200 Geological exploration technology
   - 630300 Mining
   - 630400 Oil and gas business
   - 640100 Heat power engineering and heat engineering
   - 640200 Electricity and electrical engineering
   - 650100 Materials science and materials technology
   - 650200 Metallurgy
   - 650300 Mechanical engineering
   - 650400 Technological machinery and equipment
   - 650500 Applied mechanics
   - 670100 Land transport and technological machines and complexes

- 670200 Operation of transport and technological machines and complexes
- 670300 Technology of transport processes
- 680200 Biotechnical systems and technologies
- 690200 Radio engineering
- 690300 Infocommunication technologies and communication systems
- 690600 Telematics
- 700200 Control in technical systems
- 700300 Automation of technological processes and productions
- 700400 Quality management
- 700500 Mechatronics and robotics
- 700600 Standardisation, certification and metrology
- 710100 Informatics and computer science
- 710200 Information systems and technologies
- 710300 Applied Informatics
- 710400 Software engineering
- 710500 Internet technology and governance
- 720100 Chemical Technology
- 720200 Biotechnology
- 740100 Technology and production of food products from vegetable raw materials
- 740200 Technology and production of food of animal origin
- 740300 Product technology and catering organisation
- 740600 Technology of printing and packaging production
- 740700 Technology and design of light industry products
- 750100 Architecture
- 750200 Design of architectural environment
- 750300 Restoration and reconstruction of architectural heritage
- 750400 Urban planning
- 750500 Construction
- 760100 Environmental management and water use
- 760300 Technosphere safety

• Individual study plan Health Informatics and Biomedical Engineering
• Individual study plan Development of computer games

- Individual study plan Electrical engineering and information technologies
- Individual study plan Oriental architecture and design
- Individual study plan Urbanistics
- Individual study plan Design of architecture, interior and urban environment
- Individual study plan Architectural design
- Individual study plan Architectural renovation

2. Master's degree training directions:

- 510200 Applied mathematics and informatics
- 520500 Cartography and geoinformatics
- 531200 Computer Linguistics
- 550800 Profesional training
- 570400 Design
- 570700 Costume and textile art
- 580100 Economy
- 580200 Management
- 580500 Business Informatics
- 580600 Logistics
- 581000 Marketing
- 590100 Information security
- 620100 Geodesy and remote sensing
- 630100 Applied Geology
- 630300 Mining
- 630400 Oil and gas business
- 640100 Heat power engineering and heat engineering
- 640200 Electricity and electrical engineering
- 650100 Materials science and materials technology
- 650200 Metallurgy
- 650300 Mechanical engineering
- 650400 Technological machinery and equipment
- 650500 Applied mechanics
- 670100 Land transport and technological machines and complexes
- 670200 Operation of transport and technological machines and complexes

- 670300 Technology of transport processes
- 680200 Biotechnical systems and technologies
- 690200 Radio engineering
- 690300 Infocommunication technologies and communication systems
- 690600 Telematics
- 700200 Control in technical systems
- 700300 Automation of technological processes and productions
- 700400 Quality management
- 700500 Mechatronics and robotics
- 700600 Standardisation, certification and metrology
- 710100 Informatics and computer science
- 710200 Information systems and technologies
- 710300 Applied Informatics
- 710400 Software engineering
- 740100 Technology and production of food products from vegetable raw materials
- 740200 Technology and production of food of animal origin
- 740300 Product technology and catering organisation
- 740600 Technology of printing and packaging production
- 740700 Technology and design of light industry products
- 750100 Architecture
- 750300 Restoration and reconstruction of architectural heritage
- 750400 Urban planning
- 750500 Construction
- 760100 Environmental management and water use
- 760300 Technosphere safety

3. Speciality:

- 520001 Sectoral Economics
- 590001 Information Security
- 620001 Applied Geodesy
- 630001 Applied Geology
- 630002 Technology of geological exploration
- 630003 Mining

- 630004 Physical processes of mining or oil and gas production
- 650001 Metallurgy of non-ferrous metals
- 750002 Construction and operation of bridges and transport tunnels

4. PhD

- 580600 Logistics
- 650300 Mechanical Engineering
- 650500 Theoretical and Applied Mechanics
- 710100 Computer and Information Technologies (4 years)
- 741000 Food Technology
- 640200 Electric power engineering and electrical engineering
- 620100 Geodesy and remote sensing
- 710100 Computer and Information Technologies (3 years)
- 750300 Restoration and reconstruction of architectural heritage
- 580100 Economics

5. Second Vocational Education

070602 Design
080106 Finance
080107 Taxes and taxation
- 080110 Economics and accounting
- 080302 Commerce
- 080403 Commodity science and quality expertise of consumer goods
- 080501 Management
- 100203 Information security of automated systems
- 120101 Applied geodesy
- 130201 Geophysical methods of prospecting and exploration of deposits
- 130303 Hydrogeology and engineering geology
- 130305 Development and operation of oil and gas fields
- 130402 Surveying
- 130403 Open-pit mining operations
- 130404 Underground development of mineral deposits
- 130405 Mineral enrichment
- 130502 Construction and operation of gas and oil pipelines and gas and oil storage facilities

- 140101 Thermal power plants
- 140206 Electric power plants, networks and systems
- 140212 Electricity supply
- 140603 Electrical machines and apparatus
- 150413 Technical operation of equipment in trade and public catering
- 151001 Mechanical Engineering Technology
- 190604 Maintenance and repair of motor transport
- 190701 Transport organisation and management (by type of transport except air transport)
- 200401 Biotechnical and medical devices and systems
- 210308 Maintenance and repair of radio electronic equipment
- 220206 Automated information processing and control systems
- 230109 Computer software and automated systems
- 230110 Maintenance of computer hardware and computer networks
- 230111 Programming in computer systems
- 230701 Applied Informatics
- 260903 Design, modelling and technology of garments
- 270103 Construction and operation of buildings and facilities
- 270107 Manufacture of non-metallic building products and structures
- 270111 Installation and operation of gas supply equipment and systems
- 270112 Water supply and wastewater disposal
- 270206 Construction and operation of motorways and aerodromes
- 270301 Architecture
- 280105 Defence in emergencies
- 280201 Ecology and environmental protection

- Ind. study plan Software engineering
- Individual study plan Network and System Administration
- Ind. study plan Mechatronics and mobile robotics
- Ind. study plan Ecology and energy efficiency
- Exp. Teaching in primary grades with STEM education application
- Exp. study plan Hydraulic engineering construction

Data on licences for educational programmes: Licences available

The Ministry of Education and Science of the Kyrgyz Republic has issued licences for 68 Bachelor's degree courses, 50 Master's degree , 9 HPE specialties, 10 PhD specialties, 47 SPE specialties: No. G2021-0008 of 28.07.2021 (LS21001825); D2019- 0038 from 26.07.2019 (LS190004242); E2019-0101 from 26.07.2019 (LS190004340); I2022-0005 from 15.08.2022 (LS220001669); C2019-0076 from 26.07.2019 (LS190004304); C2023-0005 dated 15.02.2023 (LS230000870); D2019-0038/01 dated 26.07.2019 (LS190004251); C2019-0076/03 dated 26.07.2019 (LS190004313); I2022-0005/01 dated 15.08.2022 (LS220001654); D2019-0038/05 dated 26.07.2019 (LS190004260); C2019-0076/02 dated 26.07.2019 (LS190004322); E2019-0101/02 dated 15.08.2022 (LS220001945); D2019-0038/04 dated 26.07.2019 (LS190004289); C2023-0017 dated 28.07.2023 (LS230001840); D2019-0038/03 dated 26.07.2019 (LS190004277); C2019-0076/01 dated 26.07.2019 (LS190004331).

Data on state accreditation (attestation) of KSTU named after I. Razzakov and educational programmes: VU210000075 from 15.01.2021 (valid until 15.01.2026)**;** VU230000214 from 06.05.2023 (valid until 06.05.05.2028); VK230000335 dated 06.05.2023 (valid until 06.05.2024); VK230000246 dated 06.05.2023 (valid until 06.05.2026); VU230000232 dated 06.05.2023 (valid until 06.05.2028); VK235000220 dated 06.07.2021 (valid until 06.07.2026); VU235000155 of 29.05.2020 (valid until 29.05.2025); VK235000228 of 06.05.2023 VU230000223 (valid until 06.05.2028); of .05.2023 (valid until 06.05.2028); VU235000106 of 19.06.2020 (valid until 19.06.05.2025); VK230000237 of 06.05.2023 (valid until 06.05.2026); VU230000250 of 06.05.2023 (valid until 06.05.2028); VK230000255 of 06.05.2023 (valid until 06.05.2026); VU230000241 VU230000241 of 06.05.2023 (valid 06.05.2026); of 06.05.2023 (valid until 06.05.2028) until 06.05.2028); VK230000264 dated 06.05.2023 (valid until 06.05.2026); VK230000273 VU220000257 dated 06.05.2023 (valid until 06.05.2024);
VK190001126 VK220000162 VK190001126 dated 27.09.2022 (valid .05.2024); dated 28.04.2022 (valid until 28.04.2027); dated 06.05.2023 (valid until 06.05.2024); dated 27.09.2022). (valid until 24.05.2024); VK220000162 dated 28.04.2022 (valid until 28.04.2027); VU220000257 dated .04.2022 (valid until 28.04.2027); VU220000266 dated 28.04.2022. (valid until 28.04.2027); VU220000248 dated 28.04.2022 (valid until 28.04.2027); VU190000189 dated 06.05.2019 (valid until 06.05.2024); VK190000666 dated 06.05.2019. (until 06.05.2024); VU20000000096 VU200000106 dated 15.05.2020 (valid until 15.05.2025); dated 15.05.2020 (valid until 15.05.2025); VK200000138 15.05.2020. (valid until 15.05.2025); VK200000118 dated 15.05.2020 (valid until 15.05.2025); VK200000129 dated .05.2020 (valid until 15.05.2025); VK200000147 dated 12.05.2020 (valid until 06.05.2024); VU210000093 dated 15.01.2021 (valid until 15.01.2026); VU210000084 dated 15.01.2021 (valid until 15.01.2026); VU210000103 15.01.01.2021 (valid until 15.01.2026); VK210000051 dated 15.01.2021 (valid until 15.01.2026); VU210000075 dated 15.01.2021 (valid until 15.01.2026); VI210000042 dated 15.01.01.2021 (until 15.01.2026); VI210000051 dated 15.01.2021 (valid until 15.01.2026); VI210000060 dated 15.01.2021 (valid until 15.01.2026).

International accreditation data: AB4784, AB4785, AB4786, AB4787, AB4788, AB4789, AB4790, AB4791, AB4792, AB 4793 from 15.06.2023.

- Data on awards received by I. Razzakov KSTU:

- For their success in training highly qualified personnel, the staff of FPI, among the 26 best universities in the country in honour of the 50th anniversary of the formation of the USSR, was awarded the Jubilee Badge of Honour of the CPSU Central Committee, the Presidium of the Supreme Soviet of the USSR, and the Council of the USSR.

Ministers of the USSR and the All-Union Central Council of Trade Unions;

- In 1988, Polytechnic was awarded the Red Banner of the Central Committee of the CPSU, the Presidium of the Supreme Soviet of the USSR, the Council of Ministers of the USSR, the Central Committee of the All-Union Lenin Communist League and the All-Union Central Committee of the All-

Union Lenin Communist Party and the All-Union Central Council of Trade Unions for the first place in the All-Union socialist competition among 756 technical institutions, of the country's universities.

- 18 September 2024 by the Decree of the President of the Kyrgyz Republic Sadyr Zhaparov Kyrgyz State Technical University named after I. Razzakov for the great contribution to the development of technical education and science of the Kyrgyz Republic, training of qualified specialists was awarded with the Order "**Dank**" (Website of the President of the Kyrgyz Republic).

- Data on membership of I. Razzakov KSTU in various organisations:

- Russian-Kyrgyz Consortium of Technical Universities (RKKTU);
- Association of Technical Universities of the Baltic and CIS countries;
- Association of Universities of Central Asia, SCO Universities;
- Association of Asian Universities;
- CIS Network University;
- Eurasian Network University;
- Association of Technical Universities;
- Eurasian-Pacific Network of Universities;
- The New Silk Road University Alliance;
- Synergy inter-university scientific and educational network;
- Association of Construction Higher Education Institutions;
- Member of ENACTUS, DAAD, Association of Legal Clinics, BizExpert; Erasmus, International Society for Engineering Pedagogy (IGIP), etc.

- Data on the number of students for all educational programmes and courses are given in Tables 4-6 (avn.kstu.kg).

Number of students in the I. Razzakov KSTU:

The contingent of KSTU named after I. Razzakov **24202 people**, including **888** foreign students:

- Lyceum 169.

KSTU also conducts training of scientific personnel in 57 specialities (7 codes). The number of postgraduate students is 108.

The contingent of students in the direction **580500 "Business Informatics" (Bachelor)** is presented in the tables.

Student contingent in the 2023-2024 academic year

№	Cipher	Bachelor's degree programme	Form of training	Courses					Total:	Institute
				1	2	3	4	5		
			full-time	41	102	51	27		**221**	**IIT**

1	580500	Business Informatics	full-time	3	9	13	5	-	**30**	**ISOP**
			Distant ed.	22	70	39	18	7	**156**	**IIT**
			Bottom line:	**66**	**181**	**103**	**50**	**7**	**407**	

Student contingent in the 2024-2025 academic year

№	**Cipher**	**Bachelor's degree programme**	**Form of training**	**Courses**					**That's it:**	
				1	**2**	**3**	**4**	**5**		
1	580500	Business Informatics	full-time	84	65	103	49		**301**	**IIT**
			Distant ed.	9	75	68	35	16	**203**	**IITz**
			Total:	**93**	**140**	**171**	**84**	**16**	**504**	

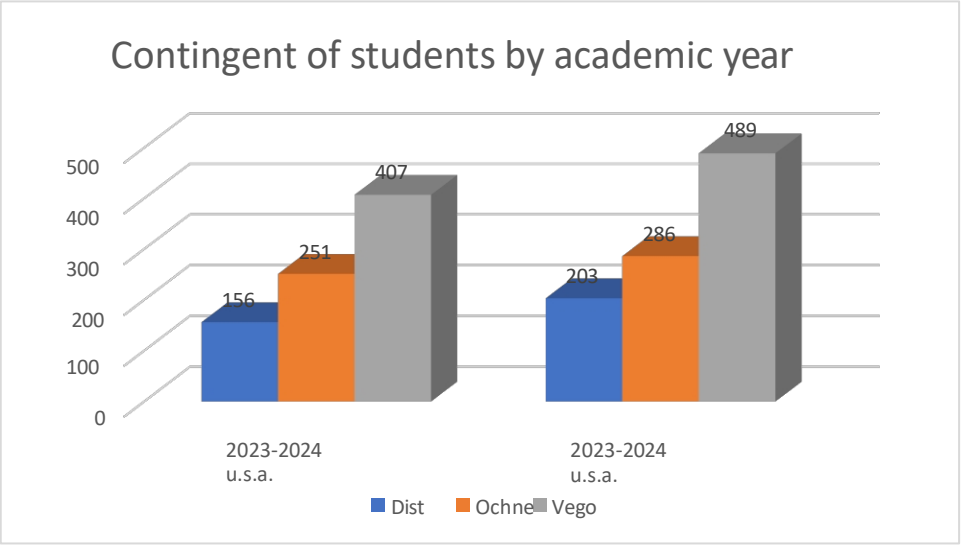


Fig. 1.1. Change in the contingent of students by academic years

- **Data on.** Curriculum for the direction 580500 is developed in accordance with the Regulations on RUP KSTU. Considered and approved at the meeting of the UMS protocol number 1 from 17 December 2021.

Brief history of creation and development of I. Razzakov KSTU

For the achieved success in training of highly qualified personnel the staff of FPI among 26 best universities of the country in honour of the 50th anniversary of the formation of the USSR was awarded the Jubilee Badge of Honour of the Central Committee of the CPSU, the Presidium of the Supreme Soviet of the USSR, the Council of Ministers of the USSR and the All-Union Central Council of Trade Unions.

In 1988, FPI was awarded the Red Banner of the Central Committee of the CPSU, the Presidium of the Supreme Soviet of the USSR, the USSR Council of Ministers, the Central Committee of the Komsomol and the All-Union Central Committee of the All-Union Lenin Communist Youth League and the All-Union Central Council of Trade Unions for the first place in the All-Union socialist competition among 756 technical universities of the country.

In 1992, the Kyrgyz Technical University was established on the basis of FPI. By the Resolution of the Government of KR№ 522 dated 05.12.1995. Kyrgyz Technical University was named after I. Razzakov.

By the Decree of the President of the Kyrgyz Republic on 5 October 2004, the I. Razzakov Kyrgyz Technical University was granted the status of "national".

On 3 May 2005, by the Decree of the President of the Kyrgyz Republic, the university was renamed into the Kyrgyz State Technical University named after I. Razzakov. I. Razzakov Kyrgyz State Technical University.

The Decree of the President of the Kyrgyz Republic "On measures to increase the capacity and competitiveness of educational organisations of higher professional education of the Kyrgyz Republic" from 18.07.2022 № 243 Kyrgyz State Technical University named after I. Razzakov was reorganised by establishing the status of legal successor and joining the Kyrgyz State University of Construction, Transport and Architecture named after I. Razzakov. И. Раззакова реорганизован путем установления статуса правопреемника и присоединения к нему Кыргызского государственного университета строительства, транспорта и архитектуры им. N. Isanov and U. Asanaliev Kyrgyz State University of Geology, Mining and Development of Natural Resources. Asanaliev.

KSTU named after I. Razzakov by its organisational and legal form is a state educational institution, which has a special status according to the Decree of the President of the Kyrgyz Republic dated 18 July 2022 UP № 243. The University implements educational programmes of professional education of all levels according to the National Qualifications Framework of the Kyrgyz Republic.

At present, KSTU named after I. Razzakov is a leading multi-disciplinary university - the flagship of higher technical education in Kyrgyzstan and represents an innovative centre for the integration of science, education and culture.

The organisational structure of management includes 10 institutes, 4 territorially separated branches, 3 higher schools, 6 scientific research institutes, 4 colleges, lyceum, 8 research institutes (centres).

1. Institute of Transport and Robotics
2. Institute of Technology
3. Energy Institute
4. Institute of Information Technology
5. Kyrgyz Construction Engineering Institute named after N. Isanov. N. Isanov
6. Institute of Architecture and Design
7. Kyrgyz-German Technical Institute
8. Institute for Joint Educational Programmes

9. Institute of Electronics and Telecommunications
10. Kyrgyz Mining and Metallurgical Institute named after U. Asanaliev. Academician U. Asanaliev
11. Higher School of Economics and Business
12. International Graduate School of Logistics
13. Academician Kh.A. Rakhmatulin Branch in Tokmok city
14. Branch in Kara-Balta city
15. Branch in Kara-Kul town
16. Kyzyl-Kiya Branch Office
17. Polytechnic College
18. VET college
19. College of Mining and Technology
20. Bishkek Technical College
21. Lyceum

Legally independent structural training units:

1. KSTU Technopark
2. Technologist Training Practice Centre
3. Polytechnic College
4. Lyceum
5. Automotive Transport
6. Polytechnic Sports Club

Scientific work is carried out in four sectoral research institutes:

1. Research Institute of Physical and Technical Problems
2. Research Institute of Chemical Technology
3. Research Institute of Power Engineering and Communications
4. Kyrgyz Institute of Mineral Resources
5. SIC "KONAS"
6. Geoquantum
7. STC "Construction and Architecture"
8. Research Institute "Seismic Resistant Construction"

Qualification of teaching staff is the key link of education quality. At present the teaching staff of KSTU, including all structural subdivisions (including colleges and lyceum) is 1132 persons, including: full-time - 839 persons (74 %), invited professors - 36 persons (3,3 %); 134 persons (full-time - 84 persons) - doctors of sciences, professors, 368 (full-time - 295 persons) - candidates of sciences, associate professors. Lyceum - 13 persons.

The University provides multilevel training of bachelors, specialists, masters, postgraduates and doctoral students, experimental training of doctors of

philosophy (PhD) is carried out.

The University has licences for educational activities in 68 Bachelor's degree courses, 50 Master's degree courses, 9 HPE specialties, 10 PhD courses, 47 SPE specialties.

The educational process is organised according to the ECTS credit system in accordance with the principles of the Bologna Process and is focused on building an individual student's learning trajectory. KSTU named after I. Razzakov has created conditions for the functioning of electronic information and educational environment for educational programmes. The learning process is supported by electronic libraries, including electronic textbooks and teaching aids, as well as methodological materials. All structural units are connected to the Internet.

Students who have shown excellent knowledge in their studies have the opportunity to continue their studies at universities in Russia, Kazakhstan, Germany and other foreign universities. Participation in international programmes allows for the issuance of double diplomas, mobility of students and faculty.

Scientific research is the leading sphere of KSTU activity, the source of new knowledge acquisition, the basis for creation of advanced programmes of specialists training. On the basis of the departments and faculties of the University the educational and research and production complexes oriented to the development and use of the latest achievements of science and technology in the educational process are becoming more and more important. KSTU has concluded more than 430 international treaties and agreements on cooperation in the field of science and education. One of the priorities for KSTU is co-operation with universities of CIS member states, as well as Germany and China. The University actively participates in many joint educational programmes, such as Tempus, Erasmus Mundus, INTAS, Erasmus+, Jean Monnet, DAAD, etc. To date, the University has implemented more than 30 international.

At present 888 students from near and far abroad study at KSTU: from Russia, Kazakhstan, Uzbekistan, Tajikistan, Syria, China, Pakistan, Iran, Iraq and others.

I. Razzakov KSTU im. Razzakov KSTU implements joint bachelor's and master's degree programmes in such areas as mechanical engineering, electric power engineering, telematics, logistics and bioengineering, developed under DAAD and ERASMUS+ grant programmes. The university carries out international research projects supported by the Horizon 2020 programmes, USAID and other international funds. Based on the results of international projects, PhD educational programmes have also been developed and young scientists are being trained in close cooperation with leading universities in Europe and Asia. The students of I. Razzakov KSTU have received the opportunity to study on a budget. Razzakov KSTU students had the opportunity to study on a budget in universities in China, such as Harbin Polytechnic University, Liaoning Oil, Gas and Chemical University, Lianzhong Transport University, Xinjiang University, Xuzhou University, Beijing Institute of Technology. Over the last 20 years more than 40 projects under various international programmes have been successfully implemented within the walls of I. Razzakov KSTU. As a result, joint educational, research and production centres have been created. KSTU named after I. Razzakov is provided with necessary material resources. Razzakov KSTU is provided with necessary material and technical resources. Among the strategic directions of development

- Strengthening and modernisation of the university's material and technical base and infrastructure, timely equipping and upgrading laboratories. KSTU named after I. Razzakov KSTU has 24 educational buildings with a total area of 130730,9 sq.m., 9 student hostels, scientific and technical library, sports base, 4 training and production polygons, 80 computer classes.

On 16 May 2024, the **Cezeri Lab**, funded by the Turkish International Cooperation and Development Agency (TIKA), was opened at the Kyrgyz State Technical University named after I. Razzakov. The opening of this laboratory creates opportunities for the introduction of 3D-technologies in the educational process, professional development of teachers, holding various events: seminars, trainings, startups, research and development. It will also allow participation in conferences and techno-festivals both in Kyrgyzstan and Turkey. The opening of Cezeri Lab is an important step in developing the scientific potential of Kyrgyzstan and strengthening international co-operation with Turkey in the field of education and science. (https://kstu.kg/news-ru)

On 26 October 2024, the opening ceremony of the "**Lu Ban Workshop**" was held at the Kyrgyz State Technical University named after Iskhak Razzakov. This event was an important step in strengthening cultural and educational co-operation between the Kyrgyz Republic and the People's Republic of China. Specialised laboratories such as the Laboratory of Relay Protection and Automation, the Laboratory of Digital Automation Systems in Power Engineering, the Laboratory of Intelligent Power Transmission and Distribution System, the Laboratory of New Energy Resources, the Laboratory of Hydrodynamics and the Laboratory of Hydraulic Structures Modelling have been opened on the basis of the "Lu Ban Workshop". Laboratories for electronics, robotics, information technologies and automation were also created. The total cost of the equipment was more than $1 million. These laboratories are equipped with the latest equipment, which will allow students to study advanced technologies and improve their professional skills, making graduates more competitive in the labour market (https://kstu.kg/news-ru).

On 13 March 2025, the Kyrgyz State Technical University named after I. Razzakov held the grand opening of the joint campus established in partnership with the Northwest University of China. This significant event marked a new stage in the development of international co-operation in education and science. The opening of the joint campus strengthens international co-operation of KSTU and creates new opportunities for students who want to get quality education with international career prospects.

The leisure time of the university students is interesting and varied. They have the opportunity to engage in various creative sections and clubs, participate in traditional festivals and competitions.

KSTU has sections for 23 sports. The University has been the absolute champion of the Universiade of Students of Kyrgyzstan more than once.

Educational structural subdivisions of KSTU train specialists for all developing branches of economy of Kyrgyzstan, orienting on modern world technologies. Much attention is paid to strengthening the connection with production, attracting leading specialists of enterprises and institutions to the educational process.

Our graduates work at enterprises and organizations of economic, machine-building, technological, power engineering, information technologies, oil and gas production, mining and exploration, construction, architecture and other areas.

Employment of university graduates is regularly monitored and a database of our graduates is created.

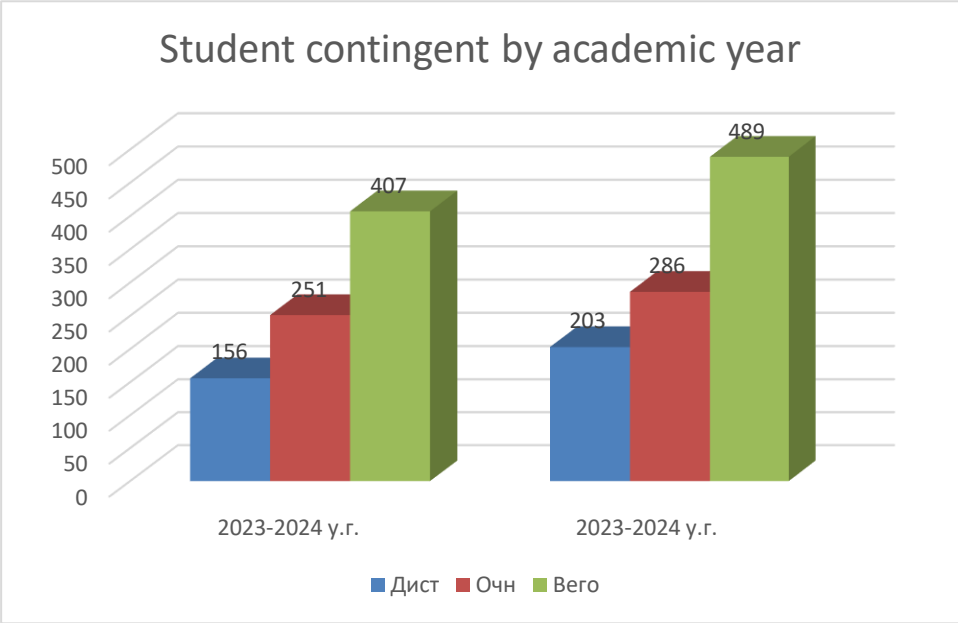
The total percentage of employment of KSTU graduates is 88%, which indicates the demand for graduates of the university.

Educational program of Bachelor's degree in the direction of 580500 “Business Informatics” is implemented at the Department of “Applied Mathematics and Informatics” since 2016 in accordance with the State Educational Standard of Higher Professional Education, approved by the order of the Ministry of Education and Science of the Kyrgyz Republic from September 15, 2015, № 1179/1, as well as license D2019-0038 from 26.07.2019 (LS190004242), validity - indefinite.

580500 Business Informatics	Assessment of fulfillment of the standard / criterion
Standard 1. Program Objectives	
Criterion 1.1. Educational needs of the labor market and other stakeholders The basic educational program (EP) of higher professional education in the direction of training 580500 – "Business Informatics" (qualification "Bachelor") provides the implementation of the requirements of the state educational standard and stakeholders (employers, students, societies, etc.). Graduates who have fully mastered the Bachelor's program and successfully passed the state final certification in the prescribed manner, are awarded a diploma of higher education with the qualification "Bachelor". Heads of OPs conduct marketing research of the labor market, beichmarking in accordance with the **Regulations on the organization of marketing research and career guidance work at I. Razzaakov KSTU,**, organize social surveys among employers, graduates on satisfaction with the educational program, educational process, and learning outcomes. The results of such events are reflected on the websites of the graduating departments. **Recommendation forms** are available on the EQD website. When forming the educational program, the objectives and expected learning outcomes are discussed with specialists of the relevant industry or profile and are coordinated with the requirements of the labor market. Involvement of labor market representatives in the assessment of the quality of educational programs is carried out through the social survey of employers on the organization and conduct of practical training, their participation in the SAC, round tables, seminars. According to the schedule of consultations by specialists of the relevant industry or profile three times a year, consultations and exchange of opinions on improving the quality of the educational program are held (Quality Action Plan). As a rule, as a result of practical training, during student conferences and during the defense of pre-qualification works. During internships students are assigned supervisors from among the teachers of the university and from among the leading specialists of the organization where our student undergoes internship. Representatives of the organizations-employers are included in the composition of the commission on the sectional work of the student conference. Chairman of the State Attestation Commission and deputy chairmen by order of the Minister of Education and Science of the Kyrgyz Republic are appointed from other universities and other sectoral organizations. During the round tables employers recommended us to increase the number of hours of practical and laboratory classes. These recommendations are taken into account in the annual adjustment of the EP curricula. In order to prepare specialists corresponding to the realities of the labor market and demanded by students, students (undergraduates, masters, graduates) are also actively involved in the process of preparing curricula of educational programs. The round tables are also attended by graduates of previous years who have found employment in their specialty. They share their difficulties that they encountered at the beginning of their working life, give recommendations for improving the quality of the educational program.	Executed

Departments or institutes shall be established **Industry councils**, whose activities are regulated Provision on Branch Councils in I. Razzakov KSTU. The websites of the departments and institutes contain and update information on interaction with industry representatives and mechanisms of coordination of educational and methodical materials, including the main educational program, as well as decisions made to improve the programs.	
Criterion 1.2. Objectives of the educational program In the main educational program in the direction of 580500 Business Informatics, approved by the Rector of KSTU. Rector of KSTU named after. I. Razzakov on March 16, 2022, the objectives of the educational program are stated as follows (**EP 580500 BI pp. 5-6**). The purpose of the main educational program is aimed at meeting the educational needs of the individual, society, state, industry representatives in professional staff and specialists, as well as the development of a unified national and international educational space in the field of e-business. The objectives of the main educational program are: 1. Training in the basics of humanitarian, social, economic, mathematical and natural science knowledge. 2. Obtaining higher professional profiled (at the level of Bachelor), advanced professional (at the level of Master) education, allowing the graduate to work successfully in the chosen field of activity. 3. to possess universal and subject-specific competences, contributing to his/her social mobility and sustainability in the labor market. 4. Formation of social and personal qualities of students: purposefulness, organization, industriousness, responsibility, citizenship, communicativeness, tolerance, improvement of general culture, instilling a sense of patriotism, etc. Program objectives are developed in terms of professional profiles of engineering graduates and/or roles/activities for which students should be prepared, as well as related competencies to be developed and obtained by students in the course of their studies. Graduate competencies of the Business Informatics program are specified in the matrix of learning competencies (EP 580500 BI, pp 8-9**).** The program goals are consistent with the mission of the institution to which the program belongs and the identified educational needs of the labor market (EP 580500 BI pp. 5-6). When forming the educational program, the objectives and expected learning outcomes are discussed with specialists of the relevant industry or profile and are coordinated with the requirements of the labor market. Involvement of labor market representatives in the assessment of the quality of educational programs is carried out through the social survey of employers on the organization and conduct of internships, their participation in the SAC, round tables, seminars. Based on the results of the survey, the following is carried out Analysis of employers' questionnaires and Analysis of alumni questionnaires. Suggestions made during meetings with alumni are taken into account adjusting working curricula.	Executed

Criterion 1.3. Program results In the main educational program in the direction 580500 Business Informatics, along with the objectives of the educational program are set out (**EP 580500 BI pp. 5-6**), the expected learning outcomes are also specified (EP 580500 BI pp. 8-9). Graduates who have studied Business Informatics in recent years are successfully employed in their chosen specialty. Judging by their feedback, the knowledge, skills and competencies acquired during the years of study allowed them to quickly adapt to the new conditions at their place of work. Of course, they have to constantly improve their qualifications in specific areas of work. Annual trainings are conducted **Social surveys of students, faculty, employers, graduates** to assess the quality of implementation of the educational process and programs. The results of social surveys, including the questionnaire "Teacher in the eyes of students" are considered at the Quality Council. Teachers with low scores are included in the monitoring of training sessions and pedagogical activities on the basis of the order and schedule of visits. The monitoring of teaching sessions is conducted in accordance with **Regulations on monitoring and attendance of classes**, by visiting teachers and evaluating their classes. The results are discussed at the SC, measures are taken to eliminate inconsistencies and improve teachers' qualifications through professional development courses, etc. As it was mentioned earlier, all stakeholders, including employers, graduates, undergraduates, etc., were involved in curriculum development. When developing curricula, the positive aspects of the OPs of neighboring countries were taken into account; we also focused on international educational programs, including EUR-ACE Stakeholders were involved in the development of the objectives and expected results of the EP and made their suggestions during the round tables. At the level of departments and institutes are carried out department meetings and the Board of the Institute, where issues on management and implementation of the OP, interaction with stakeholders and others are considered according to work plans for the current year. Educational and methodical activity and its provision is considered at the Educational and Methodical Council of KSTU, according to **Regulations on the UMC of KSTU**. The institutes have educational and methodical commissions that regulate the methodical work of the respective educational structures. At the department level, a person responsible for methodological work is appointed, whose duties include planning and reporting on the publication of teaching and methodological manuals, textbooks, etc. The set of measures to mitigate the impact of potential risks is outlined in the program. A set of measures to reduce the impact of potential risks is outlined in the **KSTU development strategies**, **Guideline. Management processes.**. Risk analysis and activities related to risks in the educational process are prepared in the annual reports of the directors of the institutes. The issues of occurrence of various types of risks are considered at the meetings of the departments. Branch councils with the participation of employers are created at the institutes or departments in order to discuss the issues of educational, scientific and other types of activities **https://kstu.kg/fileadmin/user_upload/23_polozhenie_ob_otraslevykh_sovetakh_2018.pdf .**	Executed



Here are some facts about the participation of I. Razzakov KSTU in the world rankings. In 2024, I. Razzakov KSTU participated in the ranking of universities in Asia. The results of QS Asia University Rankings were published in November 2024. About 900 universities from 25 Asian countries participated in this rating of the best universities. KSTU named after I. Razzakov took 381st place and 25th place among the universities of Central Asia. Only 6 universities from Kyrgyzstan were included in this list (QS Asia University Rankings 2025, Ranking).

As mentioned above, the Business Informatics EP is increasingly gaining popularity in the country and in neighboring countries, as evidenced by the increase in student enrollment from year to year. While the number of graduates in 2021-2022 academic year was 15, the number of graduates in 2022-2023 academic year was 407 and in 2023-2024 academic year was 504.

Strengths:

1. In 2024, KSTU named after I. Razzakov participated in the QS Asia University Rankings, 2025. The results of the ranking were published in November 2024, where KSTU ranked 381st among about 900 universities in Asia.

Weaknesses:

1. Absence of Master's degree program on the grant form of study in the EP “Business Informatics”.

Ways of solution:

To analyze the employment of the first graduating bachelors and prepare a justification to the Ministry of Education and Science of the Kyrgyz Republic on the allocation of places for master's degree programs on the grant form of education for the direction “Business Informatics”.

Standard 1 is Executed

Standard 2. Teaching and learning process

Criterion 2.1. Curriculum

Executed

The main educational program Bachelor (hereinafter referred to as OP Bachelor) in the direction 580500 “Business Informatics” (Bachelor), implemented by the Department of “Applied Mathematics and Informatics”, corresponds to university missions, established educational goals (Annex 2.1.1 of the BI EP). Procedures for the development and approval of educational programs at KSTU are set out in the “Regulations on the main educational program of directions and specialties of higher professional education”, approved by the

Rector of KSTU at the meeting of the EMC (Appendix 2.1.2. Minutes of the EMC № 5 from 13.06.2024 Regulations on the main educational program of directions and specialties of higher professional education) EP is developed taking into account the requirements of the labor market on the basis of the State Educational Standard of Higher Professional Education in specialty 80500 “Business Informatics”, approved by the order of the Ministry of Education and Science of the Kyrgyz Republic from “21” September 2021 № 1578/1 (Annex 2.1.3 to the order of the Ministry of Education and Science of the Kyrgyz Republic from “21” September 2021 № 1578/1). The curriculum and characteristics of educational modules (Appendix 2.1.4 of the RUP) in accordance with the requirements of the State Standard of Higher Education (see Appendix 2.1.2) have been developed. The structure of the EP contains universal and professional competences. The development and approval of the EP is carried out in accordance with the following procedure established at the University: 1. Approval of the Model Curriculum - by EMC in the direction of training; 2. Approval of the Working Curriculum - by the EMC of the University; 3. Approval of the Main Educational Program - EMC of the University; The educational program is implemented within the credit system of education, the list and content of educational programs for courses of the state component correspond to the State Standard of Higher Education, and disciplines of the university component and elective courses meet the requirements of bachelors and employers (can be adjusted annually). Such structure of the curriculum allows to take into account current and predictable changes in the labor market and the requirements of employers to carry out continuous promotion and personal growth of bachelors. The basic educational program (EP) and the working curriculum in accordance with the State Standard of Higher Professional Education in the direction of training bachelors 580500 “Business Informatics”, which were considered and discussed at round tables, meetings of the department (Appendix 2.1.5. - Minutes of the round table of the department), agreed and approved with the training department. The working curriculum is approved by the vice-rector for academic work, coordinated by the head of the department “Applied Mathematics and Informatics”. The educational program is realized within the framework of ECTS credit system (Appendix 2.1.6 Regulations on the organization of educational process on the basis of ECTS credit system, p. 4-6). 4-6), the list and content of educational programs for the subjects of the compulsory component are publicly available, and the disciplines of the university component and elective courses reflect the requirements of stakeholders. The total labor intensity of the Bachelor's degree program is not less than 240 credits (credit units) and the study period is 4 years.	

The labor intensity of the full-time study program for an academic year is not less than 60 credits (credit units). One credit (credit unit) is equal to 30 hours of student's academic work (including his/her classroom, independent work and all types of attestation). The educational program is implemented at the Department of "Applied Mathematics and Informatics"; the head of the Department of "Applied Mathematics and Informatics" – Corresponding Member of the National Academy of Sciences of the Kyrgyz Republic, Doctor of Science (D.-M.Sc.), Professor M.J. Jamanbaev, the head of the educational program – Candidate of Science (Ph.D.-M.Sc.), Associate Professor K.D. Duishokov. Curricula are formed taking into account the logical sequence of the educational process (prerequisites and post-requisites) and achievement of expected results (each discipline forms certain competencies) (Appendix 2.1.8. "Competency Matrix", Appendix 2.1.9 KSTU RUP Manual, Appendix 2.1.10 Schedule of the educational process and schedule of modules and examinations (Academic Calendar)). The structure of the curriculum allows to take into account the current and predictable changes in the labor market and the requirements of employers, there is a constant progression and personal growth of Bachelor's degree students of the direction "Business Informatics" to engage in practical activities. Such changes in the curriculum are reflected through the disciplines of the university component and elective courses. In accordance with the Regulations on theE of KSTU (Regulation 2.1.11 Regulation on the EP) the educational trajectory of each student is determined by the Individual student's study plan. The student's individual study plan is prepared under the guidance of academic advisor (AA), self-dependently taking into account the chosen educational trajectory. First-year students receive information packets to familiarize themselves with the educational process based on the credit system of higher education. During the orientation week the students are informed about the study program, introduced to the RUP, module-rating system, organization of all types of control, practices, etc. They give consultations about the learning path and stages of registration for disciplines. Within the framework of the EP BI there are compulsory and elective parts. The compulsory part of the EP Bachelor training includes disciplines and practices that ensure the formation of the university KSTU holds annual conference of students, undergraduates and young scientists. (Appendix 2.1.12 Program of the 66th SSTC) Reports at the conference are prepared within the framework of research and development activities on the topics of course work, graduate qualification works and master's theses. Active participants of the conference are encouraged, the best scientific papers take prizes, are published in scientific journals, in particular in the journal "Izvestia KSTU". (Appendix 2.1.13 SNTC Report). This journal is indexed by RINC, today its impact factor is 0.225 and is peer-reviewed based on the method of "double-blind review". Currently there are negotiations with Elsevier and Clarivate about inclusion of KSTU journals in their indexing base. Also according to the results of regularly held scientific-practical conferences of teaching staff and students, the Proceedings of the relevant conferences are published.	

R&D is based on active research activity of postgraduate, graduate and undergraduate students. For successful realization of research activity of students in the EP "Business Informatics" their motivation is introduced. For this purpose, the department has formed 3 main scientific directions under the guidance of experienced staff members of the department – candidates and doctors of sciences: M.J. Dzhamanbaev - fluid mechanics, G.J. Kabaeva - Artificial Intelligence, Mathematical Methods in Economics. The department has 4 educational laboratories with the possibility of conducting research tasks. Every year the chair organizes a scientific seminar dedicated to the Day of Science. The seminar is attended by the faculty of the department and students who present their developments. (Appendix 2.1.14 Report of the seminar). For the Day of Science in KSTU named after I. Razzakov is also held an exhibition of developments, in which students of the direction of "Business Informatics" take part. (Appendix 2.1.15 Report of the exhibition) Translated with DeepL.com (free version) *Annex 2.1.1 EP BI* *Appendix 2.1.2. Minutes of the UMC № 5 from 13.06.2024 Regulations on the basic educational program of directions and specialties of higher professional education* *Annex 2.1.3 to the Order of the Ministry of Education and Science of the Kyrgyz Republic dated September 21, 2021 № 1578/1* *Annex 2.1.4 RUP* *Appendix 2.1.5. Minutes of the Round Table of the Department* *Appendix 2.1.6 Regulations on the organization of the educational process on the basis of ECTS credit system of training* *Appendix 2.1.8. "Competency Matrix"* *Annex 2.1.9 KSTU WEP Manual* *Annex 2.1.10 Timetable of the educational process and timetable of modules and examinations (Academic Calendar)* *Annex 2.1.11 EP Regulation* *Annex 2.1.12 Program of the 66th SSTC* *Annex 2.1.13 JITC Report* *Annex 2.1.14 Workshop Report*	

Annex 2.1.15 Exhibition Report	
Criterion 2.2. Assessment of students' performance Assessment of learning outcomes (knowledge, skills, competencies) is carried out on the basis of the approved internal normative documents "Provisions on the current control of students' performance and interim attestation" (Appendix 2.2.1 Provisions on the current control of students' performance and interim attestation), "Provisions on the examination session" (Appendix 2.2.2 Provisions on the examination session). All faculty members are informed and familiarized with these provisions at the 1st meeting of the department, held after the unification of universities (Appendix Minutes of the meeting of the department №1 from September 6, 2024) For each discipline studied in the working programs are a set of tasks (control questions, test tasks, exam tickets) for intermediate and final control with specific criteria for evaluating all types of activities to assess knowledge, skills and mastery of competencies. Faculty members of the department annually revise this set of tasks (Appendix 2.2.5 Example of RP with evaluation criteria). Based on the statements (Appendix 2.2.6 AVN Score Log), the results of the final control of students for 1, 2, 3 semesters are compiled (Appendix 2.2.7 Summary sheet - Progress in the Department of PMI for the fall semester). The results of academic performance are discussed at meetings of the department (Annex 2.2.8 Extract from the minutes of the meeting of the department from 5.01.24g.) and the university as a whole. Liquidation of academic debts, re-study of the course according to the credit system of education is carried out according to the Regulations of the examination session in KSTU, where also, except for the fall and spring semesters provided for the summer semester, for the graduating course winter semester. Retake and extra points (20 points) is carried out at mini-sessions in the first month of each semester after the main examination session in KSTU (Annex 2.2.9 Regulation on the organization of educational process on the basis of credit system of education). Monitoring of graduation of students is carried out according to the enrollment of undergraduate students in the 1st year and the number of graduates. Monitoring of dropout and reinstatement of students is carried out jointly with the Student Service Center of KSTU named after I. Razzakov and the Dean's Office. Dean's offices twice a year analyze the progress and dropout of students based on the results of sessions with discussion of the results at the RS. In each semester the final grade of students on disciplines is made up of the sum of points of current, boundary and final control. The module-rating system of knowledge assessment on the Bachelor's degree program is applied. Routine and current control - 60 points, final control - 40 points. The points for the SRT are included in the boundary control (Provision 2.2.10 Provision on the educational-methodical complex, Appendix 2.2.11 Provision on the organization of the educational process on the basis of credit technology of teaching (ECTS)). Provision on evaluation criteria is posted on the university website in section of the Training Directorate. To assess the knowledge of students in the disciplines, the working program describes the criteria by which the level of knowledge is assessed. The fund of assessment tools is developed: control tasks, tickets for oral questioning, tests, etc. Objective assessment of students' knowledge on the undergraduate program is carried out according to the developed procedure of interim certification and examination	Executed

session in KSTU (Appendix 2.2.12 Regulations of the examination session in KSTU named after I. Razzakov). In order to resolve the situation of disagreement of the student with the results of written work, computer testing or in case of disagreement of the student with his/her final grade there is a procedure for appealing the results of evaluation (Annex 2.2.13 Regulations on the Appeal Commission of KSTU named after I. I. Razzakov). *Appendix 2.2.1 Regulations on the current control of academic progress and interim certification of students* *Annex 2.2.2 Regulations for the examination session* *Appendix 2.2.3 Minutes of the meeting of the Department No. 1 of September 6, 2024g* *Annex 2.2.4 Example of a PSD with assessment criteria* *Appendix 2.2.6 AVN Score Log* *Appendix 2.2.7 Summary sheet - Academic progress of the AMI department for the fall semester* *Appendix 2.2.8 Extract from the minutes of the department meeting of 5.01.24g* *Appendix 2.2.9 Regulations on the organization of the educational process on the basis of the credit system of training* *Regulation 2.2.10 Regulation on the training and methodological complex* *Appendix 2.2.11. Provision on the organization of the educational process on the basis of credit technology of training (ECTS)* *Appendix 2.2.12 Regulations of the examination session at I. Razzakov KSTU* *Appendix 2.2.13. Regulations on the Appeal Commission of KSTU IM. I. Razzakov*	
Criterion 2.3. Planning of the training process The expected results of students in Business Informatics are described in the graduate model, which is located in the EP 580500 Business Informatics. Criteria and methods of evaluation are fixed in the EP, working programs and syllabuses of disciplines and placed in the educational portal AVN and online.kstu.kg (Appendix 2.3.1 EP BI p.15). Conformity of criteria and methods of evaluation of expected learning outcomes of disciplines evaluated by educational-methodical commissions of educational structural units. Educational Department of KSTU named after I. Razzakov at the beginning of each academic year develops an academic calendar for all forms of education, which prescribes the schedule of the educational process, schedules of modules, exams and the timing of all types of practices, taking into account the WEP, meetings of the Academic Council, holidays, etc. Studying according to the academic calendar students master the program. (Appendix 2.3.2 academic calendar) Class timetable made according to the instruction on the procedure of making up the timetable of academic classes and the use of	Executed

classroom fund (Appendix 2.3.3 Instruction on the procedure of making up the timetable of academic classes and the use of classroom fund, page. 3). The duration of classroom training for students cannot be more than 8 academic hours per day (this number does not include physical education and elective courses). (Appendix 2.3.4 schedule of the group BI-1-21). The department monitors the educational process through inspections of classes by the head of the department, regular questionnaires. According to the results of the local survey (Appendix 2.3.5 Results of the survey of students) of the AMI Department were obtained the following results: 74% of students of Business Informatics from 1st to 4th courses took part; satisfaction with the quality of education was 64%; satisfaction with the pedagogical methods used during training - 62%; 87.5% of students are satisfied with the methods and technologies of programming. There were suggestions from the side of students to apply the following methods and technologies in training more: project method, method of intellectual cards, case methods. The results of the survey discussed 2 times a year at the end of the semester at the meetings of AMI Department and organizational, managerial and other decisions made. (Appendix 2.3.6 Extract from the minutes of the department meeting № 5 from January 31, 2024). In addition to questionnaires, the department practiced mutual visits to the classes of faculty. Visits to classes made according to the approved schedule of mutual visits (Appendix 2.3.7 Schedule of mutual visits of faculty). In general, for the first and second half of the academic year 2023-24 about 10 classes on specialized disciplines visited. The results of these visits were considered and discussed at the department meeting, decisions were made to strengthen the participation of teaching staff in courses to improve teaching skills. Also at the department is kept a log of mutual attendance of faculty members of AMI Department. (Appendix 2.3.8 Journal of mutual attendance). Criteria, methods, periodicity and order of current control, interim and final attestation of students admitted to KSTU, are reflected in the published on the KSTU website in the section “Educational Management” in the category of documents: “Regulations on the boundary control and interim attestation of KSTU”, “Regulations on block-modular system of training and rating assessment of students' activities”, “Regulations for the examination session”, “Regulations on independent work of full-time students in KSTU”, “Procedure for Final State Attestation of Graduates”. The level of achievement by the student of the planned result of training is confirmed by positive results of the final state certification of 4th year students and employers' feedback on trainees and graduates. (Appendix 2.3.9 SAC reports) *Annex 2.3.1 EP BI p.15* *Annex 2.3.2 Academic Calendar* *Appendix 2.3.3 Instruction on the procedure for scheduling classes and utilization of the classroom fund, p. 3. 3* *Annex 2.3.4 timetable of the group BI-1-21* *Appendix 2.3.5 Results of students' questionnaires* *Appendix 2.3.6 Extract from the minutes of the department meeting No. 5 of January 31, 2024.* *Annex 2.3.7 Schedule of reciprocal visits of faculty members* *Appendix 2.3.8 Attendance Log* *Annex 2.3.9 SAC reports*	

Criterion 2.4. Management of the learning process. One of the methods for evaluation and adjustment of pedagogical methods, educational forms and technologies is used feedback from students in the form of questionnaires of all stakeholders, including students, on the degree of satisfaction with the quality of educational programmes and services of KSTU named after I. Razzakov, on the assessment of the quality of teaching disciplines through the eyes of students of KSTU named after I. Razzakov. For this purpose, in the university twice a year, after the end of exam sessions an anonymous survey of students 'Teacher in the eyes of students' is conducted, based on the 'Regulations on the organisation and conduct of social survey of students of KSTU'. Availability of feedback on the use of different methods of teaching and evaluation of learning outcomes is provided by the following: at the systemic level of the whole university conduct Questionnaires (online) on the developed questionnaires and forms of questionnaires and social surveys. in the framework of the management of EP at all levels developed and conducted at the local level questionnaires on 5 questionnaires for students. (Appendix 2.3.1 Types of questionnaires) According to the results of the local questionnaire (Appendix 2.3.2 Student questionnaire) of AMI Department the following results were obtained: 74% of students of Business Informatics from the 1st to the 4th courses took part; satisfaction with the quality of education was 64%; satisfaction with the pedagogical methods used during training - 62%; 87.5% of students are satisfied with the methods and technologies of programming. There were suggestions from the students to apply more in training the following methods and technologies: project method, the method of intellectual cards, case methods (Appendix 2.3.3 Results of the survey,) The results of the survey are discussed 2 times a year at the end of the semester at the meetings of AMI Department and are taken organisational, managerial and other decisions. (Appendix 2.3.4 Extract from the minutes of the meeting of the department № 5 from 31 January 2024). Regularly educational department of KSTU named after I. Razzakov conducts monitoring of training sessions according to the Regulations on monitoring and mutual attendance of training sessions in KSTU named after I. Razzakov. (Appendix 2.3.5 Regulations on monitoring and mutual attendance of classes at I. Razzakov KSTU). *Annex 2.3.1 Types of questionnaires* *Appendix 2.3.2 Student Questionnaire* *Annex 2.3.3 Questionnaire results* *Appendix 2.3.4 Extract from the minutes of the department meeting No. 5 of 31 January 2024.* *Appendix 2.3.5 Provision on monitoring and intersession of training sessions at I. Razzakov KSTU*	Executed

Standard 3. Resources

Criterion 3.1. Teaching staff — Executed

Summary of teaching staff

Dzhamanbaev Murataly Dzhuzumalievich

Head, Professor of the Department of Applied Mathematics and Informatics, I. Razzakov KSTU

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E-mail jamanbaevm@mail.ru URL ktu.page.kg

of

1. Education: academic and academic degrees, professional qualifications, disciplines taught, time work in this organisation:

Higher, Kyrgyz State University named after 50th anniversary of the USSR, Faculty of Mechanics and Mathematics, Diploma with honours, Speciality: Mathematics1969 - 1974.
Candidate of Physical and Mathematical Sciences (1985), Doctor of Physical and Mathematical Sciences (1999), Professor (2001).
Corresponding Member of the National Academy of Sciences of the Kyrgyz Republic (2021).
Professor of International Society of Engineering Pedagogy (ISEP)
Academician of Engineering Academy of Kyrgyz Republic
Honorary Doctor of Baltic State Technical University named after
D.F. Ustinov Russian Federation;
Member of Presidium of NAS KR on approval of candidate and doctoral dissertations
and on awarding scientific titles;
Academician of National Academy of Sciences Higher School of Kazakhstan.

Time and period of work in KSTU 21 years, from 1 September 2003 to present. Full-time employment.
Teaching disciplines: Probability theory and mathematical statistics, Algorithmisation and programming. Data analysis. Numerical methods.

2. Academic experience: previous positions in educational organisations, disciplines taught, departments, etc., full-time or part-

time:

Kyrgyz State Technical University named after I. Razzakov, Department of Numerical Methods. I. Razzakov Kyrgyz State Technical University, Department of Applied Mathematics and Informatics, Head of Department, Professor, 2021 - present.

Kyrgyz State Technical University named after I. Razzakov, Vice-Rector, Department of Applied Mathematics and Informatics, Professor, 2021 - present. I. Razzakov Kyrgyz State Technical University, Vice-Rector for Scientific Work, Rector, Professor, Head of M&I Department, 2003 - 2021.

Department of Science of the State Agency for Science and Intellectual Property under the Government of the Kyrgyz Republic, Head of the Department, 2000 - 2003.

Agricultural Institute named after K.I. Skryabin, Chair of PM&I, 2003 - 2021, Head of the Department, 2000 - 2003. K.I. Skryabin Agricultural Institute, Department of Higher Mathematics, Senior teacher, Associate Professor, Head of the Department, 1986 - 2000.

Institute of Automatics of the National Academy of Sciences of the Kyrgyz Republic, post-graduate student, M.Sc. 1977 - 1986.

Secondary school in the village of Kara-Jigach, Chui oblast. Kara-Jigach, Chui region, teacher of mathematics, 1974 - 1976

3. The most important publications and presentations, for the last five years - title, co-authors (if any), where published and/or presented, date of publication or presentation.

Published more than 110 scientific papers, including 2 monographs, 1 invention.

1. Nazarova L.A., Nazarov L.A., Dzhamanbaev M.D., Chanybaev M.K. Evolution of thermohydrodynamic fields in the vicinity of the protective dam of the tailings dam of the Kumtor mine (Kyrgyz Republic) // FTPRPI. 2015. № 1. C. 23-29.
2. Nazarova L.A., Nazarov L.A., Dzhamanbaev M.D., Chanybaev M.K. Modelling of the heat and mass transfer process in the vicinity of hydraulic structures in the cryolithozone. GIAB. 2015. № 9. C. 373-379.
3. Nazarova L.A., Nazarov L.A., Jamanbaev M.D., Chynybaev M.K. Modeling heat and mass transfer processes in the vicinity of waterside structures in cryolite zone // Reports of the XXIII International Scientific Symposium ‘Miner's Week - 2015’ 26-30 January, 2015. P. 35-40.
4. Nazarova L.A., Nazarov L.A., Miroshnichenko N.A., Dzhamanbaev M.D. Investigation of the heat and mass transfer process in the enclosing dam of the tailings dam in the zone of permafrost rocks / INTEREXPO GEO-SIBIR - 2015. Vol. 3 "Subsoil use. Mining. Directions and technologies of prospecting, exploration and development of mineral deposits. Geoecology": Collection of materials. XI Inter. scientific congress. - Novosibirsk: Izd. SGGA, 2015. C. 153-158.
5. Dzhamanbaev M.J., Kyshtobaeva G.K., Dushenova U.J. Analytical and numerical solution of the problem of frozen ground idling with regard to heat exchange and change of initial condition, XIV International Scientific Forum ‘Perspective Problems of Engineering Science’, A.N. Kosygin Russian State University, Moscow, 2023. A.N. Kosygin Russian State University, Moscow, 2023.
6. Dzhamanbaev M.J., Kyshtobaeva G.K., Konushbaev B.E. Influence of the type of boundary and initial conditions on the process of soil melting, International Scientific Conference ‘V Borubaev Readings’ dedicated to the 70th anniversary of NAS KR and 40th anniversary of the Institute of Mathematics of NAS KR, Bishkek, 20-21 June 2024.

4. Awards and prizes awarded

1. Excellent Educator of the Kyrgyz Republic.
2. Honoured Worker of Education of the Kyrgyz Republic, 2008. 3.
3. Medal ‘Dank’ of the Kyrgyz Republic, 2021.
5. Membership in scientific and various organisations
Corresponding Member of the National Academy of Sciences of the Kyrgyz Republic

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Professor of the Department of Applied Mathematics and Computer Science, KSTU named after I. Razzakov

1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher education, KSU named after the 50th Anniversary of the USSR, Faculty of Physics and Mathematics, Specialty (qualification): Physicist, teacher.

Year of admission and graduation: 1976-1981

Candidate of Technical Sciences. Doctor of Physico-Mathematical Sciences, Associate Professor of the Higher Attestation Commission of the Kyrgyz Republic, Professor.

Time and period of work at KSTU from 2019 to the present
Department of PMI, KSTU, Professor

Institute of Information Technologies of I. Razzakov KSTU, Director.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
1. 1981-1986: IKI Design Bureau of the USSR Academy of Sciences, engineer, software engineer
2. 1986-1989: FPI, Bauman Moscow State Technical University, PhD student
3. 1993-2004: IGDiGT named after U. Asanaliev, Associate Professor, Deputy Dean of the Mining and Metallurgical Faculty
4. 2004-2018: Boris Yeltsin State University, Associate Professor, since 2011 Professor
3. Certificates of professional development
1. 11/23/2015 - 12/25/2015: "The use of interactive technologies and equipment in the educational process", Boris Yeltsin State University.
2. 11/10/2012: "Syllabus creation, interactive teaching methods"

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

1. Kabaeva G.D. Mathematical modeling of near-surface phenomena at the anode during air-plasma cutting of metals. Zh.A. Zhainakov, G.D. Kabaeva, N.A. Amankulova // Proceedings of the International Conference MIT-2013, Vrnjacka Banja, Serbia; Budva, Montenegro, 05 – 14 September 2013. Beograd, 2014. pp. 290-300.
2. Kabaeva G.D. Numerical analysis of the effect of the working gas on the characteristics of the electric arc and the treated surface. G.D. Kabaeva, N.A. Amankulova, R.T. Sultangazieva // Innovations in Science, Novosibirsk, No. 1 (50), January 2016
3. Kabaeva G.D. Mathematical modeling of massive state around the mountain road slopes and high pit. S. Zh. Kuvakov, K. Ch. Kozogulov, G.D. Kabaeva // Eighth Asian Young Geotechnical Engineers Conference, Astana, 2016. pp. 237-239.
4. Kabaeva G.D. Fundamentals of modeling heat transfer processes. Zh.A. Zhainakov, G.D. Kabaeva, G.J. Beishekeeva. Textbook, Bishkek, 2016. 288 p
5. Kabaeva G.D. VAT of instrument massifs and subcarrier deposits at various sites of falling ore bodies. K.K. Abdyldaev, S. Zh. Kuvakov, G.D. Kabaeva // Mining industry, № 6 (136), 2017.
6. Kabaeva G.D. Problems of modeling processes in plasma-arc treatment of metals and their solutions. Zh.A. Zhainakov, G.D. Kabaeva, N.A. Amankulova // Modern Problems of Mechanics, Issue No. 27(1), Bishkek, 2017, pp. 18-23.
7. Kabaeva G.D. Computer modeling of the stress-strain state of the instrument array and subcarrier deposits with rock layers. K.K. Abdyldaev, G.D. Kabaeva, K.Ch. Kozhogulov, S. Zh. Kuvakov // Mining Industry, No. 3 (139), 2018, Moscow, pp. 92-94.
8. Kabaeva G.D. Processing of geological mining industry data of Kyrgyzstan and prospects for the use of BIG DATA technologies. N.A. Amankulova // Izvestiya KSTU, No. 3(47), Bishkek, 2018, pp. 492-498.
9. Kabayeva G.D. Development of innovative computer technologies in education and science of Kyrgyzstan. Zh.A. Zhainakov // International Forum "Global Silk Road", Astana, July 2018.

5. Membership in scientific and various organizations Corresponding Member of the Engineering Academy of the Kyrgyz Republic

6. Participation in scientific conferences

- International Conference "Mathematical and Information Technologies", Vrnjacka Banja, Serbia; Budva, Montenegro, 05 – 14 September 2013
- International. Global Silk Road Forum, Astana, July 2018

7. Awards and prizes awarded

1. Certificate of Honor from the State Committee of Industry, Energy and Subsoil Use of the Kyrgyz Republic, 28.03.2018
2. I.K. Akhunbaev Academic Prize, 02/07/2013
3. Excellent student of education of the Kyrgyz Republic, 09/20/2012
4. Certificate of Honor from the Ministry of Education and Science of the Kyrgyz Republic, 2005

Omuraliev Asan Sydygalievich
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URL: kstu.kg

1. Education: academic and academic degrees, professional qualifications, subjects taught, working time in this organization:
Higher education, Kyrgyz State University named after the 50th Anniversary of the USSR, Faculty of Mechanics and Mathematics, qualification: teacher of mathematics (1961-1969)
Time and period of work at KSTU from September 2, 2024 to the present. Professor
Academic degree: Doctor of Physico-Mathematical Sciences

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
1. 1979-1984: Kyrgyz Agricultural Institute (KSHI), Senior lecturer, Associate Professor
2. 1984-1988: Republican Computing Center of the Ministry of Higher Education of the Kyrgyz Republic, Head of Department, Deputy Director
3. 1988-1990: Kyrgyz State University, Head of the Department
4. 1990-1994: Ysyk-Kul State University, Head of the Department, Vice-rector
5. 1994-1998: Academy of Management under the President of the Kyrgyz Republic, Vice-rector
6. 1998-2024: Kyrgyz-Turkish Manas University, Professor, Head of the Department
3. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

• Scientific publications
1. Omuraliev A.S. Numerical solution of a singularly perturbed parabolic reaction-diffusion equation. In the collection of scientific papers dedicated to the 100th anniversary of the birth of Sergei Alexandrovich Lomov. M. 2023. pp. 81-87.
2. Omuraliev A.S., Abylaeva E.D. Asymptotics of solving a hyperbolic problem. In the same collection. M. 2023. pp. 73-80.
3. A. S. Omuraliev, Esengul kyzy. Power-law boundary layer in the hyperbolic system differential equations. In the proceedings of the International Conference dedicated to the 100th Anniversary of S.A. Lomov, Moscow, November 24-25, 2022, p. 47.

4. A. S. Omuraliev and P. Esengul kyzy. A Singularly Perturbed System of Parabolic Equations. Lobachevskii Journal of Mathematics, 2021, Vol. 42, No. 15, pp. 3696–3704.
5. Asan Omuraliev, Ella Abylaeva. Regularization of the Singularly Perturbed Cauchy Problem for a Hyperbolic System. Journal of Mathematical Sciences, Vol. 264, No. 4, July 2022, pp. 415-422.
6. S. Omuraliev and E. Abylaeva. Singularly Perturbed Multidimensional Parabolic Equation with Rapidly Oscillating Free Term. Ukrainian Mathematical Journal, Vol. 73, No. 12, May 2022.
7. Omuraliev A.S., Abylaeva E.D. Singularly perturbed multidimensional parabolic equation with a rapidly oscillating free term. In Ukrainian. Mat. Journal, 2021, vol. 73, No. 12.
8. A.S. Omuraliev and E. Abylaeva. Asymptotics of the Solution of a Parabolic Problem with a Nonsmooth Boundary Layer Function. 4th International Ankara Multidisciplinary Studies Congress, July 29-31, 2022, Ankara, Türkiye.
9. A.S. Omuraliev and Mederbek kyzy A. Finite Element Method for Solving Ordinary Differential Equations with the Parameter. Herald of Institute of Mathematics of NAS of KR, Bishkek 2022, №1, pp. 66-71.
10. Asan Omuraliev and Peil Esengul kyzy. Chapter: A System of Singularly Perturbed Parabolic Equations with a Power Boundary Layer. Licensee IntechOpen. Chapter distributed under the terms of the Creative Commons Attribution License.
11. Asan Omuralieva, Ella Abylaeva. Regularized Asymptotics of the Solution of Systems of Parabolic Differential Equations. Filomat 36:16 (2022), 5591–5602.
12. Asan Omuraliev, Ella Abylaeva. Asymptotics of the solution of the hyperbolic system with a small parameter. MANAS Journal of Engineering, Volume 10, Issue 2, (2022), Pages 188-192.
13. A. S. Omuraliev, E. D. Abylaeva, and P. Esengul kyzy. Parabolic Problem with a Power-Law Boundary Layer. Differential Equations, 2021, Vol. 57, No. 1, pp. 75-85.
14. Omuraliev A.S., Abylaeva E.D., Esengul Kyzyl. A parabolic problem with a power-law boundary layer. Differential Equations, 2021, vol. 57, No. 1, pp. 67-77.
15. Asan Omuraliev, Ella Abylaeva. Asymptotics of the solution of a hyperbolic system with a small parameter. Abstracts of the international scientific conference "Problems of modern Mathematics and its applications". Bishkek-2021. P. 93.
16. Asan Omuraliev, S. Kulmanbetova, P. Esengul kyzy. Asymptotics of the solution of a first-order partial differential equation with a small parameter. Abstracts of the international scientific conference "Problems of modern Mathematics and its applications". Bishkek-2021. p. 94.
17. Asan Omuraliev, P. Esengul kyzy. Asymptotics of the solution of a first-order partial differential equation with a power boundary layer. Abstracts of the international scientific conference "Problems of modern Mathematics and its applications". Bishkek-2021. p. 95.
18. Omuraliev A.S., Kozhobaev K.A., Sulaimanov K. Yktymaldyktar theory of mathematics and statistics. KR bilim beryu zhana ilim ministerliga. Okuu kitebi. Bishkek. 2020.
19. Asan Omuraliev, P. Esengul kyzy. Asymptotics of the Solution of a Parabolic System with an Irreversible Limit Operator.

Mathematical Analysis, Differential Equations & Applications (MADEA-9) International Conference Abstracts. Bishkek: KTMU, 2021. pp. 53-54.
20. Asan Omuraliev, Ella Abylaeva. Asymptotics of the solution of parabolic problems with nonsmooth boundary functions. Mathematical Analysis, Differential Equations & Applications (MADEA-9) International Conference Abstracts. Bishkek: KTMU, 2021. Pp. 52-53.
21. Asan Omuralieva, Ella Abylaeva. Singularly Perturbed Parabolic Problems. Boundary Layer Flows Theory, Applications and Numerical Methods, 2020, pp. 175-191.
22. A. S. Omuraliev, E. Abylaeva, and P. Esengul kyzy. A System of Singularly Perturbed Parabolic Equations with a Power Boundary Layer. Lobachevskii Journal of Mathematics, 2020, Vol. 41, No. 1, pp. 71–79.
23. Gülgün Afacan Adanır, Rita İsmailova, Asan Omuraliev, and Gulshat Muhametjanova. Learners' Perceptions of Online Exams: A Comparative Study in Turkey and Kyrgyzstan. International Review of Research in Open and Distributed Learning, 2020, Volume 21, Number 3, pp. 1-17.
24. Omuraliev A.S. Numerical solution of a singularly perturbed parabolic problem. The current collapse of science: Abstracts of the XI International Scientific and Practical Internet Conference, October 8-9, 2020, Dnipro, pp. 118-119.
25. Asan Omuralieva, Ella Abylaeva. Singularly Perturbed Parabolic Problem with Oscillating Initial Condition. Filomat 33:5 (2019), 1323–1327.
26. Asan Omuralieva, Peil Esengul Kyzya. Asymptotics of Solution to the Nonstationary Schrödinger Equation. Filomat 33:5 (2019), 1361–1368.
27. Omuraliev A.S. The asymptotics of solving a system of linear equations of parabolic type with a small parameter. Differential Equations, 2019, volume 55, No. 6, pp. 878-882.
28. Omuraliev A. S. Asymptotics of the Solution of a Parabolic Linear System with a Small Parameter. Differential Equations, 2019, Vol. 55, No. 6, pp. 878-882.
29. Asan Omuraliev, Ella Abylaeva. Two-dimensional parabolic problem with a rapidly oscillating free term. Manas Journal of Engineering, Vol. 7 (Issue 1) (2019) Pages 52-59.
30. Asan S. Omuraliev, Élla D. Abylaeva. Ordinary differential equations with power boundary layers. Journal of Mathematical Sciences, Vol. 242, No. 3, October 2019, pp. 427–431. DOI: 10.1007/s10958-019-04487-4.

• Methodological guidelines
1. Probability theory and mathematical statistics. Bishkek, 2023.
2. Numerical methods. Bishkek, 2024.
4. Main research interests
Differential equations, dynamical systems, and optimal control

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher education, Kyrgyz State University (now Kyrgyz National University named after J. Balasagyn), Faculty of Mechanics and Mathematics, Specialty: a mathematics teacher.

Candidate of Physico-Mathematical Sciences (PhD), code 05.13.16 “Application of computer technology, mathematical modeling and mathematical methods in scientific research”, topic: Mathematical modeling of groundwater movement and the spread of pollutants in them. Date of award: 1999

The time and period of work at KSTU is 19 years, from September 1, 2006 to the present. Full employment.

Subjects taught: Mathematical Methods in Economics, Econometrics, Databases.

2. Academic experience: previous jobs in educational institutions, subjects taught, departments, etc., full-time or part-time:

National Academy of Sciences of the Kyrgyz Republic, Institute of Automation, Researcher, Head of the Laboratory.

3. Certificates of professional development

1. “Innovative teaching using artificial intelligence". Bishkek, KSTU. 2025 (72 hours).

2. “Machine learning". Ministry of Digital Development of the Kyrgyz Republic, KSTU. 2024 (72 hours).

3. “The role of STEM technologies in education”. Bishkek, KSTU. 2024 (72 hours).

4. “Methodologies and Skills on Intelligent Big Data Analysis” in the frame of work of the Erasmus + Project "Establishment of training and research centers and courses development on Intelligent Big Data Analysis in Central Asia". Kavsek Primorska University, KSTU. 2022.

5. "Teacher and student of the future: who will study at universities tomorrow, and how will this change the requirements for a teacher?", ISTC, October, 2020.

6. "New Information Technologies in Education", Agency for Accreditation of Educational Organizations and Programs "Sapattuu bilim", March 2018.

7. ICT Training Course (C++), KSTU, June 2016.

8. ICT Training Course (JAVA), KSTU, June 2016.

9. AAOPO training seminar “Conducting independent accreditation of professional education programs and organizations”, AAOPO November 2018.

10. “Conducting independent accreditation of professional education programs and organizations", December 2018.

11. "Methodological features of teaching special information security disciplines at the Technical University", National Polytechnic University of Armenia, September 2016.

4. The most important publications and presentations over the past five years – title, co-authors, where published and/or presented, date of publication or presentation.

1. Loginov G.I., Toktogulova A.Sh., Duishokov K.D., Zhumaev T. Theoretical foundations of methods for preventing ice jams on the Ala-Archa and Alamedin rivers within the city of Bishkek / Izvestiya KSTU. No. 1 (69), 2024. – pp. 284-290.

2. Loginov G.I., Toktogulova A.Sh., Duishokov K.D., Zhumaev T. Modernization of hydraulic structures to prevent the formation of ice jams on the Ala-Archa riverbed / Izvestiya KSTU. No. 2 (70), 2024. – pp. 687-695.

3. Duishokov K.D. Algorithmic languages and programming. Methodological guidelines for the implementation of laboratory work for bachelors in the direction 710200 “Information systems and technologies". Bishkek: KSTU. 2021. – 48 p.

4. Duishokov K.D., Amankulova N.A. End-to-end practical training program and guidelines for practical training for students of

the direction 710200 “Information systems and technologies". – Bishkek: KSTU. 2023. – 46 p

5. Abdymutalov B.K., Duishokov K.D. Development of a security model for users of modern telecommunication systems / Scientific papers of undergraduates and students of KSTU named after I. Razzakov. Volume 8, 2024. – pp. 170-179.
6. Karimova G.K., Toibayeva Zh.J., Duishokov K.D. Methodological guidelines for the implementation of practical work in the discipline “Fundamentals of software” for students of the direction 710200 “Information systems and technologies". Bishkek: KSTU. 2023. – 48 p.
7. Isabekov A.A., Kurmanbek kyzy K., Duishokov K.D. Legal mechanisms for ensuring information security in the context of digitalization / Collection of scientific papers of undergraduates and students of the Kyrgyz State Technical University named after I. Razzakov: Vol. №5. 2023. – pp. 105-111.
8. Abdiev A., Duishokov K.D. Detection of network attacks in the CISCO system / Proceedings of the 64th International Network Scientific and Technical Conference of Young Scientists, graduate students, undergraduates and students Part I. 2022. – pp. 124-129.
9. Tursunbekova S.A., Duishokov K.D. Analysis and risk management of a secure information system / Materials 63 The International network scientific and Technical Conference of young scientists, graduate students, undergraduates and students. Part I. 2021. – pp. 223-228.
10. Tagaev N.A., Duishokov K.D. Design and development of the Kyrgyz Family Tree mobile application for the ANDROID platform / Proceedings of the 63rd International Network Scientific and Technical Conference of Young Scientists, graduate students, undergraduates and students. Part I. 2021. – pp. 217-222.

5. Awards and prizes awarded

1. Excellent student in education, 2005
2. Certificate of Honor of the AGUP KR, 2004
3. Certificate of Honor from KSTU, 2008
4. Certificate of Honor from the Presidium of the National Academy of Sciences of the Kyrgyz Republic, 2004.

Sagyndykov Melis Kalykberdievich

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher Education, Lomonosov Moscow State University, Faculty of Computational Mathematics and Cybernetics, Specialty: Applied Mathematics.

Candidate of Physico-Mathematical Sciences, code 01.01.02 – Differential Equations, 2001, Associate Professor, specialty "Mathematics" (dated April 26, 2012).

The time and period of work at KSTU is 6 years, from September 1, 2019 to the present. Full employment. Subjects taught: Numerical Methods, Game Theory and Operations Research, Decision Theory, TVMS.

2. Academic experience: previous jobs in educational institutions, full-time or part-time:

Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, Associate Professor, 2023 – present.
Kyrgyz State Technical University named after I. Razzakov, Department of Information Systems in Economics, Associate Professor, 2019-2023
OshSU, Department of Computer Science, Associate Professor, 2012-2019
OshSU, Deputy Dean for Distance Learning of the Faculty of Mathematics and Information Technology, 2007-2016, and until 2012, Acting Associate Professor of the Department of Informatics.
OshSU, Head of the Department of Informatics and Acting Associate Professor of the Department, 2002-2007.
OshSU, Department of Higher Mathematics and Mathematical Economics, Senior lecturer, 1998-2002.
Osh State University, full–time postgraduate study at OSH State University, specialty 01.01.02 - differential equations, 1995-1998.
Intern researcher at the Department of General Mathematics, Faculty of the Moscow State University named after M.V. Lomonosov, 1994-1995.
OshSU, Department of Computer Science and Computer Engineering, lecturer, 1992-1995

3. Certificates of professional development

From 01/13/2020 to 01/24/2020, he completed a refresher course in the program "Technological education using modern teaching methods. Public speaking and culture of speech", 72 hours.

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

1. "Asymptotic behavior of solutions to nonlinear volterra integral equations" / "Asymptotic behavior of solutions to nonlinear volterra integral equations" / Kydyraliev T.R., Chamashev M.K. - Problems of modern science and education Journal © Problemy Nauki Publishing House, Moscow 2022. No. 3 (172) Russian impact factor: 1.72, Scientific and Methodological Journal, pp.6-10.
2. Mathematical statistics / Batyrkanov M.Sh., Kydyraliev T.R., Taalaibekova A.T. Educational and methodological manual. Bishkek: Publishing House of I. Razzakov KSTU, 2022. 82 p.
3. Solving linear optimization problems using the MathCad package. / Bulletin of Osh State University, 2015, No. 4 issue IY, pp. 70-74.
4. Conjugation problems for pseudoparabolic equations of the third order in a half-band / Kozhobekov K. - Bulletin of the KNU. Special. You are the start. Proceedings of the IV International Conference “Asymptotic, Topological and Computer methods in Mathematics” dedicated to the 80th anniversary of Academician M.I. Imanaliev. Bishkek, 2011. pp. 274-277.
5. Sandyk metoddordun negizderi / Kozhobekov K., Abdilazizova A. - Osh, 2011. -180 p.
6. Boundary value problems for mixed-hyperbolic equations of the fourth order with an uncharacteristic contact line. / Asylbekov T., Chamashev M., Kozhobekov K. - News of OshTU. Proceedings of the scientific and technical conference "Actual Problems of engineering and modern technologies," Osh, 2008. pp. 215-220.
7. Some inverse problems for the Schrodinger operator with Kato potential / Razborov A., Serov V.S. - Inverse Ill-posed Problems vol.10, 2002. pp. 395-411.

5.Awards and prizes awarded

1. Certificate of Honor of the Ministry of Education and Science of the Kyrgyz Republic
2. “Excellent student of education” Of the Kyrgyz Republic

Tagaeva Sabina Bazarbaevna

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URL ktu.page.kg

1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher education, J. Balasagyn National University, Faculty of Mechanics and Mathematics, Specialty: mathematician, teacher. Postgraduate study: KSTU named after I. Razzakov.

Candidate of Physico-Mathematical Sciences, cipher 02/01/02 – Differential equations, dynamical systems and Optimal Control, 2016

Associate Professor in Mathematics, 2023

The time and period of work at KSTU is 28 years, from September 1, 2021 to the present - 05, rates.
Subjects taught: Mathematics 1, 2.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
2008-2017, International University of Innovative Technologies, Head of the Department of Natural Sciences
2016-2020 Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, Laboratory of Computational Mathematics, Senior Researcher
2021 Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, Scientific Secretary

3. Certificates of professional development

1. June 2020 National online Seminar on Modern Educational technologies EduTechKG 2020, certificate no. CMCAGG-CE000040, Ministry of Education of the Kyrgyz Republic
2. 02.11.2020 - 16.11.2020. PC courses (72 hours) "Pedagogy and psychology in educational activities", registration number 0000216043, Agency for Accreditation of Educational Organizations and Programs "Zapattuu bilim", Bishkek
3. 27- 28.11.2020 Online seminar "Didactics of pedagogical design for universities of the Kyrgyz Republic", 16 hours, National Erasmus+ Office in Kyrgyzstan
4. 12/10/2020 Belgian Education Council, Master class "How to build trust with students in distance learning?", certificate of attendance, No. 002MC101220, Belgium, Brussels

5. 12/24/2020 Belgian Education Council, Master class "Methods to create a video lesson", certificate of attendance, No. 001MC241220, Belgium, Brussels
6. 17-18.05.2021 Advanced course "Legal protection and protection of intellectual property objects: theory and practice", State Service of Intellectual Property and Innovation under the Kyrgyzpatent RCC, No. 00239
7. January 2021- April 2021 English Language course within the framework of the Erasmus+E LBA project
8. 06/21/2021- 30.06.2021 Additional professional program "Information technologies in the educational process", 24 hours, Baltic State Technical University "VOENMEH" named after D. Ustinov, St. Petersburg, certificate No. 7827 00308976, reg. 476/2021.
9. 07/24/2022 - 07/08/2022. Training on the topic "Methodologies and Skills on Intelligent Big Data Analysis", Erasmus+
10. 11/28/2022-12/15/2022, PC 72 hours. "Lecturer in the field of artificial Intelligence" at the ITMO National Research University, Russian Federation
11. 04/12/2023-04/14/2023 PC "Software Budgeting", 24 hours, Training Center of the Ministry of Finance of the Kyrgyz Republic, License No. LS 220000026 of the Ministry of Education and Science of the Kyrgyz Republic.
12. 06.12.2023 PC "Machine Learning-2023", National Center for Cognitive Research (NCCR) ITMO University, Russian Federation
13. 11/27/2023- 12/01/2023 PC "Frontiers of applied artificial intelligence: industry, economics, education-2023", ITMO, Russian Federation
14. 10/25/2023-11/04/1023 Scientific internship in China. Topic: "The Chinese path to modernization. South-South cooperation".
15. 06/13/2024-06/14/2024 Digital Technology Training (Karamai, China, Shina-SCO Big Data Cooperation Center), certificate No. SCOBDC-2024011011.

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.
1. Tagaeva S.B., Pankov P.S. "Search for new phenomena by numerical experiments with multidimensional equations" International scientific and practical conference "Development and prospects of engineering education: innovations in science and technology", dedicated to the 65th anniversary of the Kyrgyz State Technical University named after I. Razzakov/ Izvestiya KSTU named after I. Razzakov/ September 18-19, 2019, Bishkek.
2. Tagaeva S.B. "Mathematical and real mechanical modeling of a strange attractor" Mathematical and real mechanical modeling of a strange attractor (theses). Abstracts of the III Borubai readings. - Bishkek, 2019. - III Borubaev, s Readings, Bishkek, May 24, 2019
3. Pankov P.S., Tagaeva S.B. Strange mechanical attractors and their mathematical representation // Abstracts of the International Scientific and practical Conference "Actual problems of theoretical and Applied Mathematics" dedicated to the

100th anniversary of the birth of Professor Krivoshein L.E. Bishkek: Balasagyn National Research University, 2019, pp. 22-23.
4. Tagaeva S.B. Existence and stabilization of solution of system of differential equations describing arrangement of repeating points on a segment/ Herald of Institute of Mathematics of NAS of KR, 2020, No. 1. - Pp. 96-101.
5. Tagaeva S.B., Pankov P.S., Jeentaeva Zh.K. Strange mechanical attractors and their mathematical representation (article)// https://elibrary.ru. Bulletin of Jalal-Abad State University, 2020, № 2 (45). – Pp.13-17 0.
6. Tagaeva S.B., Pankov P.S. Systems of differential equations and computer phenomenon (article)// https://elibrary.ru. Bulletin of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, 2020, No. 2. - pp.86-93.
7. Tagaeva S.B., Kenenbaeva G.M. On constants related to the effect of "numerosity" (article)// Bulletin of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, 2021, No. 1.- pp. 10-16.
8. Pankov P., Tagaeva S. Existence and stabilization of solutions of systems of differential equations with discontinuity (theses)// International scientific conference "Problems of modern mathematics and its applications", Bishkek, 2021. - p. 54.
9. Kenenbaeva G.M., Tagaeva S.B. Category of oo-type processes in computational mathematics and algorithms to detect patterns (article)// Bulletin of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, 2021, No. 2. pp. 13-21.
10. Implementation of algorithm to detect patterns in irgöö-type processes (article)//
12. The category of "irgoo" type processes in computer mathematics (article)// Bulletin of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, 2022, No. 1, pp.142-147.
11. Properties of solutions of nonlinear ordinary differential equations with discontinuous right-hand sides on bounded smooth surfaces (article) // Science, new technologies and Innovations of Kyrgyzstan, 2022, No. 2, pp. 20-22. Bulletin of KGUST, 2022, IF- 0,173, pp. 1223-1227 (Kenenbayeva G.M., Askar K. L.)
13. On constants associated with the "multiplicity" effect (article) // Bulletin of KSUST, No. 2 (76), 2022, IF- 0,173, pp. 1099-1104 (Kenenbayeva G.M., Karabayeva S.Zh.)
14. Improved algorithm to detect patterns in irgöö-type processes // Bulletin of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, 2022, No. 2, 92-97
15. System of differential equations describing repeating points on a square and empty corners phenomenon (article)// Bulletin of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, 2023, No. 1, pp. 64-69/
16. Algorithms for determining the properties of solutions of nonlinear ordinary differential equations with discontinuous right-hand sides // Science and innovative technologies. - No.1/2023 (26). Bishkek, 2023. pp. 269-273 DOI: 10.33942/sit042277
17. Smoothness conditions for solutions of systems of nonlinear ordinary differential equations with discontinuous right-hand sides. Science and innovative technologies. - No. 2. 2023 (27). Bishkek, 2023. pp. 264-269 DOI: 10.33942/sit042332
18. Irgoo turundo kubulushtarda "Saimans" anyktoochu yma // Kyrgyz Republikasyn ilimine emgek sinirgen ishmer, KR UYAnyn macho-correspondenti, physics-mathematics ilimderinin doctor, Professor, KR UYAnyn ardaktu akademigi Keldibai Alymkulovdun 80 zhyldyk maarakesine arnalgan "Mathematics Zhana Bilim berunun actualduu maseleri" Attuu el Aralyk

ilimiy conference new materials: I bolum “Mathematics. Mathematik modeldo” [Electronic book resource] / A. Sopuev, T.M. Papieva, A.O. Keldibekovalar tarabynan editoriallangan. – Osh, 2023. – 264 b. – 136-139 b.

19. Hexagonal regularization phenomenon for system of differential equations describing repelling points on a square// Bulletin of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, 2023, No. 2, pp. 90-96

20. Algorithm to substitute pattern phenomenon for system of differential equations describing repeating points on a square// Bulletin of the National Academy of Sciences of the Kyrgyz Republic, No. 1 (2024), pp.195-200

21. Definitions of mathematical categories using effects and phenomena Science and innovative technologies. - No. 2(31). 2024, pp. 179-185, IF - 0,133 (Kenenbayeva G.M., Tagaeva S.B., Kenenbaev E., Suerkova A.M.)

5. Awards and prizes awarded

1. Certificate of Honor, Kyrgyz Technical University named after I. Razzakov, 2001
2. Certificate of Honor, Severelectro OJSC, 2011
3. Certificate of Honor, International University of Innovative Technologies, 2013
4. Certificate of Honor, Ministry of Education and Science of the Kyrgyz Republic, 2013
5. Certificate of Honor, International Scientific Foundation named after H.A. Rakhmatulin and T.O. Ormonbekov, 2016
6. Commemorative plaque in honor of the 60th anniversary of the Department of "Technology of Mechanical Engineering" of the I. Razzakov KSTU, 2018
7. Badge "Excellent student of education of the Kyrgyz Republic", Certificate of the Ministry of Education and Science of the Kyrgyz Republic No. 1425, November 5, 2019
8. Certificate of Honor from the National Academy of Sciences of the Kyrgyz Republic, 2022

Omuraliev Sagyndyk Bekishevich

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time of work in this organization: Higher education, Issyk-Kul State Pedagogical Institute, Faculty of Mathematics, specialty: Mathematician (teacher of mathematics, computer science and computer engineering) Year of admission and graduation: 1985-1992 Time and period of work at KSTU from 2005 to the present. Candidate of Physico-Mathematical Sciences, 25.00.20 – "Geomechanics, rock destruction by explosion, mining aerogasodynamics and mining thermophysics", 01.02.05 – "Mechanics of liquid, gas and plasma" 1. Senior Researcher specializing in Mining 2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time: 1. 1992-1993: Mathematics teacher, Kyzyl-Suu village, Issyk-Kul region . 2. 1993-1998: Lecturer at the Department of Applied Mathematics, Issyk-Kul K. Tynystanov State University. 3. 1999-2007: Researcher, Institute of Physics and Mechanics of Rocks of the National Academy of Sciences of the Kyrgyz Republic, Bishkek. 4. 2008-2016: Senior Researcher, Institute of Geomechanics and Subsoil Development of the National Academy of Sciences of the Kyrgyz Republic, Bishkek. 5. 2017 - present: Leading Researcher, Institute of Geomechanics and Subsoil Development of the National Academy of Sciences of the Kyrgyz Republic. 3. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation. 1. Omuraliev S.B. The influence of humidity on the strength properties of loamy soils under flat shear. Bulletin of the Kazakh National Technical University named after K.I. Satpayev, No. 2(96). Almaty, 2013. 2. Dzhamanbaev M., Omuraliev S. (2014) Determination of the slope slide curves and pressure of landslide values by variational methods. Abstracts of V Congress of the Turkic World Mathematicians (Kyrgyzstan, Bulan-Sogottu, 5-7 June, 2014) / Ed. A. Borubaev. Bishkek: Kyrgyz Mathematical Society. –P.324. 3. Omuraliev S.B. Determination of the coefficient of stability of a landslide slope based on established sliding lines and landslide pressure. Modern problems of continuum mechanics. Issue 19. Bishkek, 2014. pp. 135-140. 4. Omuraliev S.B. Determination of critical slip lines of a landslide-prone slope. Izvestiya KSTU named after I. Razzakov, No. 33, Bishkek. 2014. 5. Omuraliev S.B. Determination of the influence of the degree of water saturation of the soil on the evaporation process. Modern problems of continuum mechanics. Issue 21. Bishkek, 2015. pp. 135-140. 6. Omuraliev S.B. Determination of the position of the slope sliding line and the magnitude of the landslide pressure. The	

Potential of Modern Science, No. 3, Lipetsk, 2016. pp. 40-45.
7. Dzhamanbaev M.J., Omuraliev S.B. Influence of humidity on slope stability and strength properties of loamy soils. Problems of Modern Science and Education, No. 5(87), Moscow, 2017. pp. 116-119.
8. Dzhamanbaev M.J., Omuraliev S.B. The influence of the degree of soil water saturation and wind speed on the evaporation process. Actual Problems of the Humanities and Natural Sciences, No. 02, part V Moscow, 2017. pp. 113-118.
9. Omuraliev S.B. Taking into account changes in viscosity over time of weak clay soils when calculating precipitation. Modern problems of mechanics Vol.1. Bishkek, 2018. pp. 39-47 (co-author Falaleev G.N.).
10. Series (a methodological guide for second-year students in the field of Applied Mathematics and Computer Science. Bishkek, 2016).
4. Participation in scientific conferences
1. Abstracts of V Congress of the Turkic World Mathematicians (Kyrgyzstan, Bulan-Sogottu, 5-7 June, 2014) /
Ed. A. Borubaev. Bishkek: Kyrgyz Mathematical Society. –P.324.
2. International Conference "Current state and prospects of mining industry development" (October15-17, 2014). Bishkek.
3. XXIII International Scientific Conference "The Potential of Modern Science" (April 25, 2016), Lipetsk, Russia.
Main research interests
Mathematical modeling of the stability of landslide slopes, taking into account climatic factors and geomechanics.
5.Awards and prizes awarded
1. 2014: Certificate of Honor from FIT (I. Razzakov KSTU).
2. 2017: Certificate of Honor from the National Academy of Sciences of the Kyrgyz Republic for conscientious work in the system of the National Academy of Sciences of the Kyrgyz Republic.

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:
Higher education, KSPU named after I. Arabaev, Faculty of Physics and Mathematics, Specialty: Teacher of Computer Science and Mathematics, Master's degree: I. Arabaev Moscow State University, Institute of Pedagogy and Psychology,

Master of Pedagogy.

Candidate of Physico-mathematical Sciences, code 01.02.05 – Mechanics of liquid, gas and plasma, Temperature regime of structures located in permafrost conditions 2024

The time and period of work at KSTU is 11 years, from September 1, 2013 to the present. Full employment.
Subjects taught: Simulation of systems, Digital processing systems, Databases.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:

Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, Senior Lecturer, Associate Professor, 2013 – present.
M.Ryskulbekov KEU, Department of Applied Informatics, Senior Lecturer, 2007-2013
BGIEK, Department of Applied Informatics, Founder, 2000-2007
BVKK, Department of Higher Mathematics and Computer Science, Computer Engineer, 1997-2000

3. Certificates of professional development

1. Seminar "Financial literacy", certificate of the training center of JSCB Kyrgyzstan, Bishkek, March 23, 2017
2. Online seminar "Problems of modeling multiple hazards on a regional scale: assessing the risk of earthquakes, floods and landslides in Central Asia". Certificate, January 18-21, 2022
3. Online workshop "Vulnerability modeling for disaster risk assessment on a regional scale: applied to Central Asia". Certificate, February 22-25, 2022
4. Webinar "Introduction to the Anti-Plagiarism system". Anti-Plagiarism Certificate, November 2, 2022
5. Webinar "Search and analysis of grant support in the Web of Science". Clarivate Certificate, November 22, 2022

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

1. Management of the interaction of structures with frozen soils. Izvestiya KSTU named after I. Razzakov, No. 30. Bishkek, 2013
2. The influence of humidity on the temperature regime of the soil. The journal "Science and New Technologies" of the National Academy of Sciences of the Kyrgyz Republic, No. 1. Bishkek, 2014.
3. Numerical modeling of thawing of frozen soil under the base of a conifer storage facility. Izvestiya KSTU named after I. Razzakov, No. 31. Bishkek, 2014
4. Numerical simulation of the interaction of temperature fields of pulp and the base of a tailings pond. Modern Problems of Continuum Mechanics, issue 21, Bishkek, 2015.
5. Studying the influence of factors on the depth of soil freezing. The journal "The Potential of Modern Science", No. 3. Lipetsk, 2016.
6. The influence of the type of heat exchange of the surface with the environment on the thawing of permafrost. Journal.

"Modern science. Current problems and ways to solve them." №2 (24). Lipetsk, 2016
. 7. Investigation of the influence of climatic and man made factors on the temperature regime of soils. The journal "Actual problems of humanities and Natural Sciences". No. 8. Moscow, 2016.
8. Investigation of the effect of filtration flow in the zone of thawing soils. The journal "Actual problems of humanities and Natural Sciences". No. 1. Moscow, 2017
9. Assessment of the degree of influence of natural factors on soil freezing. Izvestiya KSTU named after I. Razzakov, issue 2(50) Bishkek, 2019
10. Analytical and numerical solution of the problem of thawing frozen soil taking into account heat transfer / M.J. Dzhamanbayev, Toktobek K.Sh. – Bishkek: Science, new technologies and innovations of Kyrgyzstan, 2023. No. 4
1. Awards and prizes awarded
1. Certificate of Honor from KEU, 2012
2. Certificate of Honor of the Ministry of Education and Science of the Kyrgyz Republic, 2019

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Home phone number
Mobile phone +996 (703) 633401
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URL ktu.page.kg

1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:
Higher education, Kyrgyz National University, Faculty of Mechanics and Mathematics, Specialty: Mathematics teacher, 1986
Time and period of work at KSTU 24, from September 1, 2000 to the present. Full employment.
Subjects taught: Object-oriented Programming, C++ Programming,
Programming languages and translation methods, Programming in a high-level language, Programming language Python, Applied Machine Learning with Python, Modern Programming Languages, Data Science.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science,

Senior Lecturer, 2011 – present.
Kyrgyz State Technical University named after I. Razzakov, Department of Computer Systems Software, Senior Lecturer, 2000 – 2011.
Technological University "Dastan", Department of Higher Mathematics and Computer Science, Senior lecturer, Professor, software Engineer, 1994 – 2000
Kyrgyz State National University, Department of Automated Control Systems and Programming, Senior lecturer, software Engineer, 1990-1994
Computing Center of the State Statistics Committee of the Kyrgyz Republic, Department of programming using DBMS, software Engineer I. Category II, 1986 – 1990

3. Certificates of professional development

1. Discovery and representation of knowledge: The perspective of formal concepts analysis. Scientific and Methodological Center of the National Research Nuclear University MEPhI, Certificate, November 2020.
2. How to prepare an article for publication in an indexed journal? Finding popular topics for your research, Certificate. How to prepare an article for publication in an indexed journal. December 2020
3. English language courses under the Erasmus+ ELBA project "Creation of educational and research centers and development of courses on big data mining in Central Asia", 2021, May, Certificate, 2021 Jan-May
4. National Seminar on the Integration of qualification requirements for ICT Competence, Kyrgyzstan, Bishkek, UNESCO, June 14-17, 2021, Certificate, June 14-17, 2021
5. Training: "Data analysis and processing" under the ERASMUS+ Elba project "Creation of research centers and courses on big data mining in Central Asia" University of Santiago de Compostella, Santiago de Compostella, Spain, Certificate. 2021 November 2-12
6. Online seminar "Problems of modeling multiple hazards on a regional scale: assessment of the risk of earthquakes, floods and landslides in Central Asia" January 18-21, 2022 Certificate
7. Online seminar "Vulnerability modeling for disaster risk assessment on a regional scale: applied to Central Asia" February 22-25, 2022, Certificate.
8. Training on improving capacity building in the education of the new generation. UNDP Certificate, 2022 February 17-25.
9. Online seminar, academic training on big data mining methodologies and skills on the Erasmus+ ELBA CBHE project. Bukhara ITI, Uzbekistan, May 16-20, 2022, Certificate, 2022, May 16-20.
10. Academic training on big data mining methodologies and skills for the Erasmus+ ELBA project, Bishkek, KSTU, July 4-8, 2022, Certificate, July 4-8, 2022.
11. National Seminar on the Integration of Qualification Requirements for ICT Competence, Kyrgyzstan, Bishkek, UNESCO, October 23-26, 2022, Certificate, October 23-26, 2022.

12. 72-hour virtual training on Big Data Mining project (ERASMUS+ ELBA) Certificate, 2022 September 14 – December 20.
13. Certificate for active participation in the international scientific conference "Applied Mechanics and Innovative Technologies" dedicated to the 80th anniversary of Professor S.A. Abdrakhmanov. January 12, 2023.
14. Participation in the final meeting of the Management of the project "Creation of research centers and courses on big data mining in Central Asia" ERASMUS+ ELBA University of Primoska in Koper, Slovenia, Koper, Certificate, January 21-23, 2023
15. XIV International Scientific Forum "Promising Tasks of Engineering Science" A.N. Kosygin Russian State University, Moscow, Certificate, 2023, May 17.
16. IT in Education, CPC KSTU, Bishkek, Certificate, 2023, May 3-6
17. Fundamentals of Data Analysis, Hi-Tech Park, KSTU, Bishkek, Certificate, 2023, May 15-26
18. English Language Courses (Intermediate (A)), BLC Educational Center, Bishkek, Certificate, 2023, August 3-29
19. International Conference "We are the intellectuals of the 21st century", Issyk-Kul village, Chok-Tal, club hotel "RoyalBeach", March 2024.
20. International Scientific Conference "V Borubayev Readings" dedicated to the 70th anniversary of the National Academy of Sciences of the Kyrgyz Republic and the 40th anniversary of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, Bishkek, June 20-21, 2024 Certificate, 2024, June 20-21.

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

1. Dzhamanbayev M.J., Kyshtobayeva G.K., Konushbayev B.E. The influence of the type of boundary and initial conditions on the process of soil melting, International Scientific Conference "V Borubai Readings" dedicated to the 70th anniversary of the National Academy of Sciences of the Kyrgyz Republic and the 40th anniversary of the Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, Bishkek, June 20-21, 2024.
2. Turkmanov Zh.K., Kyshtobaeva G.K., Agybaev A.S. Asymptotic expansions of solutions of singularly perturbed ordinary differential equations with a singular point. In Proceedings of the American Institute of Physics AIP (Scopus) Conference, February 2024
3. Kyshtobaeva G.K., Urumbekov A., The Transformative Potential of Large Language Models in the Tourism Sector", International Conference."The future of tourism is innovation and Sustainable development", Singapore Institute of Management Development, Tashkent, Uzbekistan, September 2023
4. Kyshtobaeva G.K., Joloi u. Kairat, Utilization of Innovative Technologies In Tourism
International Conference "The Future of Tourism is Innovation and Sustainable Development", Singapore Institute of Management Development. Tashkent, Uzbekistan, September 2023
5.Dzhamanbayev M.J., Kyshtobayeva G.K., Dushenova U.J. Analytical and numerical solution of the problem of frozen soil

stagnation taking into account heat transfer and changes in the initial condition, XIV International Scientific Forum "Promising problems of Engineering Science", Russian State University. A.N. Kosygin University, Moscow, 2023.
6. Turkmanov Zh.K., Agybaev A.S., Kyshtobaeva G.K., On the asymptotic behavior of solutions of a generalized homogeneous system of differential equations. Bishkek, Boris Yeltsin University, 2022
7. Kyshtobayeva G.K., Urumbekov A.U., Advanced detection of giant objects. International Scientific Conference "Applied Mechanics and Innovative Technologies" dedicated to the 80th anniversary of Prof. Abdrakhmanova S., KSTU, Bishkek, January 12, 2023
8.Dzhamanbaev M. J., Kyshtobayeva G.K., Sadybakasova K. K., Analytical solution of thawing and freezing in a two-dimensional formulation. International scientific and practical conference dedicated to the 70th anniversary of the scientist M. J. Dzhamanbaev, PhD, Corresponding member. NAS KR, Bishkek, 2022
9. Kyshtobayeva G.K., Nurbek uulu Arsen. "Development of a 2D mini-laser plotter based on Arduino", Izvestiya KSTU named after I. Razzakov, 2020
10. Kyshtobayeva G.K., Chirkov A., "Development of a web application for django and django rest framework for managing elite multi-storey buildings", Izvestiya KSTU named after I. Razzakov, 2020.
11 .Kyshtobayeva G.K. Moskalenko A.A. Development of a chat robot with learning elements for the Telegram messenger, Izvestia, I. Razzakov KSTU, Bishkek, 2017.
12. Kyshtobayeva G.K., Moskalenoko A.A. 2D simulation of the computer game "Counter-Strike" using object-oriented programming (MFC). Ryskulov Moscow State University. Bishkek.2017
13. Kyshtobayeva G.K., Kachkynbai U. S. Logical computer games "CHECKERS" and "TIC-TAC-TOE" Izvestiya KSTU, 2014.
14. Methodological guidelines and tasks for laboratory work in the discipline "Data processing structures and algorithms" for students of special education. "POVTAS" Bishkek, KSTU, 2004-29 c
15. Object-oriented programming. Methodological guidelines on course design for students of specialization 552801.04 "POVTAS" Bishkek, KSTU, 2009
16. Object-oriented programming part II. Methodological instructions to performance of laboratory works, Bishkek, KSTU, 2009-28 17. APPLIED BUSINESS STATICS Methodological instructions to performance of laboratory works. Applied random data analysis. Bishkek, KSTU, 2009-19 s
18. Laboratory work on the Computer Science course "Programming in C++". Bishkek, KSTU, 2012
19. Programming languages and translation methods. Guidelines and tasks for laboratory work for students of the specialty "Applied Mathematics and Computer Science". Bishkek. KSTU, 2017
20. Object-oriented programming. Guidelines for laboratory work for students majoring in Applied Mathematics and Computer Science. Bishkek, KSTU, 2017- 23 p.
21. Programming in Python. Guidelines for laboratory work for students majoring in Applied Mathematics and Computer

Science. Bishkek, KSTU, 2022- 39 p.

5. Awards and prizes awarded
   1. Letter of thanks from I. Razzakov KSTU, 2008.
   2. Certificate of Honor from I. Razzakov KSTU, 2010.
   3. Letter of thanks from the Ministry of Education and Science of the Kyrgyz Republic, 2019
   4. Certificate of Honor from the Ministry of Education and Science of the Kyrgyz Republic, 2021

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URL ktu.page.kg

1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher education, Balasagyn KGNU, Faculty of Mathematics and Computer Science, Specialty: teacher of Mathematics; Master's degree: OFAVO "TeachEx", Master of Business Administration.
The time and period of work at KSTU is 21 years, from September 1, 2003 to the present. Full employment.
Subjects taught: Bachelor's degree: Time Series Analysis and Forecasting, Introduction to Big Data, Statistical Methods of Data Analysis, Discrete Mathematics, Game Theory and Operations Research, Decision Theory,
Mathematical modeling using computer systems; Master's degree in Big Data Analysis and Processing, Discrete and mathematical models, Mathematical models in economic problems, Mathematical Foundations of Project Management.
2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, Senior Lecturer, 2022 – present.
Kyrgyz State University of Construction, Transport and Architecture named after N. Isanov, Department of Applied Mathematics and Computer Science, Senior Lecturer, 2003-2022
Kyrgyz State University of Construction, Transport and Architecture named after N. Isanov, Kyrgyz-Chinese Educational Center, Director, 2010-2011
Technological University "Dastan", Department of "Natural Sciences", Senior lecturer, 2001-2003
Zh. Balasagyn KGNU, Full–time postgraduate study, Specialty: 01.01.02 – differential equations, 1999-2001

Mayevskaya secondary school of the Alamudunsky district of the Chui region, mathematics teacher, 1998 – 1999 3. Certificates of professional development 1. Seminar "Fundamentals of data analysis", certificate of the High Technology Park of the Kyrgyz Republic, Bishkek, 2023 2. Online seminar "Teacher in the field of artificial intelligence", certificate of the Joint Venture of the National Research University "ITMO" of the Russian Federation, 2022 3. Seminar "Fundamental of Data Analytics", certificate of the High Technology Park of the Kyrgyz Republic, Bishkek, 2022 4. Online training "Improving capacity building in new generation education: fundamentals of artificial intelligence, data science, neural networks and machine learning", ULUT Soft certificate&UNDP, Bishkek, 2022 5. Online seminar "Using Google Collaboration and Python for computing and data visualization", certificate from Ala-Too International University, Bishkek, 2020 6. Seminar "Training of independent accreditation experts", certificate of the Agency for quality assurance in education "EdNet", Bishkek, 2018 7. Graphic & Web Design Course, APTECH Certificate, New Delhi, India, 2013 8. Seminar "Analysis of Poverty and Inequality with SPSS software", World Bank certificate, Bishkek, 2012 4. Main publications and presentations for the last five years – title, co-authors (if any), where published and/or presented, date of publication or presentation. 1. Trend forecasting models. Erkinbek K. Zh., Kukanova R.A. Modern problems of geomechanics, No. 56(2), Bishkek, 2024. 2. Determination of the capacity of a stopping point. Sharshenbekov K.K., Agybaev A.S. Modern Problems of Geomechanics, No. 56(2), Bishkek, 2024. 3. Visualization of the optimal route using WEBGL. Sadykova A.N., Alisherov A.A. Modern Problems of Geomechanics, No. 50 (4), Bishkek, 2022. 4. A risk-based approach to conducting an information security audit. Askarova M.M., Erkinbaev T.D., Osmonkanov A.M. Modern Problems of Geomechanics, No. 50 (4), Bishkek, 2022. 5. Application of mathematical methods in the study and analysis of statistical data, using the example of building models of exchange rates. Ryspaev A.O., Sydykova A.Zh., Zhaparkulov Zh.Sh. Materials of scientific papers dedicated to the 90th anniversary of Corresponding Member of the National Academy of Sciences of the Kyrgyz Republic Biybosunov I.B., Scientific and Technical Journal No. 48(2), Bishkek-2022. 6. Back-end platformsin koldonup mobildik koldonmolordu ishtep chyguunun technologiyalary. Ryspaev A.O., Kydyralieva G.K. International Scientific and Practical Conference of the N. Isanov KGUSTA, Bishkek, 2021, N. Isanov at. KMKTAUnun Zharchysy, No. 1 (75), Bishkek sh., 2022. 7. Mathematical modeling of the interval optimization problem under uncertainty. Sadykova N.A., Taalaibekova M.T. Modern Problems of Mechanics, No. 46(4), Bishkek, 2021. 8. Mathematical methods of economic data analysis. Alisherov A.A., Taalaibekova M.T. International Scientific and Practical	

Conference of the KGUSTA named after N. Isanov, Bishkek, 2021. Modern Problems of Mechanics, No. 46(4), Bishkek, 2021.
9. Forecasting financial time series using an autoregressive model. Kurmanbekova A.K. Modern problems of mechanics. No. 40(2), Bishkek, 2020.
10. Mathematical modeling of the real estate market. Alisherov A., Belek K. A. Modern problems of mechanics. No. 40(2), Bishkek, 2020.
11. On some problems of geophysics and mechanics that can be reduced to the Volterra-Fredholm equations. Ryspaev A.O., Zhumabayeva S.A. International Scientific and Practical Conference of the KGUSTA named after N. Isanov, Bishkek, 2021. Collection of scientific papers by magist/v and studen/v KGUSTA, Volume 8, Bishkek, 2021.12.
Wave modeling in shallow water using the particle method. Osmonkanov A.M., Logvinenko A.S. Modern Problems of Mechanics, No. 36 (2), Bishkek, 2019.
13. Multiple regression model of concrete strength. Kamchybekova D.K. Collection of scientific works of magist/in and student/in KGUSTA, Volume 3, Bishkek, 2019.
14. Application of the random search method in solving problems of mechanics. Modern Problems of Continuum Mechanics, Issue 17, Bishkek, 2013.
15. Research of some problems of mechanics using optimization methods and IT technologies. Abdieva S.K. Proceedings of the International Scientific and Practical Conference of the N. Isanov KGUSTA, No. 2 (32), volume 2, Bishkek, 2011.
16. Information technologies in teaching Chinese. Proceedings of the 1st Republican Joint Conference of the Confucius Institute at the J. Balasagyn National University, Bishkek, 2011.
17. Regularization of the solution of a nonlinear integral equation of the first kind of the Voltaire type. Collection of scientific papers of the KSPU named after I. Arabaev, IV issue, Bishkek, 2000.
5. Membership in scientific and various organizations.
- UME Higher Professional Education in the field of engineering and technology in the areas of "Applied Mathematics and Computer Science" and "Business Informatics" at the I. Razzakov KSTU;
- Higher professional education in the specialties of SPE "Computer engineering and automated systems programming", "Programming in computer systems", "Maintenance and repair of computer equipment and computer networks";
- expert of the Licensing Commission of the Ministry of Education and Science of the Kyrgyz Republic;
- Scientific Secretary of the Academic Council of the KSPI KGUSTA named after N. Isanov (2016-2018);
- Scientific Secretary of the Academic Council of the INIT KGUSTA named after N. Isanov (2008-2016).
Awards and prizes
1. Certificate of Honor of the Ministry of Education and Science of the Kyrgyz Republic, 2024
2. The best curator of the Kyrgyz State University of Construction, Transport and Architecture named after N. Isanov, 2017
3. Certificate of Honor of the Kyrgyz State University of Construction, Transport and Architecture named after N. Isanov, 2009
4. Certificate of Honor of INIT Kyrgyz State University of Construction, Transport and Architecture named after N. Isanov,

2007.

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Home phone number
Mobile phone +996(770) 618342
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URL ktu.page.kg

1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher Education, Kyrgyz Branch of Moscow International University of Business and Information Technologies

(MMUBiIT). Faculty: Information Technology, Specialty: "Mathematical Methods and Operations Research in Economics" Candidate of the Department of Applied Mathematics at the I. Razzakov KSTU. Topic: "Analytical and numerical solution of heat transfer problems"

Time and period of work at KSTU 22 years, from September 1, 2002 to the present. Full employment.

Subjects taught: Simulation of systems, Computer graphics, Computer Science 1, 2, Information systems, Flash technologies and animation.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:

1. KSTU named after I. Razzakov, Department of Computer Systems Software, senior laboratory assistant 2002.
2. KSTU named after I. Razzakov, Department of Computer Systems Software, Lecturer. 2004-2008.
3. KSTU named after I. Razzakov, Department of Applied Mathematics and Computer Science, senior lecturer, 2008
4. KSTU named after I. Razzakov, Department of Applied Mathematics and Computer Science, Deputy Dean of the Faculty of Information Technology for Scientific and Educational Work, 2017-2022
5. KSTU named after I. Razzakov, Department of Applied Mathematics and Computer Science, senior lecturer, 2008 to the present.

3. Certificates of professional development

1. 2017 Modern information technologies in the educational process/ (KSTU named after I. Razzakov)
2. 2020. Python Basics of "Bug Media"
3. 2020. What will be the engineering education of the future? (National Research Nuclear University MEPhI)
4. 2020.Inability to change: Why only with the help of
5. Technology cannot change education. (National Research Nuclear University MEPhI)
6. 2020. Knowledge discovery and representation. The perspective of analysis

7. Formal concepts. (National Research Nuclear University MEPhI)
8. 2021 Unity. Education. Creation. (LCD KR)
9. 2022. Training "Improvement and capacity building in the education of the new generation"
10. 2022. Retraining "Methodologies and Skills on Intelligent Big Data Analysis"
11. 2023 "IT technologies in education"

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

1. Methodological guidelines for the discipline "Computer graphics" 2017.
2. Methodological guidelines for laboratory work in Adobe PhotoShop CS5. 2017
3. Educational and methodical manual on the discipline "Operating systems, environments and shells", for students of the specialty "Applied Mathematics and Computer Science" 2019. Compiled by: Kabaeva G.J., Shekeev K.R., Dushenova U.J.
4. Guidelines for laboratory work in the discipline "Flash technology and animation" 2021.
5. Guidelines for laboratory work in the discipline "PYTHON programming language" 2022. Kyshtobayeva G.K., Dushenova U.J.
6. Methodological guidelines for laboratory work in the discipline "Computer Science 1, Computer Science 2" 2023. Kyshtobayeva G.K., Dushenova U.J., Bazarkul K.N.
7. Determination of the depth of melting of frozen soil under the base of the tailings dam. Izvestiya KSTU named after I. Razzakov No. 29, 2013. Dzhamanbaev M.J., Tursunkulova Z., Dushenova U.J.
8. Methodology for determining the temperature and heat transfer coefficients of the soil. Izvestiya KSTU named after I. Razzakov No. 29, 2013. Dzhamanbaev M.J., Tursunkulova Z., Dushenova U.J.
9. Mathematical modeling in oncology. Materials of the Scientific and Technical Conference of Young scientists, postgraduates and students. 2016, Part 2. Akbarova B.
10. Determination of the displacement range of the landslide mass. Izvestiya KSTU named after I. Razzakov, No. 4(48) 2018jamanbaev M.J., Omuraliev S.B.
11. "Assessment of the degree of influence of natural factors on soil freezing" Izvestiya KSTU named after I. Razzakov Part 1, 2019. Pp.164-168 Dzhamanbaev M.J., Shekeev K.
12. Probabilistic and statistical analysis of household electricity consumption in the city of Karakol. Journal "Science, New Technologies and Innovations of Kyrgyzstan" Bishkek, 2022
13. International Scientific and Practical Conference "The role of science and innovative technologies in the sustainable development of mountain territories and ecosystems" by I. Razzakov KSTU, M. Dzhamanbaev.
14. "Determination of the time period of the unstable part of the heat transfer process in frozen soils under the influence of a set temperature" NAS KR, 2022.

5. Participation in scientific conferences

1. "Assessment of the degree of influence of natural factors on soil freezing" 65th Anniversary of the I. Razzakov KSTU
2. "Determination of the time period of the unstable part of the heat transfer process in frozen soils under the influence of a set temperature" NAS KR, 2022.
6. Membership in scientific and various organizations Scientific project "Mathematical modeling of landslide processes in loamy soils of Kyrgyzstan" Scientific Research Institute of FTP at KSTU named after I. Razzakov, 2021-2022 – Researcher
7. International project "Creation of training and research centers and development of courses on big Data mining in Central Asia" (ELBA) 2019-2023 Member of the working group
8. Scientific project "Mathematical modeling of landslide processes in loamy soils of Kyrgyzstan" Scientific Research Institute of FTP at KSTU named after I. Razzakov, 2025-2027 – Researcher
7.Awards and prizes awarded
1. Certificate of Honor of I. Razzakov KSTU 2007
2. Certificate of Honor of the I. Razzakov KSTU in 2013.
3. Letter of thanks in 2018
4. Thank You Letter 2019
5. Thank You Letter 2020
6. Thank You Letter 2021
7. Thank You Letter 2023
8. Certificate of Merit of the Ministry of Education of the Kyrgyz Republic 2020.
9. Badge "Excellent student of Education" of the Ministry of Education of the Kyrgyz Republic 2023.

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URL kstu.kg

1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher education, Balasagyn KNU, Faculty of Mechanics and Mathematics, specialty "mathematics", qualification

mathematician, graduate school of KASI.
Time and period of work at KASI, KGUSTA, KSTU for 28 years, from September 1, 1996 to the present. Full employment.
Subjects taught: Probability theory and mathematical statistics 1, 2, Optimization methods, Differential equations.
2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, Senior lecturer, from 2022 to the present.
N. Isanov KGUSTA, Department of Applied Mathematics and Computer Science, Senior lecturer, 1996-2022.
3. Certificates/certificates of professional development
1. Certificate of "IT in education" advanced training course, July 4-8, 2023
2. Certificate "All-Russian digital lesson on working with the IPR books electronic library system", 09/10/2021
3. Certificate of the scientific seminar "Computing security and reliable methods of data storage in virtual environments", 2019
4. Certificate of the scientific seminar "Numerical methods for solving boundary value problems for the fractional diffusion equation", 2019

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.
1. Analysis of the correlation coefficient in linear statistical communication. Bulletin of the KGUST named after N. Isanov, volume 3, Bishkek, 2019.
2. Adequacy of the selective smoothing regression equation. Bulletin of the KGUST named after N. Isanov, volume 3, Bishkek, 2019.
3. From the experience of teaching higher mathematics in engineering and economics (article). Ministry of Education and Culture of the Kyrgyz Republic, KGUSTA, (ISSN 1694-5298), Bulletin 4(18), Bishkek, 2007.
4. From the experience of teaching mathematical analysis in economic specialties (article). Ministry of Education and Culture of the Kyrgyz Republic, KGUSTA, (ISSN 1694-5298), Bulletin 2(36), Bishkek, 2012.
5. Probability theory: Random variables (met.ed.). Methodological guide for students of specialty 510201- Applied Mathematics and Computer Science, /Kyrgyz State University of Civil Engineering, N. Isanov Transport and Architecture, Bishkek, 2017.
6. Linear Integral equations (met. decree). Methodological guide for students of specialty 510201- Applied Mathematics and Computer Science, /Kyrgyz State University of Civil Engineering, N. Isanov Transport and Architecture, Bishkek, 2017

5. Awards and prizes awarded
1. Certificate of Honor from INIT, KGUSTA, 2017
2. Certificate of Honor from KGUST, 2015.
3. Certificate of Honor of the Ministry of Education and Science of the Kyrgyz Republic, 2017.

Aida Toktonaly
Senior teacher of the Department "Applied Mathematics and Informatics" KGTU named after I. Razzakova
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Mobile phone +996(777) 557004
E-mail aidatoktonaly@kstu.kg
URL kstu.kg/bokovoe-menju/instituty/institut-informacionnykh-tekhnologii/prikladnaja-informatika/sostav-kafedry/toktonaly-aida

1. Education: academic and academic degrees, professional qualifications, taught disciplines, working time in this organization:

University, KGPU KGTU im. I. Razzakova, faculty of information technologies, specialty: engineer on VMKSS.
Doctoral (PhD) program of KGTU named after I. Razzakova, Bishkek c 2022.

2. Academic experience: previous jobs in educational organizations, taught disciplines, departments, etc., full-time or part-time:

1. - 2006-2009 teacher, KGTU named after I. Razzakova
2. - 2009-2022. teacher, BSU im. K. Karasaeva
3. - in 2022. teacher, KGTU named after I. Razzakova

Teaching disciplines: Data science, Statistical analysis and experiment planning, Organization of data processing, Development of BD applications.

3. Certificate/certificate of improvement of professional qualification

June 1, 2024. UrFU IRIT-RTF "Machine learning: advanced level"
2 June-August 2024 UrFU IRIT-RTF, Andrey Sozykin's course "Natural language processing", "Neuronet for text analysis"
3 20.05-10.07.2024 Fablab Bishkek, "Professor training"
4 24.02.2023 National Open University INTUIT, certification exam "Python: OP i class" (online)
5 21.11.2022 – 24.12.2022 HAW Hamburg, Hamburg, Certificate course on "Systematic literature review", "Python for Data Analysis: Data Wrangling with Pandas, NumPy, Matplotlib and Jupyter" and "Good academic practice and scientific literature review".
6 28.11.2022 - 15.12.2022 NIU ITMO, St. Petersburg, advanced training program: "Teacher in the field of artificial intelligence" (online)
7 04.02.2015 - 31.03.2015 National Institute of Technical Teachers Training, Chennai, Advance Certificate course on Information and Communication Technology in Education

5. Awards and awards

1 Certificate of honor BSU named after K. Karasaeva, 2014
2 Certificates for the 3rd place in the competition "Teacher-innovator 2014"
3 Diploma of the Ministry of Education and Culture of the Kyrgyz Republic, 2019
4 Diploma of the II degree for the II place in the competition "Best EUMC-2023"

Zhusueva Nargiza Zholdoshbekovna

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time of work in this organization:
Higher, KGUSTA Institute, Specialty: computer scientist and economist.
Postgraduate study: I. Razzakov KSTU, 05.13.01. Head, Doctor of Technical Sciences, professor. Torobekov B.T.
The time and period of work at KSTU is 17 years, from September 1, 2007 to the present. Full employment.
Subjects taught: Computer Science, Information Security and information protection, Information system design, Information Systems, Electronic document management.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
Kyrgyz State Technical University named after I. Razzakov, Department of Information System in Economics, Senior Lecturer, 2008-2023
Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, Senior Lecturer, 2023 – present.

3. Certificates of professional development.
1. Training seminar on advanced training on the topic: "Accounting in government agencies" 36 hours. Education and Career Promotion Center. KSTU. Certificate. No. LE 180000971. Reg.No.11-2450 Bishkek;
2. Professional development training course on the topic: 1C Accounting 8.2. LLC Parnas. 36 hours. Certificate. # A-3627. License no. LE180000363. Bishkek;
3. Advanced training course on the program: "Technological education using modern teaching methods. Public Speaking and

culture of speech" (72 hours) Certificate. The register. No. E2019-0101 Bishkek;
4. CERT ACADEMY. To change the mindset in management systems with the new standards ISO 9001, ISO14001, ISO 22000, ISO 31000, ISO 37001, ISO 45001 and ISO 50001" Certificate. VSIN/BIN 110840016473; Kazakhstan. Almaty.
5. International CERT ACADEMY Conference. Change your mindset: An MBA or ISO standards for Management systems" Certificate. VSIN/BIN 110840016473; Kazakhstan. Almaty.
6. Clarivate Web of Science. Information and analytical resources and training. Search in the relevant literature: accessible treasures of the Web of Science" Certificate.
7. Clarivate Web of Science. Information and analytical resources and training. Online webinar on the topic: "Choose a magazine for publication and make no mistake with the choice."
8. Clarivate Web of Science. Information and analytical resources and training. Online webinar on the topic: "Web of Science: new interface, new features, new functions" Certificate.
9. Researcher Academy Op Campus Certificate of Attendance. How to prepare an article for publication in an indexed journal? Finding popular topics for your research" Certificate.
10. Researcher Academy On Campus Certificate of Attendance. How to publish an article and become popular author. Author profiles in Scopus. Certificate.
11. Fundamentals of scientific and pedagogical activity for young scientists and teachers; Electronic library e-library: Functions and search capabilities; Design of an abstract and dissertation. Requirements of the Higher Attestation Commission" I. Razzakov KSTU Certificate.
12. Chinese language courses. Certificate No.286317.
13. Using HTML. Certificate No. 1014-20015468.
14. The Anti-Plagiarism system as a tool for improving the quality of scientific and educational work in the Kyrgyz Republic. Certificate No. 20201217/276
15. Csigse CSS Certificate No.1023-20015468.
16. Csigse JavaScript. Certificate No.1028-20016875.
17. Using SQL. Certificate No. 1060-20015468.
18. Investment banking from the inside. Certificate No. 868710
19. Predatory magazines: how to recognize them and how to avoid them.
20. International online webinar. Clarivate Web of Science.
21. The State Agency for Intellectual Property and Innovation of the Kyrgyz Republic confirms participation in the in-depth training course "Protection and Preservation of Intellectual Property: theory and practice" Certificate No. 00214
22. EBSCO_Discovery Service_VS_Google Scholar comparison of search capabilities_The advantage of using EBSCO_Discovery Service when preparing a scientific publication. Certificate No. 561
23. Fostering Growth and Inclusion in Asias Cities Fostering Growth and Inclusion in Asias Cities ADBI E-Learning.

Certificate.
24. Leveraging Services for Development Prospects and Policies Leveraging Services for Development Prospects and Policies ADBI.
25. Object Oriented Programming for JAVA Interviews. Certificate No.004.
26. EBSCOhost tools are useful when writing scientific papers. Certificate No. 385
27. Personnel management. Omsk Technical University. Certificate.
28. Frontiers of applied artificial intelligence: industry, economics, education. Federal State Autonomous
29. ITMO Educational Institutions of Higher Education. 72 hours. ID card.
30. IT in education. KSTU named after I. Razzakov

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

1. Torobekov B.T., Omorova Z.K., Zhusueva N.Zh. On the development of technology transfer in universities. Current problems and trends in the development of the modern economy. Proceedings of the International scientific and practical conference. 2021. pp.53-58. https://elibrary.ru/item.asp?id=48556767
2. Torobekov B.T., Zhusueva N.J. Ish kagazdardyn electronduk turdogu maalymattaryn kOPsuzduk menen kamsyzdaluusun analizderi. Izvestiya KSTU named after I. Razzakov. 2021 1(57). pp. 126-129. https://elibrary.ru/item.asp?id=46141203
3. Zhusueva N.J. Jogorku okuu zhayyn electorduk ish kagazdaryn zhugurtuunun maalymatyk servisinin analysi, tutumdun ozgocholuktor zhana kemchilikteri. Izvestiya KSTU named after I. Razzakov.2021 4(60) pp.114-121.
4. Zhusueva N.J. The current trend in the educational sector and its vhttps://elibrary.ru/item.asp?id=48614077
5. Zhusueva N.J., Samatova Zh.B. Information security in the banking sector of the Kyrgyz Republic. Izvestiya KSTU named after I. Razzakov. 2020.1(53) pp.117-119. https://elibrary.ru/item.asp?id=44190606
6. Tashmatov A.D., Zhusueva N.J. The problem of high interest rates on bank loans in the Kyrgyz Republic. Izvestiya KSTU named after I. Razzakov. 2019 4 (52). pp. 219-223. https://elibrary.ru/item.asp?id=42931234
7. Zhusueva N.J. Electronic document management systems for complex automation of organizations. Izvestiya KSTU named after I. Razzakov. 4 (52). pp.82-88. https://elibrary.ru/item.asp?id=42931183
8. Zhusueva N.J. Analysis of the construction of business processes of automated electronic. TURK-COSE 2022: IV. Uluslararası Türk Dünyası Fen Bilimleri ve Mühendislik Kongresi. 2022 Issue No.4. pp.486-492.https://www.ohu.edu.tr/turk-cose-tr/duyuru/59151
9. Pouring into the architecture of the university.VI Central Asian International Forum. Transnational interaction in the global educational space.2022 Issue No. 4. Pp.141-145. https://iaar.agency/event/vi-centralno-aziatskij-mezhdunarodnyj-forum-po-obespecheniyu-kachestva-obrazovaniya
10. Darmanbekova A.D., Zhusueva N.J. Information security is an important component of information culture in the world. Izvestiya KSTU named after I. Razzakov. 2020, No. 1(53). pp.457-480.

https://elibrary.ru/contents.asp?id=44190582&selid=44190606

5. Awards and prizes awarded

1. Medal "The best young scientist among the youth of the CIS". It is included in the Collection "Young scientists of the CIS 2021" in Nur-Sultan, Kazakhstan. 2021

2. Certificate of honor. She was awarded for her contribution to the education and upbringing of youth, active pedagogical activity of KSTU

3. Gratitude. For his active work at KSTU in organizing and conducting computer testing of university students.

4. Gratitude. For conscientious work in the education and upbringing of students and youth of KSTU

5. Thank you letter. For voluntary assistance with university students and for organizing clean-up days from the Administration of the Council of Veterans of the BSSU for the elderly and disabled. 2018

6. Thank you letter. For his assistance in holding the International Day of the Elderly from the Administration of the Council of Veterans of the BSSU for the Elderly and Disabled. 2019

7. Thank you letter. For charity from the Administration of the Family and Children's Aid Center. 2020 y.

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher Education, Kyrgyz State University of Construction, Transport and Architecture, INIT, AMI Dept, 2006
2011- 2013 Master's degree from the N. Isanov KGUSTA, in the field of "552807- Computer Science and Computer Engineering".

Time and period of work at KSTU, from September 2022 to the present. Full employment.
Subjects taught: Database and DBMS, Mobile Application development, Java programming language,
Corporate information systems, Intelligent information systems.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full–time or part-time employment:
From 2006 to September 2022, senior lecturer of the Department. PMiI KGUSTA named after N. Isanov. During the period
2014-2019 part–time job at INAI (Kyrgyz-German Institute of Applied Informatics).

3. Certificates of professional development 1. “Frontiers of applied artificial intelligence: industry, economics, education", ITMO. (27.11.23 – 08.12.23) 2. Phyton for Machine Learning. Jupyter NoteBook. JDBC in Java, Great learning Academy (November, 2023) 3. JDBC in Java. Great learning Academy. (November, 2023) 4. “Teacher in the field of artificial intelligence” ITMO. (December, 2022) 5. Scientific and methodological seminar “Numerical methods for solving boundary value problems for the fractional diffusion equation". (June, 2022) 6. Scientific and methodological seminar “Actual problems of science and teaching mathematics", KRSU Bishkek. (June, 2022) 7. Participation in the PISA 2025 study is a way to improve the quality of general school education in Kyrgyzstan. (July, 2022) 8. Methodology on Teaching STEM. (September, 2022) 9. Smart home: concept, advantages, construction features. (November, 2022) 10. Algorithms and their complexity analysis for programmers, DataLib. (December, 2022) 11. Development of teacher competencies in the context of digitalization of education, as part of the implementation of the “Teacher 2.0” direction of the innovation platform of the Russian Academy of Education. IRO RT. (January, 2022) 12. Using Google Colabarotory and python for computing and data visualization (January, 2021). 13. “Accreditation of educational programs", Bilim Standard (January, 2020) 14. Participation in the conference “Digital Transformation in Education 2020” held within the framework of the project “Transnational education – strengthening through the improvement and creation of profesional education (STEP)” DAAD (October, 2020) 15. “Implementation of the Bachelor's degree program in Computer Science at the West Saxon University of Zwickau at the KGFI INIT KGUSTA.” West Saxon University of Applied Sciences (WHZ) in Zwickau (Germany) under the DAAD project (December, 2019) 16. “Skills in computer applications“ in the field of ”Distance education system" at KGUSTA, the Engineering and Pedagogical Center for Advanced Training. (October, 2010) 17. “Technologies and teaching methods in Higher Education” at the TechEx Academy of Higher Education. (December, 2014) 18. Methodology of learning outcomes and learning assessment in the educational process (learning outcomes and learning assessment). Teach-Ex Academy. (April, 2014) 19. Creation of syllabus. Interactive teaching methods. AUCA. (May, 2014) 20. “Implementation of the Bachelor's degree program in Computer Science at the West Saxon University of Zwickau at the KGFI INIT KGUSTA.” West Saxon University of Applied Sciences (WHZ) in Zwickau (Germany) under the DAAD project (October-December, 2014) 21. Quality assurance of education, quality culture, self–assessment procedures, goals and learning outcomes of the educational program. KGUSTA Institute of KGFPI (January, 2016) 22. “Java Programming", Global Technology Solution (January, 2018) 23. Advancing University Education in Biomedical Engineering and Health Management in Kyrgystan. INAI, KSMA, KSTU. (March, 2019) 4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.	

1. Algorithm and program for approximate solution of Lyapunov's algebraic matrix equation. // Kyrgyzpatent, certificate No. 745. Bishkek, 2022.
2. Algorithm for solving the problem of separation of state variables of a linear discrete controlled system with a small step. KGUSTA named after N. Isanov. Bishkek, 2021.
3. Algorithm and program for approximate solution of Lyapunov's algebraic matrix equation. Bulletin of the KGUST named after N. Isanov. Bishkek, 2022.
4. Optimal control for regulating the temperature conditions of a thermal facility, Bulletin of the KRSU, 2022.
5. Optimal energy-saving control of a digital system. National Scientific and Practical Conference "Modern Digital Technologies: problems, solutions, prospects", Kazan, May 19-20, 2022
6. Solving the problem of optimal investment allocation by dynamic programming. Journal of the Institute of Geomechanics and Subsoil Development of the National Academy of Sciences of the Kyrgyz Republic "Modern problems of mechanics", Bishkek 2023 Ashirbaev B.Y., Zharmat kyzy B.
7. Optimal Energy –Saving Control for a Thermal Plant of a Linear Singular Perturped Discrete System with small step. ICECET, Cape Town. 2023.8.
Actively participated in the project "Development of a system for assessing digital skills in computer science for secondary school students" at the Ministry of Education and Science of the Kyrgyz Republic, 2022.

5. Awards and prizes awarded
1. Certificate of Merit from INIT for active participation in the organization and holding of the Republican School Programming Championship. 2014
2. Certificate of Honor from the N. Isanov KGUST for fruitful and pedagogical activity, 2019
3. Certificate of Honor from KGUST for conscientious work in the training of highly qualified specialists at the university, the successes achieved and in honor of the celebration of International Women's Day on March 8, 2021.

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher education, KGUSTA named after N. Isanov, Institute of New Information Technologies, specialty: "Applied Mathematics and Computer Science", Master's degree: N. Isanov KGUSTA, Institute of New Information Technologies, Master's degree in Computer Science and Engineering.

The time and period of work at KSTU is 13 years, from September 1, 2009 to the present time of work at KSTU. Subjects taught: Databases.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:

Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, Senior Lecturer, 2022 – present.

Kyrgyz State University of Construction, Transport and Architecture named after N. Isanov, Department of Applied Mathematics and Computer Science, Senior Lecturer 2009-2022

College of COMTECHNO Applied Informatics lecturer, 2010-2013

CADIS College of Applied Computer Science, Senior Lecturer, 2013-2018

3. Certificates of professional development

1. PC 72 hours. "Lecturer in the field of artificial intelligence" at the ITMO National Research University, Russian Federation, November 28, 2022
2. "Computationally secure and reliable methods of data storage in virtual environments" North Caucasian Center for Mathematical Research. Certificate, 2022
3. "Numerical methods for solving boundary value problems for fractional diffusion equations" North Caucasian Center for Mathematical Research Certificate, 2022
4. ACADETI English Course Certificate December 28, 2022
5. "Using Google Colaboratiry and Python for computing and data visualization" Ala-Too International University. Certificate of 2021
6. "Introduction to the Anti-Plagiarism system. Anti-plagiarism companies, January 19, 2021
7. "Introduction to the Anti-Plagiarism system. Part 2. Basics of working with the Anti-Plagiarism report on January 21, 2021
8. "Development of Regulations for the use of the Anti-plagiarism system in higher education institutions. Online master class of the Anti-Plagiarism company on January 27, 2021
9. "Digital tools for knowledge control and testing", Ryazan, Russia. Certificate January 12, 2021
10. "Accreditation of educational programs" Independent accreditation agency "Bilim Standard". Certificate on January 25, 2020
11. "Implementation of the anti-plagiarism system in the organization: 7 steps" of the Anti-Plagiarism company on December

22, 2020
12. "Moodle – Anti-Plagiarism integration module new version 3.0"
by Anti-Plagiarism company on December 23, 2020
13. "Review of diploma theses (WRC) of the Anti-Plagiarism company on December 24, 2020
4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.
1. Sydykova A.Zh., Altymysheva Zh.A., "Visualization of solutions to a differential equation using computer technology"Modern problems of mechanics" of the Committee for Theoretical and Applied Mechanics of the Kyrgyz Republic and the Institute of Geomechanics and Subsoil Development of the National Academy of Sciences -Bishkek, 2021.
2. Sydykova A.Zh., Altymyshova Zh.A. "Application of the Mathcad and Python systems for the finite element method differences." Modern Problems of Mechanics" by the Committee for Theoretical and Applied Mechanics of the Kyrgyz Republic and the Institute of Geomechanics and Subsoil Development of the National Academy of Sciences. Bishkek, 2020.
3. Sydykova A.Zh., Orozobekova A.K. "Fundamentals of work on ARCGIS 9." KGUST Bulletin No. 2(36) Proceedings of the international scientific and practical conference "Information and Innovative Technologies in Education: status, problems and prospects" (September 13-14, 2012), Bishkek, 2012, pp. 28-37
5. Methodical instructions
1. Sydykova A.Zh., Altymyshova Zh.A. Methodological guide for bachelors "Development of client-server applications MS SQL SERVER 2014 + Visual Stidio 2019" Bishkek: "Avangard" KGUSTA, 2021. - 32 p.
2. Sydykova A.Zh., Altymyshova Zh.A., Mukambetova S.A., Methodological guide for bachelors "Structural programming in C++" Bishkek 2018.
3. Sydykova A.Zh., Osmonkanov A.M., Bektenov A.B., "Derivative and differential of functions." Methodological guidelines for solving problems in the discipline "Higher Mathematics", Bishkek 2014.
4. Sydykova A.Zh., Osmonkanov A.M. Bektenov A.B., "Function. Limit and continuity of functions." Methodological guidelines for solving problems in the discipline "Higher Mathematics", Bishkek 2014.
5. Sydykova A.Zh., Osmonkanov A.M., Bektenov A.B., "Functions of several variables" A methodological guide to solving problems in the discipline "Higher Mathematics", Bishkek 2014.
6. Awards and prizes
1. Diploma "The best teacher of the year" 2014
2. Certificate of Honor from KGUSTA. N. Isanova, 2018
3. Certificate of Honor from KGUST, N. Isanov Institute of Physics and Technology, 2021

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1. Education: academic and academic degrees, professional qualifications, subjects taught, working time in this organization:
2020 - Kyrgyz State Technical University named after I. Razzakov, Faculty of Information Technology, direction 510200 "Applied Mathematics and Computer Science"
2023 - Kyrgyz State Technical University named after I. Razzakov, Graduate School of Graduate Studies, EP 510200 "Applied Mathematics and Computer Science". Profile: "Mathematical modeling",
The time and period of work at KSTU is 3.5 years, from March 3, 2021 to the present. Full employment.
Subjects taught: Computer Science 1, 2, Computer modeling of marketing solutions, Databases and DBMS.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
Kyrgyz State Technical University named after I. Razzakov, Department
Applied Mathematics and Computer Science, Head of the laboratory, lecturer, senior lecturer.

3. Certificates of professional development
1. 07.10.2021 - Certificate of participation in the seminar "Digital Forensics"
1.06.2021 - Certificate of professional development. According to the additional professional program "Information technologies in the educational process". (BSTU "VOENMEH" named after D.F. Ustinov)
2. 02/25/2022 - Certificate of completion of training on improving capacity building in new generation education (UNDP in the Kyrgyz Republic)
3. 07/08/2022 - CERTIFICATE for attending the retraining course on "Methodologies and Skills on Intelligent Big Data Analysis" in the framework of the Erasmus+ project "Establishment of training and research centers and courses development on intelligent big data analysis in Central Asia" (ELBA) July 4-8, 2022 Kyrgyz State Technical named after I. Razzakov
4. 03/09/2023 - Certificate No. 2023-031 "Process mining: fundamentals of process analytics". The volume of 16 academies. hours

4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.

About one method of assessing the quality of life of the population. Collection of scientific papers of undergraduates and postgraduates of KSTU. Volume 5. pp. 199-204.

"Analytical-Numerical Method for Solving Transport Processes Problems Based on The Finite Element Method". International conference “Modern Problems of Applied Science and Engineering” - 2024

5. Awards and prizes awarded

1. Letter of thanks to I. Razzakov KSTU, 2022

2. Certificate of Honor of the I. Razzakov KSTU, 2024

Bazarkul kyzy Nargiza

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1. Education: academic and academic degrees, professional qualifications, subjects taught, time spent working in this organization:

Higher education, I. Razzakov KSTU, Faculty of Information Technology, Specialty: Applied Mathematics and Computer Science, Master's degree: I. Razzakov KSTU, Graduate School of Graduate Studies, Master's degree program in mathematical modeling.

Postgraduate student, code 01.02.05 – Mechanics of liquid, gas and plasma.

The time and period of work at KSTU is 5 years, from September 1, 2020 to the present. Full employment.

Subjects taught: Computer Science 1, 2, Web design, Web programming 1,2, Internet programming.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time: Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, Senior Lecturer 2020 – present.

3. Certificates of professional development

1. Programming Foundations with JavaScript, HTML and CSS is an online course from Duke University offered on Coursera. 11/10/2020 CERTIFICATE

2. Certificate of professional development. According to the additional professional program "Information technologies in the educational process". (BSTU "VOENMEH" named after D.F. Ustinov) 30.06.2021
3. Certificate of participation - Thematic seminar on the assessment of natural hazards in Central Asia on January 26, 2022.
4. Certificate on improving Capacity building in New generation education (UNDP in the Kyrgyz Republic) 02/25/2022
5. CERTIFICATE for attending the retraining course on "Methodologies and Skills on Intelligent Big Data Analysis" in the framework of the Erasmus+ project "Establishment of training and research centers and courses development on intelligent big data analysis in Central Asia" (ELBA) July 4-8, 2022 Kyrgyz State Technical named after I. Razzakov 07/08/2022
6. Certificate of professional development. According to the program: "Frontiers of applied artificial intelligence: industry, economics, education". 72 hours. (ITMO National Research University (ITMO University)) 12/11/2023
7. CERTIFICATE for presenting his report entitled "Analytical-numerical method for solving problems of transport processes based on the finite element method". International conference “Modern Problems of Applied
Science and Engineering” – 2024. Samarkand, May 2-3, 2024
4. The most important publications and presentations over the past five years – title, co-authors (if any), where published and/or presented, date of publication or presentation.
1. "An algorithm for solving the problem of constructing optimal digital control with minimal energy." Institute of Geomechanics and Exploration of the National Academy of Sciences of the Kyrgyz Republic. Modern problems of mechanics. No. 39 (1), 2020.pp. 14-19.
2. "Solutions to the problem of building optimal energy–saving management". Institute of Geomechanics and Exploration of the National Academy of Sciences of the Kyrgyz Republic. Modern problems of mechanics. No.46 (4), 2021, pp. 3-13.
1. «Analytical-Numerical Method for Solving Transport Processes Problems Based on The Finite Element Method». International Conference “Modern Problems of Applied Science and Engineering". – 2024.
5.Awards and prizes awarded
2022 - Letter of thanks from I. Razzakov KSTU

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1. Education: academic and academic degrees, professional qualifications, subjects taught, working time in this organization:
2009-2013: Bishkek College of Computer Systems and Technology, Specialty: Maintenance of computer equipment and computer systems
2013-2017: Tomsk Polytechnic University Faculty of Agricultural Engineering. Specialty: Technology of maintenance and repair of machinery in the agro-industrial complex
2017-2019: Tomsk Polytechnic University Faculty: Oil and Gas Business. Specialty: Reliability of gas and oil pipelines and storage facilities.

2. Academic experience: previous jobs in educational organizations, subjects taught, departments, etc., full-time or part-time:
Kyrgyz State Technical University named after I. Razzakov, Department of Applied Mathematics and Computer Science, lecturer, 2023 – present.
3. Certificates of professional development
1. All-Russian scientific and practical conference for young scientists, postgraduates and students "Current state and problems of natural sciences" YTI TPU (Yurga) 2015.
2. International Scientific and Technical Conference "Youth. Science. Technologies" NGAU Novosibirsk, 2017
3. All-Russian scientific and practical conference with international participation "Salyut-Victory!" YTI TPU Kemerovo region, Yurga 2014
4. Scientific and practical conference "Fundamental principles of modern agricultural technologies and techniques". YTI TPU Kemerovo region, Yurga 2015
5. All-Russian scientific and practical conference for students and young people "Progressive technologies and economics in mechanical engineering" YTI TPU Yurga 2015
6. All-Russian scientific and practical conference for students and young people "Modern technologies and diagnostics in the agro-industrial complex" YTI TPU Kemerovo region, Yurga 2015

7. All-Russian scientific and practical conference for students and young people "Progressive technologies and economics in mechanical engineering" YTI TPU Yurga 2016
8. Scientific conference "Science as a value and vocation" TPU Tomsk 2018
9. The International Scientific Symposium of students and young scientists named after Academician M.A. Usov "Problems of geology and development of mineral resources" with a report "Improving the efficiency of shut-off valves"
1. Awards and prizes awarded
1. Letter of Thanks Tomsk Polytechnic University 2016
2. Diploma of the first degree of the VI All-Russian scientific and practical conference for students and young people "Progressive technologies and economics in mechanical engineering" YTI TPU Yurga 2015
3. Diploma 2nd place Scientific and practical conference "Fundamentals of modern agricultural technologies and equipment" YTI TPU Kemerovo region, Yurga 2015
4. Diploma of the III degree International scientific and technical Conference "Youth. Science. Technologies" NGAU Novosibirsk, 2017

3.1. Recruitment policy for the selection of teaching staff

The personnel policy is aimed at ensuring the quality of the educational process at the university. In this regard, the selection and recruitment of teaching staff and UVS is carried out on the basis of the Labor Code of the Kyrgyz Republic and the Law of the Kyrgyz Republic "On Education", taking into account basic education and practical work. The selection of candidates for teaching staff is carried out on a competitive basis, which is currently regulated by the Regulation on the procedure for the replacement of Teaching staff in Higher Education institutions of the Kyrgyz Republic, reinforced by the establishment of the rights of the Kyrgyz Republic dated 05/29/2012, No. 346 (appendix 3.1.1. Execution on the replacement of positions, http://cbd.minjust.gov.kg) and the Regulations on the procedure for filling positions of teaching staff in KSTU. (Appendix 3.1.2. Filling out the positions in KSTU, _https://kstu.kg). And also on the basis of a set of Regulations governing the work of KSTU employees, which specify the mandatory instructions for teaching staff, internal affairs and their qualifications. (Appendix 3.1.3. Collection of fields regulating the work activities of KSTU employees) also based on the fields on the rules for attracting an engaged specialist to the educational process of KSTU (Appendix 3.1.4. Regulations on the rules for attracting an invited specialist to the KSTU OP). This field has been developed in general to improve the quality of educational and scientific processes at KSTU by using the best practices of the specialists involved.

Highly qualified teachers from other structural parts of the university or from its production facilities are involved as co-owners.

The qualitative composition of the teaching staff department meets the licensing requirements: all teachers involved in the educational process have a basic higher mathematical education, the percentage of staff remaining is 44% (Appendix 3.1.5. Qualitative composition of the teaching staff department).

The leading professors involved in the implementation of the educational process of the Department of Applied Mathematics and Computer Science are members of the dissertation councils, expert councils of the National Academy of Sciences of the Kyrgyz Republic, work at the National Academy of Sciences of the Kyrgyz Republic, are members of the editorial boards of scientific publications, both inside and outside the Kyrgyz Republic (D. Fernando. NAS KR.- Ph.D., professor. Dzhamanbaev M.J., Doctor of Physico-mathematical Sciences, professor. Kabaeva.J., Ph.D., professor. Muraliev A.M., Candidate of Physico-mathematical Sciences, assoc. S. Tagaeva.B.).

Teaching staff in the bachelor's degree program in the direction 580500 "Business Informatics" corresponds to the standard qualification characteristics of teaching staff positions, which allow it to guarantee the competence of its teachers and teaching staff.

The qualifications, education and experience of the teaching staff meet the state educational standard and licensing requirements of the educational process. The share of teaching staff with an academic degree out of the total number of teaching staff in all cycles implementing the educational program is 33% (Appendix 3.1.6. Information on staffing for 2024-25, Form 4). The quality staff of teaching staff implementing the Business Informatics program includes 3 doctors of sciences. Teaching staff experience ranges from 2 years to 50 years. The teaching and support staff of the department for 2024-25 academic years. the year has 4 people. 2 employees have higher education, 2 have incomplete higher education. The average age of an ATF is 28 years. The teaching staff of the department meets the minimum requirements of the educational process (Appendix 3.1.7. Teaching staff).

At the university, after five years, a competition is announced for all teaching staff positions, the announcement of which is published in the mass media (the newspaper "Kut Bilim"), where any candidate who meets all the requirements of a higher educational institution can participate in the competition. The competition held in accordance with the "Regulations on the procedure for organizing and holding a competition for the positions of faculty at the I. Razzakov KSTU" (Appendix 3.1.8. Regulations on the conduct of the Teaching Staff competition).

The qualifications of university staff are becoming one of the key criteria for assessing the quality of education in an educational institution, so effective motivation programs are becoming crucial for a modern higher education institution.

KSTU has created certain favorable conditions for teachers to motivate them to engage in research work, prepare dissertation research under the guidance of well-known scientists, continue postgraduate studies, participate in research work on the subjects of the State Committee for Science and Technology, and participate in scientific and practical conferences.

The staff has an interest in defending their candidate's and doctoral dissertations, which allow them further creative growth, there

is an opportunity to defend themselves in the dissertation council D 01.22.652 in the fields of science 01.02.05 – Mechanics of liquid, gas and plasma, 01.02.04 – Mechanics of deformable solids for the degree of doctor, candidate of physico-mathematical sciences and other dissertation councils, which They work at the I. Razzakov KSTU (Appendix 3.1.9. Graduate students, their topics and scientific supervisors). Over the past 5 years, the teaching staff of the department has defended 3 PhD theses based on the results of scientific research (Abdyldaeva A.R., Osmonova R.Ch., Shekeev K.R.) In order to motivate teaching staff for continuous professional development and educational and methodological level, at the end of each academic year, according to the Regulations on the "Teacher of the Year" competition, the "Teacher of the Year" competition is held at the university. of the Year" (Appendix 3.1.10. Regulations on the Teacher of the Year competition). The organization and conduct of the competition is carried out by the award committee. Information about the participation of the faculty of the department in a similar competition held at the Institute of Information Technology given in Appendices 3.1.11, 3.1.12. (Appendix 3.1.11. About the competition of the Rev. of the year according to FIT. Appendix 3.1.12. Extracts from the US FIT protocol) KSTU has a rating system for evaluating the professional activities of teaching staff based on the results of scientific and academic work in the following nominations: "best professor, associate professor, senior lecturer, teacher", "best director, head of department, head, employee", "best head of department. laboratory, engineer, methodologist", "the best graduate student, master's student, student". According to the results of the objective rating, the winners of the "best ..." awards are awarded with a one-time payment of financial bonuses and additional salary allowances (Appendix 3.1.13. Regulation on the rating procedure of KSTU teaching Staff). For high educational, methodological, scientific, organizational and other work, a number of teachers were awarded as "The best professor of KSTU" Kabaeva G.J., "The best senior lecturer of KSTU" Osmonova R.C., "The best senior lecturer of KSTU" Toktogulova A.Sh. the department of the same name "AMI" was awarded as "The best department of KSTU" (2020), "The best curator of KGUST" Abdieva L.K., "The best teacher of KGUST" Sydykova A.Zh. The annual amount of the allowance for the winners of the university-wide competition determined by the decision of the Academic Council. Such contests allow us to gradually move towards real employee competition. The teaching staff actively improves their skills by attending various courses and training seminars of the CPC (https://kstu.kg/bokovoe-menju/gjdsitybt), which can include: • Within the framework of the university, free courses held on an ongoing basis to familiarize them with the practical application of innovative technologies in the areas of departments, where teachers of departments undergo training and trainings on a schedule.	

• In order for teaching staff to develop their knowledge of foreign languages to use new technologies from abroad, language courses are also held at the university, etc. During the courses, the university provides video lectures, electronic library resources with Internet access. The University constantly provides information on advanced training courses at KSTU named after I. Razzakov (Appendix 3.1.14 Courses of the PC CPC KSTU). In order to create conditions for the periodic training of teachers in innovative educational methods and technologies, the teaching staff actively improves their skills by attending various courses and seminars, which include the following: • Field training events, including winter and summer schools, short-term courses and seminars; • University-based professional development programs; • advanced training courses at other universities, research centers and specialized organizations, including foreign ones; • pedagogical and scientific internships at other universities, research centers and specialized organizations, including foreign ones. From 2019 to 2023, the faculty of the department participated in the international ERASMUS+ ELBA project on the topic "Creation of training and research centers and development of courses on big data mining in Central Asia", where the coordinator from KSTU was Prof. Dzhamanbaev M.J. Within the framework of the Project, members of the working group completed internships at the University of Santiago de Compostella, Spain (Kyshtobayeva G.K., Dushenova U.J. -2021), Italy POLITO (Jamanbaev M.J., Agybaev A.S., Amanbaev M.K. - 2022). And also Prof. Dzhamanbaev M.J. and senior Rev. Kyshtobayeva G.K. Participated in project management meetings at POLITO (Italy, 2022), Primorska University (Slovenia, 2023) and Turin Polytechnic University in Tashkent (2022). In order to continuously improve their skills, the university conducts mandatory advanced training courses for teaching staff, AUP and UVS, using the latest technologies in conducting classes. The schedule of professional development planned by the Department of Education Quality. For exemplary performance of work duties, in order to provide moral and material incentives to employees for long-term and impeccable work, and other achievements in work presented by departments, institutes, and other educational, scientific, and structural divisions of KSTU. The administration rewards an outstanding employee with awards. The purpose of the moral incentive system is to celebrate and reward the university staff's achievements to the university. According to the Regulations on awards of KSTU, the order of awards for the faculty of KSTU named after I. Razzakov is as follows:	

• Commendation with entry in the work record – work experience of at least 3 years; • Certificate of Honor from I. Razzakov KSTU – work experience of at least 5 years; • Certificate of Merit of the Ministry of Education and Science of the Kyrgyz Republic – work experience of at least 15 years; • Agartuu Honors badge (MOiN KR) - work experience of at least 20 years; • Professor of KSTU – work experience of at least 20 years; • Badge of honor "For special services to KSTU" • Medal "Glory of the Polytechnic" - for special merits in the training of engineering personnel, for major successes in research and development, as well as for a significant contribution to the development and glorification of KSTU. The system of motivation and encouragement of staff includes the following moral and material incentives for staff: Gratitude with entry in the workbook, Certificate of Merit of KSTU named after I. Razzakov, additional awards for holidays and anniversaries of KSTU, valuable gift, etc. (Appendix 3.1.15. Regulations on awards of KSTU) Over the past 5 years, the following awards have been given at the faculty department: Gratitude of KSTU- 8 employees: Dzhamanbaev M.J., Kabaeva G.J., Kyshtobaeva G.K., Dushenova U.J., Tagaeva S.B., Bazarkul K. N., Tologonova A.H.; Certificate of Honor of KSTU- 6 teachers: Omuraliev S. B., Abdrasulova Ch.A., Abdyldaeva A., Kyshtobayeva G.K., Toktogulova A.Sh., Dushenova U.J.; Gratitude MON – 1 professor: Kyshtobayeva G.K.; Certificate of Honor MON – 7 professor. : Kyshtobayeva G.K., Tagayeva S.B., Toktogulova A. Sh., Abdyldaeva A.R., Dushenova U.J., Batyrkanov Zh.M., Sagyndykov M.S. At the department, 9 teachers have the badge "Excellent student of education".: Dzhamanbaev M.J., Kabayeva G.J., Sagyndykov M.S., Duishokov K.D., Abdyldaeva A.R., Tagaeva S.B., Toktogulova A.Sh., Dushenova U.J. In 2021, Head of the Department, professor. M.J. Dzhamanbayev awarded the government award "Dank Medal" for his services in the field of science and education, also received the academic title of Corresponding Member of the National Academy of Sciences of the Kyrgyz Republic. For the 2023-2024 academic year, the department recommended senior lecturer U.J. Dushenova to be awarded the badge "Excellent Student in Education". The candidate was approved by the Academic Council of FIT, KSTU and established by the Ministry of Education and Science. (Appendix 3.1.16. Certificate of Dushenova U.J.), For the 2024-2025 academic year, senior lecturer Lilia Kadimovna Abdieva was recommended to be awarded a Certificate of Merit by the Ministry of Education and Science of the Kyrgyz Republic. The candidate was approved by the Academic Council of the Institute of Information Technology. All these rewards can be seen in the portfolio and summary of the teaching staff.	

All the incentives received by the faculty of the department are recorded in the workbook. Awards are presented at the Academic Council of KSTU. According to this provision, one–time scholarships are also paid for the defense of a PhD thesis – 5,000 SOM, a doctoral thesis - 10,000 SOM, etc. *Appendix 3.1.1. Regulations on the replacement of positions* *Appendix 3.1.2. Regulations on filling positions in KSTU* *Appendix 3.1.3. Collection of regulations governing the labor activity of KSTU employees* *Appendix 3.1.4. Regulations on the rules for attracting an invited specialist to the OP of KSTU)* *Appendix 3.1.5. Qualitative staff of the department* *Appendix 3.1.6. Information on staffing for 2024-25. Form 4* *Appendix 3.1.7. Teaching and support staff).* *Appendix 3.1.8. Regulations on the conduct of the teaching Staff competition* *Appendix 3.1.9. Graduate students, their topics and academic supervisors* *Appendix 3.1.10.Regulations on the Teacher of the Year competition* *Appendix 3.1.11. About the contest of the Rev. FIT year* *Appendix 3.1.12. Extracts from the US FIT protocol* *Appendix 3.1.13. Regulations on the rating procedure of KSTU teaching staff* *Appendix 3.1.14 Courses of PC CPC KSTU* *Appendix 3.1.15. Regulations on awards of KSTU* *Appendix 3.1.16. Certificate of Dushenova U.J.*	
Criterion 3.2. Premises and support staff - availability of the library fund: The university provides the necessary conditions for working in reading rooms and libraries. The content and volume of the library correspond to the proposed programs and research activities. The Scientific and Technical Library (NTB) of the Kyrgyz State Technical University named after I. Razzakov is a structural unit of the university that provides library and information support for educational and research activities of the university. The KSTU library actively uses computer technologies due to the availability of appropriate technical base and professional staff. Using innovative forms of reader service, STL expands information opportunities through the Internet, acquiring access to electronic resources,	Executed

and maintaining its own STL website. Since 2012, the library has provided access to Internet resources via wireless wi-fi technology.

The work processes in STL are automated. The IRBIS-64 program is used as a software package, which provides comprehensive automation of all library processes in 5 modules: "Picker", "Cataloger", "Reader", "Bookseller" and "Administrator". A modern reference and bibliographic apparatus is provided to users – a database of books, periodicals, abstracts and dissertations. There are 63,554 bibliographic entries in the electronic catalog. The STL electronic catalog is available on the STL network and on the website www.libkstu.on.kg.

The library services are used by all university staff: undergraduates, faculty and other categories of KSTU employees. Of the students, 85.2% use NTB services, and 77.3% of the faculty and staff use NTB services %

The fund includes educational literature (45%), scientific literature (43.8%), fiction –10.5%), and other literature (0.7%). By language: literature in Kyrgyz – 8%, in Russian – 90%, in foreign languages – 2%.

Over the past four years (2017-2023), the library has acquired print sources in the amount of 4,089,195 soms (of which 1,784,495 for books, 2,222,139 for magazines and newspapers, 82,110 soms for databases). At the KSTU library, 544 training modules on working with library resources for first-year students were conducted on the basis of the Department of Training and Automation.

These modules are designed so that the user can navigate the library from the beginning of the training, be able to search in an electronic catalog, conduct an in-depth search on the Internet, know the advantages and disadvantages of a particular navigator, and be able to use databases and other information resources acquired by the university.

The library has access to 2 paid and 10 free databases. Its own electronic library (EL) has been created. The EL has a collection of books and textbooks by university teachers and special literature on the university's field. You can search by author, title, keyword, subject category, and languages. The EL has a separate option "Proceedings of the faculty of the I. Razzakov KSTU". EL is constantly updated and edited. The full-text format is available over the library's local network and to remote users via the Internet. The program tracks access and download statistics.

STL KSTU named after I. Razzakov is a member of the Library and Information Consortium of Kyrgyzstan, coordinator of the Association of Electronic Libraries and administrator of the Kirlibnet educational portal. KIRLIBNET members are 14 libraries of Kyrgyzstan. The number of bibliographic entries in the Electronic Catalog is 820,485 entries, the number of full–text resources is 10,311. Since September 2012, the electronic document delivery system (EDD) has been operating among 14 university libraries. The EDD makes it possible to order an electronic copy of a printed document from the collections of 14 libraries in Kyrgyzstan, participants of the Kirlibnet

web portal.

- computer classes:

The material and technical base of the university mainly meets the modern requirements for the university, and provides the opportunity to conduct the educational process and research, taking into account the tasks and specifics of the Mathematical Modeling programs in the 580500 Business Informatics at Applied Mathematics and Computer Science.

The graduate department has an auditorium fund for conducting lectures, practical, laboratory and individual classes, consultations and examinations of teachers with undergraduates.

Modern technical means (computers, video equipment) are used in the educational process in the direction of training students in Business Informatics (bachelor).

The list of basic material and technical conditions for the implementation of the educational process at the university in accordance with the HPE (Bachelor's degree) Business Informatics "Applied Mathematics and Computer Science" is given in Appendix

(Table) 6.1. (Material and technical base of the department). Areas of Business Informatics

Table 6.1. Material and technical equipment of the Department of AMI (BI)

№	Name of premises	Functional purpose	The list of basic equipment and devices for the educational process.
1	2/514	For lectures and practical exercises	Blocks, boards
2	2/517	For lectures and practical exercises	Blocks, boards
3	2/519	Teaching staff, 10 teachers, senior methodologist (laboratory assistant).	6 computers (intel core i3-4160. 4/4. RAM-4 GB. HDD-931Gb.), 1 printer, 1 marker board
4	2/521	Computer lab. For conducting laboratory classes	There are 14 computers. (Pentium core G2020. 2/2. RAM-2 GB. HDD-300Gb)., projector 1 unit, marker board 1 unit.
5	2/320	Big Data Analysis and Processing Center.	There are 10 computers (intel core i5-9400F. 6/6. RAM-16 GB. HDD-1Tb. GTX 2060 graphics card), marker board 1 unit, projector 1 unit, marker board 1 unit, projector 1 unit.
6	2/624	Computer lab. For conducting laboratory classes	There are 11 computers (intel core i3-4160. 4/4. RAM-4 GB. HDD-931Gb). projector 1 unit, crane 1 unit,

			marker board 1 unit.
7	2/520	Computer lab. For conducting laboratory classes	There are 11 computers. ((Pentium core E5700. 2/2. RAM-4 GB. HDD-232Gb). marker board 1 unit, projector 1 unit, screen 1 unit.
8	2/516	For conducting lectures and practical exercises	Blocks, boards, projector 1 unit, screen 1 unit.
9	2/221	Teaching staff. 9 teachers and a mathematical engineer.	8 computers. (intel core i3-4160. 4/4. RAM-4 GB. HDD-931Gb)., 2 printers, 1 scanner unit.
10	2/222	Office of the head of the department	

- Educational equipment:

The university provides students (bachelor's degree) with the equipment necessary for the full implementation of the educational process, textbooks, manuals and other teaching materials, including electronic ones; the e-learning environment is actively developing, and a plan for creating and updating electronic educational materials is being implemented.

When preparing masters, great attention is paid to providing the educational process with sources of educational information. The teaching of professional cycle disciplines is carried out mainly according to textbooks, textbooks published centrally, as well as using methodological developments, lecture notes, textbooks developed by the teachers of the department (Appendix 6.7.1. Methodological support Card, Appendix 6.7.2. Lectures of the Department of the Institute of Applied Mathematics, Appendix 6.7.3 Book support – form 5). In addition to the KSTU library, students have access to modern professional databases, information reference and search engines, and electronic databases of departments. Students (bachelor's degree) and teachers of the department use their personal funds, as well as funds of the departments of the faculty, which contain the latest domestic and foreign publications.

The library collection as a whole has a sufficient number of copies of recommended educational and methodological literature. The educational literature collections are supplemented with electronic textbooks.

Access to library collections from the following list has been provided:

1. Science and new technologies.
2. Proceedings of the Kyrgyz State Technical University.

- ensuring the stability and sufficiency of study areas:

KSTU named after I. Razzakov is equipped with all the necessary classrooms for lectures, laboratory and practical classes.

The total area of academic buildings No. 1-7, as well as including study areas in KSTU dormitories, is 56079.7 square meters. The maximum number of full-time and part-time study licenses is 12,462, with 9.0 m2 per student in two shifts. In fact: for the 2022-23 academic year there are 8,042 students (5,960 full–time and 2,132 part–time), the area per student is 13.9 m2 (in two shifts).

The University is constantly working on equipping educational laboratories with modern equipment and devices. Laboratories are used in the process of conducting laboratory classes in relevant disciplines, to carry out educational research and research work of students (Appendix (Table) 6.2. Material and technical base of the PMiI department).

Table 6.2. Material and technical equipment of the Department of PMI

№	Name of premises	Functional purpose	Area (sq.m).
1	2/514	For lectures and practical exercises	38
2	2/517	For lectures and practical exercises	38
3	2/519	Teaching staff, 10 teachers, senior methodologist (laboratory assistant).	64
4	2/521	Computer lab. For conducting laboratory classes	36
5	2/320	Big Data Analysis and Processing Center.	36
6	2/624	Computer lab. For conducting laboratory classes	36
7	2/520	Computer lab. For conducting laboratory classes	46.
8	2/516	For conducting lectures and practical exercises	88
9	2/221	Teaching staff. 9 teachers and a mathematical engineer.	26
10	2/222	Office of the head of the department	18

- availability of research laboratories:

During the implementation of the international project "Creation of training and research centers and development of courses on big data mining in Central Asia" (ERASMUS+), ELBA and the aim of the project is to increase the academic potential of specialists by introducing packages of modular courses on big data mining in Central Asian countries in cooperation with industry, and created at the Department The Center for Intelligent Big Data Analysis (IBDA) and the AiOBD department have been opened.

Table 6.3. Material and technical equipment of the AMI Department (BI)

№	Name of premises	Functional purpose	The list of basic equipment and devices for the educational process.

	. 2/320	Big Data Analysis and Processing Center.	There are 10 computers (intel core i5-9400F. 6/6. RAM-16 GB. HDD-1Tb. GTX 2060 graphics card), marker board 1 unit, projector 1 unit, marker board 1 unit, projector 1 unit.

- other resources:

KSTU has experience in developing an information system for managing the educational process based on a systematic approach, in which all university activities are considered as a sequence of interrelated processes passing through all departments, all services are involved and are focused on the implementation of the university's strategic goals.

By managing the processes, the university makes the most efficient use of all available resources. The system approach is the basis for building all corporate systems. Since 2000, KSTU has been taking measures to computerize the educational process and create a corporate network for managing the educational activities of structural units based on the use of modern information technologies.

The network consists of two subnets: an administrative one and a student one. Most of the structural divisions are connected to the administrative network. The student network unites about 60 computer classes and laboratories. The total number of PCs connected to the network is about 2,150 pcs. Of these, 950 PCs are intended for educational purposes.

There are 7 public servers installed: two proxy servers, a file server with a library of software and e-books, a Kyrlibnet library server, an AVN Web server, a Token, and a DHCP server.

The access of the University's corporate network to Internet information resources is provided by four providers: Aknet (unlimited traffic, 10 Mbit/sec), Kyrgyztelecom, Megaline and Saimatelek.

The university provides appropriate conditions for the scientific activity of undergraduates. To deepen undergraduates' knowledge of modern challenges and trends in the field of applied mathematics and computer science, it is planned to expand the practice of attracting leading specialists to lecture undergraduates on modern technologies used in the field of Business Informatics at the Department of Applied Mathematics and Computer Science.

The University organizes and hosts the "Young Scientists" conference every year. Active participants are encouraged, the best scientific papers win prizes, and are published in scientific journals. Comfortable conditions have been created for Bachelor's degree students. (Appendix (table)6.4. Material and technical base of the PMiI department).

Table 6.4. Material and technical equipment of the Department of PMI (BI)

№	Name of premises	Functional purpose	The list of basic equipment and devices for the educational process.

1	2/514	For lectures and practical exercises	Curtains 2 units, blinds 2 units.
2	2/517	For lectures and practical exercises	Curtains 3 units.
3	2/519	Teaching staff, 10 teachers, senior methodologist (laboratory assistant).	Blinds 3 units. 1ed air conditioner
4	2/521	Computer lab. For conducting laboratory classes	Air conditioner 1 unit, curtains 1 unit.
5	2/320	Big Data Analysis and Processing Center.	Armchair 18 units, curtains 3 units, Air conditioning 1 unit
6	2/624	Computer lab. For conducting laboratory classes	Curtains 2 units, blinds 2 units. Air conditioner 1 unit.
7	2/520	Computer lab. For conducting laboratory classes	Curtains 3 units, blinds 2 units. Air conditioner 1 unit.
8	2/516	For conducting lectures and practical exercises	Curtains 9ed.
9	2/221	Teaching staff. 9 teachers and a mathematical engineer.	blinds 2 units, Air conditioning 2 units
10	2/222	Office of the head of the department	blinds 1 unit. 1ed air conditioner

Auxiliary staff in 4 (four) staff units:

- Methodologist – 1 unit.
- Senior laboratory assistant, methodologist – ed.
- Laboratory assistant – 2 units.

- their accessibility to students of various groups, including people with disabilities:

There are no special conditions for people with disabilities. However, applicants with disabilities and those in difficult life situations, namely persons with disabilities who, according to the conclusion of a medical and social examination, are not contraindicated to study at a university in their chosen field of study, and orphans and children left without parental care (up to and including 18 years of age, as of October 1 of this year), are credited out of competition if the relevant documents are available. They can also receive tuition benefits based on the decision of the preferential commission (Appendix 6.1.2 of the Regulation on Social Support for Students of the Kyrgyz State Technical University named after I. Razzakov https://kstu.kg/fileadmin/user_upload/polozhenie_o_lgotakh.pdf).

Strengths:

1. The system of encouragement of scientific activity.
2. The rating list of the teaching staff.
3. The personnel and material support of the department allows us to create laboratory stands for the educational process ourselves..

Criterion 3.3. Financial resources	**(state budget)**		Executed
Financing from the budget for the 2024-2025 academic year (Business Informatics)		**The amount of income**	
		2552550,00	
The amount of income	**Percent %**	**Planned expenses by line item (amount)**	
For salaries	76,20	1945043,10	
Social Fund contributions	17,25	335519,93	
Teams,transports,com. us	6,55	271986,97	
Всего: (очники)		**2552550,00**	
Financing from the contract for the 202-225 academic year (Business Informatics)		**Amount of income**	
	Full-time studies	**11543400,00**	
	Correspondence studies	**7639200,00**	
	Total:	**19182600,00**	
The name of art.	Percentage %	Planned expenses by	
For salaries	65	12468690,00	
Social Fund contributions	17,25	2150849,03	
Office equipment,office equipment, transport.,	17,75	4563060,98	
Communal services, communication services, household services. expenses, tech. Repairs, etc.			
Total:		**19182600,00**	

Total funding from the budget and contract for the 2024-2025 academic year		**Amount of income**	
(Business Informatics)		**21735150,00**	
The name of art.	Percentage %	Planned expenses by item (amount)	
For salaries	70,60	14413733,10	
Social Fund contributions	17,25	2486368,96	
Office equipment,office equipment, transport.,	12,15	4835047,94	
Communal services, communication services, household services. expenses, tech. Repairs, etc.			
Total: (budget-full-time, contact- full-time and correspondence)		**21735150,00**	

The needs and availability of financial resources for the 2024-2025 academic year.

Direction: Business Informatics

Course	Number of students income	Loan amount plan (full-time)	Planned income
1	33	60000	1980000
2	69	46200	3187800
3	103	46200	4758600
4	35	46200	1617000
Total:	**240**		**11543400**

Course	Number of students	Loan amount plan(correspondence)	Planned income
1	9	48000	432000
2	76	36960	2808960
3	68	36960	2513280
4	35	36960	1293600
5	16	36960	591360
Total:	**204**		**7639200**

Course	Number of students	Loan amount plan(full-time budget)	Planned income
1	51	50050	2552550
Total:	**51**		**2552550**

The needs and availability of financial resources for the 2024-2025 academic year.

Direction: Business Informatics

Course	number of students	Estimated	Content of 1 student
Full-time	291	14095950	48439,7
Correspondence courses	203	7639200	37631,5

Total: 494 21735150

	Comparative analysis (dynamics) of the 2023-2024/2024-2025 academic year		
	For 2023-2024	For 2023-2024 for 2024-2025	Dynamics (Coef).
	10765231	**21735150**	**2,0**
Enrolled in the 1st year of Business Informatics for the 2024-2025 academic year.			
Course	Full-time and part-time	Quantity	
1	Full-time	33	
1	Correspondence courses	9	
1	Budget	51	
Total credited:		**93**	

Criterion 3.4. Student Support Services Executed

Documentation to be provided

• Organization, management and operation of student support services (career advice, tutoring and assistance), as well as the availability of administrative staff.

Questions to consider a) Does the program provide student support services (career counseling, tutoring, and assistance) relevant to the learning process and does it facilitate student learning and progress? **Yes.** The Student Service Center (KSTU DSP) operates for organization, management and monitoring. The DSP is a structural unit designed to create conditions for transparency and accessibility of services for students and ensure high standards of service, prevent corruption risks, improve the quality of education and promote the principles of academic integrity. https://kstu.kg/centry/centr-obsluzhivanija-studentov-cos-no1-cos-no2-cos-no3/zagolovok-po-umolchaniju At KSTU DSP, he advises students on academic issues throughout the academic period. Each student can get answers to their questions, confidentiality of the information received, cooperation based on trust, objectivity in solving issues, and providing reliable information. DSP allows students to save time and eliminate bureaucratic barriers and corruption risks in the university–student interaction system. The center will significantly increase the efficiency and responsiveness of solving student problems, raise the quality of services to a fundamentally new level, and solve the problem of reducing the time spent by students on receiving socially significant services. **https://kstu.kg/glavnoe-menju/studentu/zagolovok-po-umolchaniju-1/edinoe-okno/osnovnye-zadachi-cos** KSTU's DSP provides university services: accepting applications for reinstatement, transfer, academic leave, and expulsion; registration/re-registration/registration for disciplines; issuing certificates; transcript output; issuing payment protocols; issuing a login and password to a personal account.	

The IT Department of the I. Razzakov KSTU was established in 2017 and has many years of successful experience and the department's activities are regulated by the current Regulations. The IT department is working to support the students' activities. The main goal of the IT department is to strengthen the position of the I. Razzakov KSTU in the information educational space of the Kyrgyz Republic, the development of the use and implementation of information and communication technologies, e–learning and distance learning technologies in the educational process and activities. The organization of the educational process is carried out using modern educational technologies based on the use of the Internet to ensure student access to educational resources of KSTU, as well as knowledge testing systems. **https://kstu.kg/otdely/otdel-it-departament** The university has a **Practice and Career Center**. The Practice and Career Center organizes and conducts all types of practices and assists in the employment of graduates. The University is interested in improving the understanding and control of the employment of its graduates. The Practice and Career Center is a key and connecting link between the university and the labor market (employers). **https://kstu.kg/studentu/centr-karery/cukic** b) Are there enough administrative staff in quantity and quality to effectively manage student support services? **Yes.** There is a sufficient number of staff to effectively strengthen student services. The number of staff for high-quality, effective management and strengthening of student services can be found at the link **SSC 1, SSC 2 и SSC 3.** **Educational work is carried out to effectively strengthen students' health.** There is a curatorial work plan, which is approved at the department meeting. The check is carried out by the head of the department. The basis of educational work at the Department of Applied Mathematics and Computer Science is the work of curators. The main directions of educational work are:	

student academic performance; relations between students and their mutual understanding, as well as the formation of a group team in the educational process; participation in university and institute events. The educational work of the 4th year is carried out as the educational process progresses and is entrusted to the supervisors of graduation and graduation theses. Students of the department actively participate in all events that are organized at the Institute and KSTU, such as: "Open House Day"; Meeting of 1st year students with the rector of KSTU and the director of the Institute; Students' participation in scientific conferences. Our students also actively participate in sports events, urban and university cleanups. Curatorial work (work plan, implementation, reporting). The supervision of the educational process was aimed at improving academic performance, identifying debts, as well as eliminating them. Students participated in cultural events, on clean-up days at the university. https://kstu.kg/fakultet-informacionnykh-tekhnologii/prikladnoi-matematiki-i-informatiki/vospitatelnaja-rabota	
Criterion 3.5. Partnership ***Documentation to be provided*** • Partnerships that allow students to study outside the university. • Partnerships that provide ***Questions to consider*** a) Are partnerships with public and/or private organizations for periods of study outside the university quantifiably and qualitatively consistent with achieving program outcomes? b) Are partnerships with foreign universities or other universities for international mobility quantifiably and qualitatively consistent with achieving the results of the program? To develop educational programs, the department cooperates internationally with partner universities in the near and far abroad, with universities in Europe and Asia within the framework of the ERASMUS+ project and individual international projects. In the field of Business Informatics, students have the opportunity to study in joint 2+2 programs at Russian partner universities: National Research University "Moscow Power Engineering Institute" (MEI) (MEI Technical University); "D.F. Ustinov Baltic State Technical University VOENMEH" (BSTU VOENMEH). Within the framework of academic mobility, agreements have been signed with the National Research Nuclear University MEPhI [Agreement with the National Research Nuclear University MEPhI]; National Research Tomsk Polytechnic University (TPU) [Agreement with TPU]; L.N. Gumilyov Eurasian National University (ENU) [agreement with ENU, documents on the ENU Academy of Mobility]; International University of Information Technologies (MUIT, Almaty) [Agreement with MUIT RK]; with NAO "D. Serikbayev East Kazakhstan Technical University" [Agreement with NAO VKTU]; with Al-Farabi Kazakh	Executed

National University [Agreement with KazNU].

Appendix 3.5.1. Maintenance Agreements

Appendix 3.5.2. Information about participation in the ELBA Project

Since the 2022 academic year, based on the "Agreement" between D.F. Ustinov St. Petersburg State Technical University and I. Razzakov Kyrgyz State Technical University, the educational process in the 580500 Business Informatics (2+2) direction is provided by the teaching staff of both universities with the issuance of "double diplomas".

The international department of KSTU provides information for students about possible projects with partner universities on mobility and training in universities abroad. Information is regularly posted on the information board of the International Communications Department and on the website of KSTU External Relations, International Cooperation.

Academic mobility can be carried out according to programs within the framework of agreements between partner universities on student mobility, i.e. joint educational programs (SOP) according to the 2+2 system. The department has two educational programs, which are implemented through joint educational programs with Russian universities. Academic mobility.

Teachers of the department participate in an international project and take advanced training courses at FPC courses of other universities and institutions of the republic, as well as abroad. Information about internships abroad is provided by the Department of External Relations.

Here are a number of examples of seminars and trainings attended by students and faculty of the department.:

1) On May 18, 2021, the II National Seminar on Modern Educational Technologies EduTech KG 2021 was held at the I. Razzakov KSTU.

2) On April 29, 2021, the faculty of the department participated in a training seminar on the topic: Development of science in order to involve universities of the Kyrgyz Republic in the process of passing the international QS rating.

3) On February 4, 2021, a round table on "Problems of personnel training in the era of digitalization" was held at the I. Razzakov KSTU with the support of the Business Union of Eurasia Association, the New Norm Company and the B. Alishov Innovation Development Center Public Foundation.

4) On December 14, 2021, at the I. Razzakov KSTU, Professor Marina Tropmann-Frick gave guest lectures for undergraduates, undergraduates, postgraduates and teachers of the Faculty of Information Technology. She holds a PhD in data analysis and teaches at

the Hamburg University of Applied Sciences (HAW Hamburg), a leading educational center in Northern Germany.

5) From 2019 to 2023, the faculty of the department participated in the international ERASMUS+ ELBA project on the topic "Creation of training and research centers and development of courses on big data mining in Central Asia", where the coordinator from KSTU was Prof. Jamanbaev M.J. Within the framework of the Project, members of the working group completed internships at the University of Santiago de Compostella, Spain (Kyshtobayeva G.K., Dushenova U.J. -2021), Italy POLITO (Jamanbaev M.J., Agybaev A.S., Amanbaev M.K. - 2022). As well as Prof. Dzhamanbaev M.J. and senior Rev. Kyshtobayeva G.K. Participated in project management meetings at POLITO (Italy, 2022), Primorska University (Slovenia, 2023) and Turin Polytechnic University in Tashkent (2022).

6) On October 14, 2022, at KSTU, the Erasmus+ project coordinators and experts on the "Capacity Building in Higher Education" component presented the experience and successes of implemented projects. The ELBA project was led by Prof. Jamanbayev M.J. shared his experience and best practices in the field of innovative educational technologies, manuals, methodological manuals, acquired equipment and the use of the results in his activities developed within the framework of the project.

7) In July, September and December 2022, January and March 2023, the faculty of the department participated in BOOTCAMP trainings on the basics of data analytics, organized and conducted by invited international (Prof. Branko K., an expert from the University of Primorsk, Slovenia; A.Sanz and H.Kasslin from the State Treasury and V.Vänttinen from the University of Applied Sciences, Finland) and local experts within the framework of the ELBA project.

8) On September 8, 2022, Director of the Center for Postgraduate Studies at Brunel University (Great Britain), Professor. T. Kalganova gave a lecture for students and faculty representatives on the topic "Methodology of scientific research".

9) On May 31, 2022, KSTU hosted an online seminar on "The use of VR technologies in education and industry for regional and metropolitan universities of the Kyrgyz Republic." The lecturer is professor. Sam Houston State University (USA), our compatriot U. Dakeev. In his speech, Dakeev shared his experience in this field, spoke in detail about the ways and methods of introducing new educational technologies into the educational process.

10) On April 22-23, 2022, the first international scientific forum "World Science and Modern Challenges in the era of Globalization and Digital Transformation" was held, organized by the National Attestation Commission under the President of the Kyrgyz Republic. Prof. Dzhamanbaev M.J.

11) On December 16, 2022, at the I. Razzakov KSTU, faculty of the department and students participated in the seminar "Effective use of Scopus and Science Direct", which aimed to study and discuss the methodology for preparing scientific publications, mastering

practical skills of interaction with SCOPUS as part of the university's active participation in the most rated systems. 12) On June 14, 2022, a guest lecture by Professor Marek Milos, Professor of the Lublin University of Technology, was held at the I. Razzakov KSTU as part of the Erasmus+ academic program. A lecture on “Preparation of scientific publications” was presented to the students, where Professor Marek Milos shared his experience in preparing scientific publications in publications indexed in international scientometric databases. (Appendix 3.5.3. Information on professional development of the Department of PMI). Copies of the certificates of professional development of the staff of the Department of PMII are given in Appendix 3.2.3. Copies of certificates of professional development. Doctor of Physico-Mathematical Sciences, Professor M. J. Dzhamanbayev is an academician of the National Academy of Sciences of the Higher School of the Republic of Kazakhstan, an academician of the International Academy of Engineering, an honorary doctor of the Baltic State Technical University "VOENMEH" named after D.F. Ustinov. A Big Data Mining Center has been opened on the basis of the PMI Department within the framework of the international ERASMUS+ ELBA (ELBA) project "Creation of training and research centers and development of courses on Big Data Mining in Central Asia (ELBA)". The department held a round table with the participation of representatives of the D.F. Ustinov Baltic State Technical University VOENMEH (O.L. Kireev, Ph.D., Associate Professor, Assistant Rector, coordinator of educational projects within the framework of the Russian-Kyrgyz Consortium of Technical Universities) and employers, which took place on February 24, 2024. Information about the round table is posted on our Facebook page. **https://fb.watch/quB3NRYgN_/?mibextid=Nif5oz** . .	
Standard 4. Admission, transfer, promotion and graduation of students	
Criterion 4.1. Rules of students' academic career The University implements a model of continuous end-to-end training of technical specialists in demand by the market within a multi-level educational system by covering the stages of secondary vocational education (colleges, technical schools), bachelor's, master's, postgraduate and doctoral studies. The main ideas and moments of the students' academic career are reflected in such fundamental regulatory documents as:	Executed

- The State educational standard of higher professional education in the field of 580500 – Business Informatics;
- Charter of the Kyrgyz State Technical University named after I. Razzakov;
- Regulations on the procedure for the development and implementation of joint educational programs at the I.Razzakov KSTU ;
- Regulations on the implementation of the main educational programs of higher professional education in a shortened and accelerated time ;

The University trains bachelors in Business Informatics under contracts with individuals and legal entities with tuition fees; and since the summer of 2024, the first admission of applicants has been carried out under a state educational grant funded from the national budget. The right to study under the bachelor's degree program is available to persons with secondary or specialized secondary education who have received a certificate of secondary education and the required number of points on the Republican National Examination (ORT) or a diploma of secondary vocational education. The minimum threshold score for ORT, set by the Ministry of Education and Science of the Kyrgyz Republic, has been 110 points in recent years.

Admission is carried out by an admissions committee established by order of the rector of KSTU named after I.Razzakov, based on the results of nationwide testing on a competitive basis, according to the Rules of Admission to KSTU named after I.Razzakov and Admission Plans to KSTU named after I.Razzakov for bachelor's degree programs, which is coordinated with the Ministry of Education and Science of the Kyrgyz Republic and approved by the rector of KSTU every year.

Applicants to bachelor's degree programs in this field can receive sufficient information in the document "Basic educational program of higher professional education in Business Informatics". This program regulates the goals, expected results, content, conditions and technology of the educational process, assessment of the quality of graduate training in this field of study.

The organization of the educational process of students is reflected in the Regulations on contract training at KSTU named after I.Razzakov ; Academic calendar; Regulations on the procedure for transfer, expulsion and reinstatement of students of KSTU named after I.Razzakov; Regulations on granting academic leave to students of KSTU named after I.Razzakov.

Students' education at KSTU is carried out according to the credit system of education in accordance with the Regulations on the

organization of the educational process based on credit technology of education (ECTS). The ECTS credit system allows students to study in accordance with their financial capabilities, health status and time, gaining credits gradually, in excess of the established standard period of study. The student's workload is measured in credits earned during the academic year in each academic discipline. 1 ECTS credit is accepted equal to 30 academic hours, the duration of an academic hour is set at 40 minutes. The labor intensity of the bachelor's degree programs is 240 ECTS credits with a minimum recommended duration of study of 4 years or 8 semesters. A student must earn 30 credits in one semester and 60 credits in one academic year, which corresponds to the student's full annual workload.

Each student enrolled in an educational program using credits draws up his own individual curriculum; this norm is reflected in the Information Package for Bachelor's Degree programs in Credit Technology. When drawing up an individual curriculum, a student can seek help from academic advisers at the department and in the dean's office of the Institute, as well as from the office registrars of the KSTU Student service Center. Students can create their own annual individual curriculum with fewer than 60 credits, which leads to an increase in the duration of their studies as a whole. These can be students with disabilities, older students, etc. In order to improve the quality of students' education, eliminate academic debts in the subjects studied and meet the needs for additional training, a summer semester is being introduced (if necessary, on a fee-based basis, regardless of the financial basis of the study) lasting up to 4 weeks. You can additionally gain up to 15 credits per academic year.

The process of registration of students for academic disciplines takes place according to the Procedure for registration (re-registration) of students for disciplines on credit technology of education and the Rules for using the portal of electronic services of the KSTU named after I.Razzakov.

The assessment of the quality of training for students and graduates includes their current, intermediate and final state certification based on the modular rating system (MPC) of education. The criteria for managing students' academic performance are reflected in the following documents: the Regulations on the block-modular system of education and the rating assessment of students' activities, the Regulations on the ongoing monitoring of academic performance and intermediate certification of students, the Regulations for the examination session at KSTU. I.Razzakova, Regulations on the re-education of students, Regulations on elective courses for students,

Regulations on the planning, organization and conduct of laboratory work and practical exercises in the educational units of the I.Razzakov KSTU, Regulations on the independent work of students of the I.Razzakov KSTU, Regulations on the organization of internships for students of the I.Razzakov KSTU.

At the MRC, all knowledge, skills and abilities acquired by students in the process of studying the discipline are evaluated in points. The student rating is based on the points scored during the course of the discipline: for the module, semester, academic year, and the entire period of study and is recorded by entering in an electronic statement. Students' learning outcomes are assessed on a 100-point scale for each discipline. The credit system uses a scoring system using alphabetic characters, which allows the teacher to more flexibly determine the level of knowledge of students. The assessment system at KSTU is given in the following Table 4.1.

Table 4.1. The scale of academic performance assessments

Rating (points)	Assessment by the letter system	Digital Equivalent Assessment (GPA)	Assessment according to the traditional si- stim
87 - 100	A	4,0	Great
80 - 86	B	3,33	Well
74 - 79	C	3,0	
68 -73	D	2.33	Satisfactory
61 - 67	E	2,0	
41-60	FX		Unsatisfactory
0 - 40	F		

In addition to those indicated in the table, the following letter designations are also used, which are not used in calculating GPA: W - the student left the course without penalty; X - the student was expelled from the course by the teacher; I - the course is not completed.

To be admitted to the final state certification, a graduate student must complete the curriculum, gain at least 225 credits during his bachelor's degree, taking into account internships, and have a cumulative GPA of at least 2.25.

The final state certification (IGA) of KSTU graduates includes passing an interdisciplinary state exam, preparation and defense of final qualifying work. The organization, conduct and evaluation of the results of the IGA is regulated by the following documents: The Regulations on the final state certification of graduates of the I.Razzakov KSTU, the Regulations on the final qualification work, the Regulations on the procedure for checking written works for the presence of borrowings at the I. Razzakov KSTU. Upon successful completion of the SAC and the defense of the thesis, the State Attestation Commission awards the graduate a bachelor's degree in the relevant field and the issuance of a state-issued diploma. A diploma of higher professional education with a bachelor's degree is issued by the university. The production and issuance of diplomas is regulated by the Regulations on the Procedure for the Production, storage, Issuance and Accounting of state and European-standard educational documents. The preparation and issuance of documents to graduates is carried out by the staff of the directorate, the head of the department and the director of the Institute.	
Criterion 4.2. Applicants I.Razzakov KSTU organizes a reception company in accordance with the approved "Resolution of the Cabinet of Ministers of the Kyrgyz Republic No. 355". On the KSTU website, in the Applicants section, there are regulatory documents on the admission of students from the Ministry of Education and Science of the Kyrgyz Republic and KSTU: The procedure for admission to higher educational institutions of the Kyrgyz Republic dated May 27, 2011 No. 256, the Regulation on the selection and enrollment of applicants to the University of the Kyrgyz Republic based on the results of the ORT dated May 27, 2011 No. 256, the Regulation on state educational grants for the education of students in the state. Higher Education Institution of the Kyrgyz Republic No. 404 dated June 2, 2006, Order of the Ministry of Education and Science of the Kyrgyz Republic No. 1169/1, 07/05/2021 On the organization of Admission of Applicants to Higher and Secondary Vocational Educational Institutions of the Kyrgyz Republic, Order on tours, Admission Rules to KSTU, Bachelor's Degree Admission Plan, Order list of specialties, Regulations on the organization of marketing research and career guidance at KSTU I.Razzakova and other informative documents. Those wishing to enroll in a bachelor's degree in Business Informatics can receive any information of interest from the Directorate of the University's Institute of Information Technology, the departments of the I.Razzakov KSTU, as well as at the Department of Applied	Executed

Mathematics and Computer Science. The PMiI Department actively conducts career guidance activities published on social networks during the academic year (www.ok.ru, www.facebook.com, instagram) and on the KSTU website (https://kstu.kg/), in the Department of Applied Mathematics and Computer Science, seminars are also held with representatives of production, in which applicants get acquainted with the conditions and career opportunities for obtaining qualifications "bachelor's degree". Admission of applicants to the I. Razzakov KSTU is carried out by the admissions committee, whose composition is approved by the rector's order. The following information stands are posted for applicants: admission plan, tour schedule, competition results, etc. The information is communicated to applicants through the KSTU website, a running line (at the main entrance), and an electronic screen (in the lobby) that operates automatically during the qualifying rounds. Graduates of secondary vocational educational institutions who have completed secondary vocational education in a field that coincides with their chosen field, as well as in related fields, can be admitted to bachelor's degree programs based on the results of an interview for accelerated study according to the List of vocational education specialties and their corresponding bachelor's and higher education specialties. Applicants entering the bachelor's degree who disagree with the test result have the right to appeal. The review is carried out by the chairman of a specially created appeal commission with the involvement of experts in accordance with the "Regulations on the Appeal Commission of the I.Razzakov KSTU". Applicants with a certificate of secondary general education and an ORT certificate (on the main test from 110 points, with an additional subject – mathematics from 60 points) take part in the competitive selection. Applicants with a diploma of secondary vocational education have the opportunity to study in an accelerated program (3 years). Having passed the competitive selection and recommended for admission to the bachelor's degree, applicants conclude a contract for the entire period of study at KSTU. In general, applicants enrolled in the field of Business Informatics have scores above the threshold 110 and at least 140 on the basic ORT test, which indicates the demand for this area among applicants (Fig. 4.1, 4.2)	

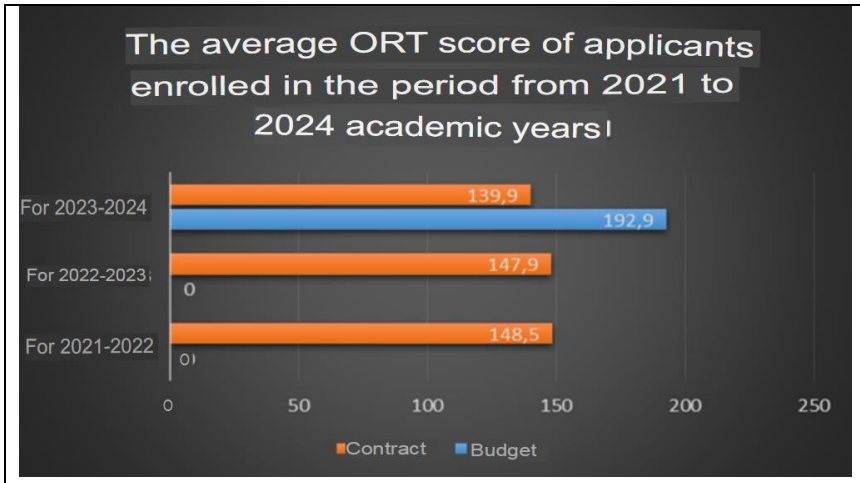


Figure 4.1. The average ORT score of applicants.

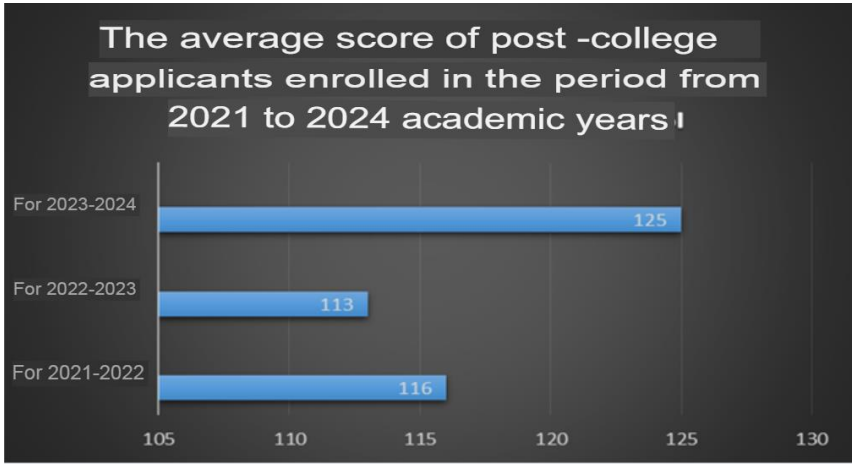


Figure 4.2. The average score of applicants with a diploma of SPE.

The first enrollment in the bachelor's degree program in Business Informatics was carried out in the 2016/2017 academic year. Currently, 301 students are studying full-time, and 203 students are studying long-distance. Total: 504 students (Table 4.2)

Table 4.2. Student body

№	Cipher	Direction Bachelor's degree program	The form of education	Courses					Total:	
				1	2	3	4	5		
1	580500	Business Informaticsика	о/о	84	65	103	49		**301**	IIT
			з/о	9	75	68	35	16	**203**	IIT с
			Total:	**93**	**140**	**171**	**84**	**16**	**504**	

KSTU informs 1st year students about the established rules for organizing the educational process in the Information Package for Bachelor's Degree programs in Credit Technology education during the orientation week before the start of the fall semester, during which time students also get acquainted with the leadership, teaching staff, academic adviser, university structure, etc.

In the first year of study, students study mainly the disciplines of the humanities and social cycles (Kyrgyz, Russian, English; geography of the Kyrgyz Republic, Manas studies, physical education), which form general scientific, socio-personal, and general cultural competencies. The formation of instrumental and professional competencies is ensured by studying the disciplines of mathematics and natural sciences (mathematics, linear algebra, computer science); economics and the beginning of professional cycles (microeconomics, enterprise architecture, business communications, programming languages).

Some of the courses that reveal the relevance, attractiveness and relevance of the E-Business educational program are enterprise architecture and business communications. The engineering orientation of the educational program is provided by the study of computer science, mathematics and programming languages courses, which cover not only the basics of these disciplines, but also their application in the aspect of the educational program.

The analysis of academic performance in the disciplines of these cycles showed at least 60% of high-quality academic performance and at least 80% of absolute academic performance. It should be noted that students who have come from secondary vocational education already have competencies of an average professional level of study and show better academic performance, are more adapted to the educational process at the university.

Criterion 4.3. Student assessment The expected results of students in the field of Business Informatics are described in the graduate model, which is located in EP 580500 Business Informatics. Assessment criteria and methods are fixed in the OP, work programs and syllabuses of disciplines and posted on the AVN educational portal and online.kstu.kg . The criteria, methods, frequency and procedure of the current control, intermediate and final attestation of students are reflected in the documents published on the KSTU website in the section "Educational Management" in the category documents: "Regulations on border control and intermediate attestation of KSTU", "Regulations on the block-modular training system and the rating assessment of students", "Regulations conducting an examination session", "Regulations on the independent work of full- time students at KSTU" , "The procedure for conducting the Final state certification of graduates" . The conformity of criteria and methods for assessing expected learning outcomes in disciplines is assessed by the educational and methodological commissions of the educational structural units. In each semester, the final assessment of students in the disciplines consists of the sum of the points of the current, boundary and final control. A modular rating system for assessing knowledge in the bachelor's degree program is used. Boundary and current control – 40 points, final – 20 points. The points for the SRS are included in the boundary control (Regulation 4.3.8. The Regulation on the educational and methodological complex, Regulation 4.3.9. Regulation on the organization of the educational process based on credit technology of education (ECTS)) To assess students' knowledge in the disciplines, the work program describes the criteria by which the level of knowledge is assessed. A fund of assessment tools has been developed: control tasks, tickets for oral questioning, tests, etc. An objective assessment of students' knowledge in the bachelor's degree program is carried out according to the developed procedure for conducting intermediate certification and conducting an examination session at KSTU.	Executed

The AVN automatic system allows you to record the academic performance, debt and attendance of bachelors, as well as their average score and the number of credits based on the results of the session and the entire educational process. The analysis of the academic performance of Business Informatics students by semester is given in Tables 4.3 and 4.4.

Table 4.3. Information on the academic performance of full-time students

Group	2021-2022 academic year				2022-2023 academic year								2023-2024 academic year								
	1 term		2 term		1 term		2 term		3 term		4 term		1 term		2 term		3 term		4 term		5 terr
	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance	absolute academic performance	high-quality academic performance
БИ-1-21	48	89,16	50	86,8	-	-	-	-	46,5	100	58,8	94	-	-	-	-	-	-	-	-	32,57
ЭБэ-1-22	-	-	-	-	-	-	-	-	55,9	99,35	73,8	97,62	-	-	-	-	-	-	-	-	65,58
БИ-1-22	-	-	-	-	54,89	87,96	51,83	69,84	-	-	-	-	-	-	-	-	50,3	81,66	35,6	70,84	-

БИ-2-22	-	-	-	-	**48,1**	**82,07**	**50,5**	**87,8**	-	-	-	-	-	-	-	-	**47,24**	**75,76**	**41,7**	**80,92**	-	-	-	-
БИ-3-22	-	-	-	-	**60,86**	**100**	**64,28**	**87,5**	-	-	-	-	-	-	-	-	**49,62**	**85,39**	**46**	**88,44**	-	-	-	-
БИ-4-22	-	-	-	-	**59,77**	**97,75**	**62,98**	**95**	-	-	-	-	-	-	-	-	**56,05**	**94,25**	**47,5**	**93,23**	-	-	-	-
БИ-1-23	-	-	-	-	-	-	-	-	-	-	-		**49,2**	**86,55**	**49,2**	**95,45**	-	-	-	-	-	-	-	-
БИ-2-23	-	-	-	-	-	-	-	-	-	-	-		**42,09**	**7,1**	**42,05**	**79,11**	-	-	-	-	-	-	-	-

Table 4.4. Information on the academic performance of distance learning students

Group	**2021-2022 academic year**				**2022-2023 academic year**								**2023-2024 academic year**											
	1 term		**2 term**		**1 term**		**2 term**		**3 term**		**4 term**		**1 term**		**2 term**		**3 term**		**4 term**		**5 term**			
	high-quality academic performance	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**			

БИдот-1-21	**61,32**	**79,01**	**56,89**	**71,75**	**-**	**-**	**-**	**-**					**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**					
БИдот-2-21	**27,7**	**96,7**	**50,47**	**92,85**	**-**	**-**	**-**	**-**					**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**					
БИдот-1-22	**-**	**-**	**-**	**-**	**62,01**	**79,01**	**56,89**	**74,89**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**					**-**	**-**	**-**	**-**	
БИдот-2-22	**-**	**-**	**-**	**-**	**58,1**	**98,57**	**63,71**	**85,93**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**					**-**	**-**	**-**	**-**	
БИдот-1-23	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**44,19**	**77,11**	**20,74**	**67,07**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
БИдот-2-23	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**57,14**	**85,71**	**21,43**	**71,43**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	

Group	**2020-2021 academic year**				**2021-2022 academic year**				**2022-2023 academic year**				**2023-2024 academic year**				**2024-2025 academic year**			
	1 term		**2 term**		**3 term**		**4 term**		**5 term**		**6 term**		**7 term**		**8 term**		**9 term**		**10 term**	
	high-quality academic performance	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**
БИдот-1-20	**60,27**	**93,36**	**57,51**	**88,31**	**54,84**	**88,01**	**55,17**	**81,93**	**47,01**	**96,19**	**69,04**	**92,38**	**50,6**	**97**	**60,15**	**83,02**	**-**	**-**	**-**	**-**

Regulation 4.3.1. Graduate model from OP BI 2022 (page 7) Regulation 4.3.2. OP BI page15 Regulation 4.3.3 Regulation on border control and intermediate certification of KSTU Regulation 4.3.4 Regulations on the block-modular learning system and the rating assessment of students' activities Regulation 4.3.5 Rules of the examination session Regulation 4.3.6. "Regulations on the independent work of full-time students at KSTU Regulation 4.3.7 The procedure for the Final State certification of graduates Regulation 4.3.8. Regulations on the educational and methodological complex Regulation 4.3.9. Regulation on the organization of the educational process based on credit learning technology (ECTS) Regulation 4.3.10 Reviews of trainees from the production	
Criterion 4.4. Student progress The university has built an internal system for assessing the quality of education. The quality assessment system is a set of organizational structures, norms and rules of diagnostic and evaluation procedures that ensure the assessment of educational achievements of bachelors, the effectiveness of educational programs, taking into account the requests of the main users of the results of the educational quality assessment system. The AVN automatic system allows you to record academic performance in electronic statements, debt and attendance of bachelors, as well as their average score and the number of credits based on the results of the session and the entire educational process. Thus, all interested persons, including parents of students, have the opportunity to get acquainted with the results of the examination sessions. The results of monitoring students' academic performance by group and course are presented in Tables 4.5. Table 4.5. Information about students' academic performance.	Executed

Courses									
courses	group								
		high-quality academic performance	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**	**high-quality academic performance**	**absolute academic performance**
1st course	БИ-1-23	49,2	91						
	БИ-2-23	42,07	74.61						
2nd year	БИ-1-22	53,36	78,90	42,95	76,25				
	БИ-2-22	49,30	84,94	44,47	78,34				
	БИ-3-22	62,57	93,75	47,81	86,92				
	БИ-4-22	61,38	96,38	51.78	93,74				
3rd year	БИ-1-21	49	87,98	52,65	97	51,53	95,40		
	ЭБэ-1-22			64,85	98,49	56,45	92,48		
4th year	БИ-1-20	51,2	92	44,56	82,12	47,45	74,21	52,47	100
	ЭБэ-1-21			75,42	100	74,60	100	81,70	100

The analysis of students' academic performance by course shows that in the 1st year, high-quality academic performance is in the range of 42%-62%, absolute academic performance is in the range of 74%-96%. These results are adequate, since the 1st year students study mainly general education subjects - humanities, social sciences, mathematics and natural science cycles, in addition, they indicate a good adaptation to university studies. In the 2nd year, high-quality academic performance is in the range of 42%-64%, absolute academic performance is in the range of 76%-98%. These results are adequate, since in the 2nd year, along with the disciplines of the humanities and social cycles, a small number of disciplines of the professional cycle were introduced. In the 3rd year, high-quality

academic performance is in the range of 50%-56%, absolute academic performance is in the range of 92%-95%. In the 4th year, high-quality academic performance is in the range of 47%-52%, absolute academic performance is in the range of 92%-95%. These results are adequate, since in the 3rd and 4th courses only the disciplines of the professional cycle are already studied, characterized by certain difficulties and labor intensity inherent in special disciplines.

In general, the analysis showed that Business Informatics students had a high-quality academic performance of 52%, and an absolute academic performance of 89%.

The results of students' academic performance based on the results of modules and exams are monitored by academic advisers and regularly discussed at meetings of the Department of the Institute of Applied Mathematics, meetings of the Directorate and the Rector's office.

The success of students' academic achievements is evidenced by feedback from internship sites – organizations, firms, industries, etc.; student participation in various events – conferences, seminars, round tables with presentations (student gr. BI(b)t-1-22(23) Bolotbekov D. and student gr. EBe-1-21 Kaparbekov U. took 2nd prizes at the 66th International scientific and technical conference of young scientists, postgraduates and students "Science and Innovation: prospects and problems"); student participation in programming competitions – hackathons (student gr. BI-1-21 Kubanov D., student gr.. EBe-1-21 Makaev M.). Many students are engaged in solutions and development of software applications, for example, Kubanov D. developed a website for delegates of the National Kurultai of the Kyrgyz Republic kurultai.kg, Kaparbekov U. has developed an automated information system for parking the Bishkek shopping center.

The positive results of passing the final certification tests in the form of passing an interdisciplinary state exam and the results of defending the final qualification with quality indicators in the range of 58% - 86% and absolute indicators in the range of 96% - 97% (Fig.4.3), passing the anti-plagiarism final qualification with the originality of the work above 70% (Fig.4.4), they also talk about the success of academic achievements of Business Informatics students.

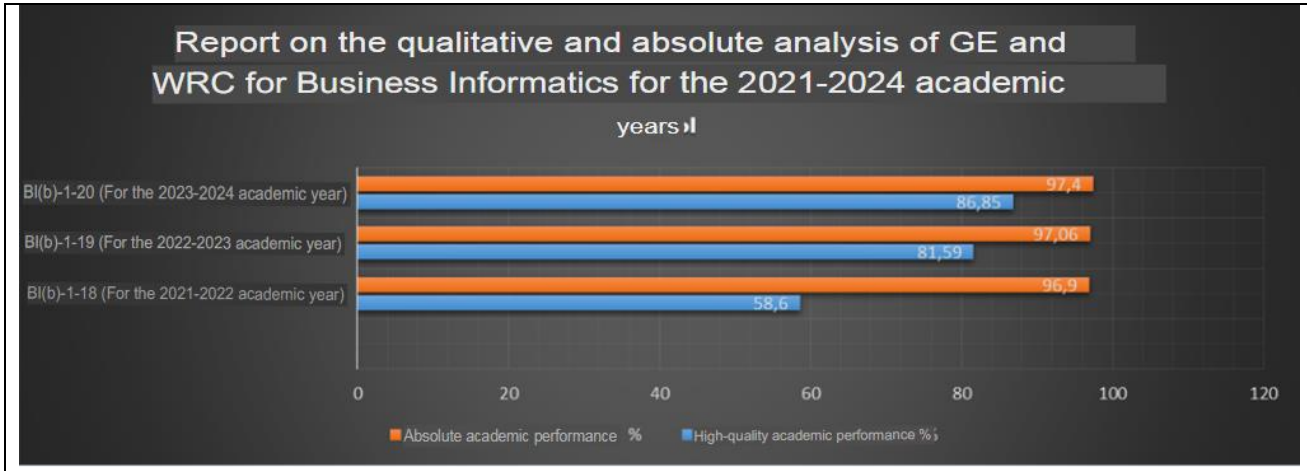


Figure 4.3. Results of passing the interdisciplinary state exam and defending the final qualifying work in %.

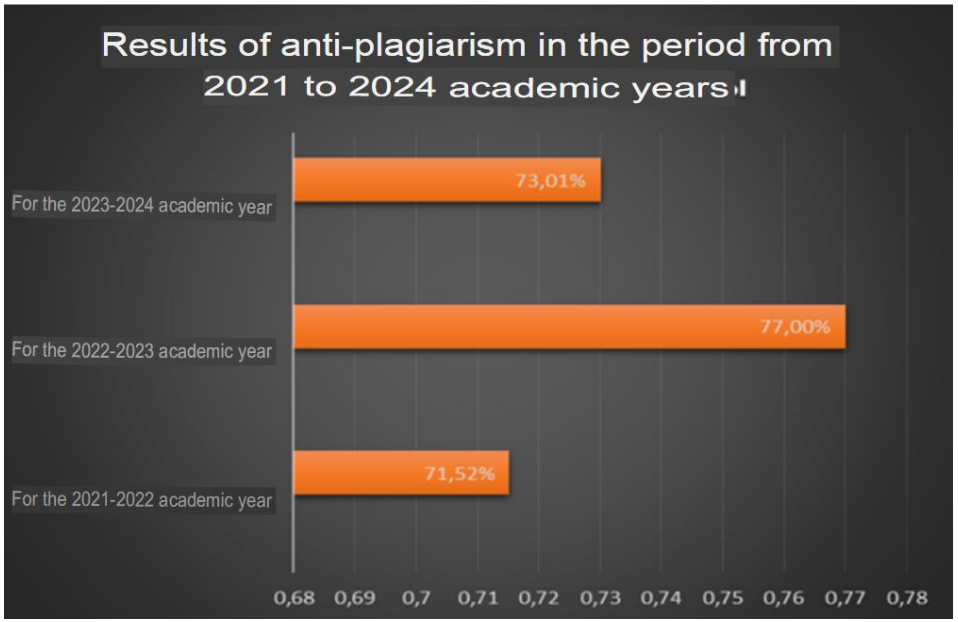
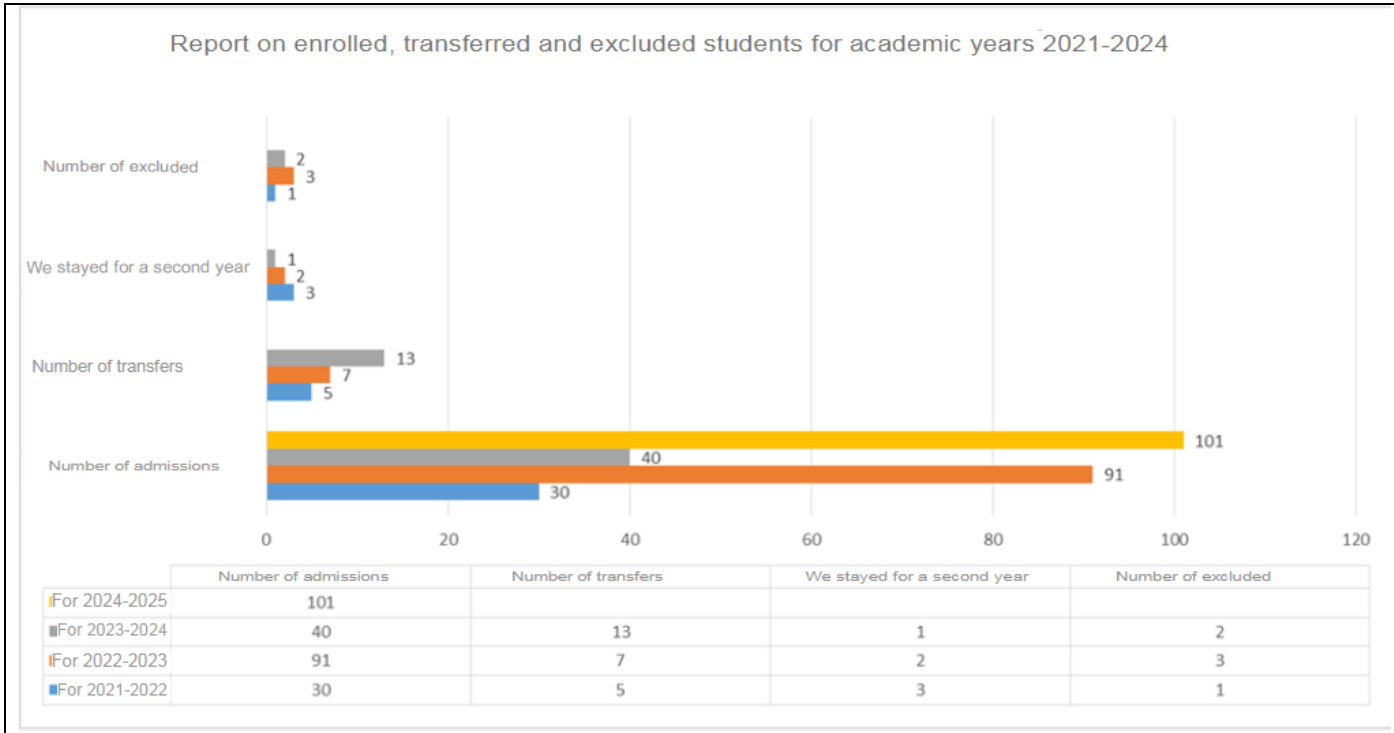


Figure 4.4. The results of the students' anti-plagiarism thesis.

Transfer and dropout of students is carried out in accordance with the Regulations on the procedure for transfer, expulsion and reinstatement of students of the I. Razzakov KSTU. The analysis of the number and reasons for the expulsion of students is carried out based on the results of each examination session by educational structural units and the student personnel department at the university as a whole. The number of transferred and expelled students by year is shown in Figure 4.5. Based on the results of the analysis of deductions from 2021 to 2024. It was found that the number of student expulsions is observed in the range of 1-3 people; in the range of 1-3 people, the number of students left for re-education is observed. These results are insignificant in principle, as they account for about 3% of the total number of applicants for the EP. The reason for the deductions is the academic failure of students, as well as information about the expulsion of students at their own request due to difficulties in paying the contract. It should be noted that there are students who have been transferred from other areas of their own volition to an educational program in the range of 5-13 people, which is approximately 15% of the total number of students in the EP.	



	Number of admissions	Number of transfers	We stayed for a second year	Number of excluded
For 2024-2025	101			
For 2023-2024	40	13	1	2
For 2022-2023	91	7	2	3
For 2021-2022	30	5	3	1

Figure 4.5. Information on the number of enrolled, transferred and expelled students.

The Dean's office of the institutes controls the credits received by students during the transition from course to course and controls the duration of studies leading to graduation.

According to the results of the current academic year, when the required number of credits is set, the transfer (for bachelor's degree) is carried out:

• from the first year of study to the second year: as those who have scored 60 ECTS credits; as those who have scored less than 60 credits, but more than 45 credits, with the condition of re-studying non-completed subjects during the next academic year (with the exception of continuing subjects);

• from the second year of study to the third year: as those who have scored 120 ECTS credits; as those who have scored less than 120 credits, but more than 105 credits, with the condition of re-studying non-completed subjects during the next academic year (with the exception of continuing subjects); • from the third year of study to the fourth year: as those who have scored 180 ECTS credits; as those who have scored less than 180 credits, but more than 165 credits, subject to the condition of re-studying non-completed subjects during the next academic year (with the exception of continuing subjects). To be admitted to the final state certification, a graduate student must complete the curriculum, gain at least 225 credits during his bachelor's degree, taking into account internships, and have a cumulative GPA of at least 2.25.	
Strengths - There is a tendency to gradually increase the number of applicants to KSTU in the field of Business Informatics, in particular, in the summer of 2024, more than 100 applicants were recruited. For the first time, grant places were allocated by the Ministry of Education and Science of the Kyrgyz Republic in this area of training and 50 applicants were recruited. - An orientation week is held for 1st-year students before the beginning of the fall semester, during which they receive information about the established rules for organizing the educational process at KSTU, this information is also described electronically in the Bachelor's Degree Training Information Package on Credit Technology of Education (available at any time on the IIT website). - KSTU hosts an annual student conference, which is actively attended by students of Business Informatics. - Each student forms his own individual curriculum of study annually, the process of student registration for academic subjects takes place offline and online through an entire department, the Student Service Center, created at KSTU in 2022. **Weaknesses** - A small number of applicants coming from abroad.	

- A small number of places – organizations, firms, enterprises for students to practice.	
Standard 5. Internal quality control	
Criterion 5.1. The presence of a clearly formulated and adopted mission of the educational organisation, strategic and current plans developed on its basis and approved, corresponding to the needs of stakeholders. The presence of educational objectives and expected learning outcomes developed and adopted on the basis of the mission of the educational organisation. I. Razzakov KSTU has approved the mission and vision of the university, defined goals and objectives, which are reflected in the Development Strategy of I. Razzakov KSTU for 2023-2028 and in the Charter of KSTU. Development Strategy of I. Razzakov KSTU was discussed in all structural units of the University, considered at the Rector's and Trustee Councils, Academic Council of KSTU (Minutes of RS No. 10 of 30 May 2022; No. 7 of 29 March 2023). **The mission of I. Razzakov KSTU** is to improve and develop quality technical education, based on the achievements of science, engineering, technology and integration into the world educational space, aimed at innovative development of the Kyrgyz Republic, through the implementation of competitive educational programs in accordance with the needs of the labour market, society, economy and the state. **Vision.** I. Razzakov KSTU is an innovative, research, technical university, a leader in the national and international scientific and educational space. By 2028 KSTU named after I. Razzakov should be included in the world authoritative rankings of universities and improve its position annually. The model of a new process management system will be implemented, providing the formation of a business, creative and intellectual environment and cohesion of individual efforts of the team as a whole, aimed at effective results of the university. Improving the quality of education, research, innovation activities and integration into the international educational space is carried out in accordance with the approved KSTU **Internationalisation Strategy for 2023-2028.** The main goal of the strategic development of I. Razzakov KSTU is to create a self-developing, effective system of the whole complex of activities, which will contribute to the economic recovery of the Kyrgyz Republic and its sustainable development in a rapidly changing world, to improve the qualification of human resources, to provide staff ready and able to work in the realities of the modern world and to meet the educational needs of the individual, society and the state. By 2030. KSTU plans to implement the model of new system of business process management, providing the formation of business, creative and intellectual environment and cohesion of individual efforts of the team as a whole, aimed at effective results of I. I. Razzakov KSTU activity. In order to form the target model of KSTU a reference group of universities was formed: Bauman Moscow State Technical University (Russia), Al-Farabi National University (Kazakhstan), Magdeburg University im. These universities were accepted as benchmarks for more accurate planning of prospective performance indicators of KSTU and its structural units in the planned period of development strategy.	Executed

Based on the strategic plan, the current work plan of the university is developed.

Rectorate of KSTU ensures the implementation by all staff and at all levels of the University of the policy in the field of quality of educational activities, which was adopted by the Academic Council in 2014, and updated in 2016, 2021, 2023 in connection with the ongoing educational reforms in higher education, revision of the main priority areas in the activities of KSTU and structural changes in the University. Quality policy is aimed at implementation of activities within the framework of strategic planning, meeting the needs of stakeholders with educational services for training graduates on the basis of competence-based approach, development of educational programmes implemented in KSTU with continuous improvement of their quality. Quality policy is communicated to all educational and service departments through the approved quality management system in KSTU. Each employee of KSTU is personally responsible within his/her competence for the quality of work.

Expected results Implementation of the quality policy:

- to increase the responsibility of university employees at all levels of educational, scientific and administrative activities to manage the quality of educational services and scientific activities;
- to make the system of quality management of educational services unified and transparent for all employees of the university and its partners;
- expand the scope and increase the efficiency of educational and scientific activities through the use of innovative technologies;
- to increase motivation of all employees to quality work, to unite the team around the idea of quality;
- to increase the authority of the University in the national and international markets, to confidently occupy its niche in educational and scientific-innovative activities, to achieve stable development of the quality management system;
- to increase the financial attractiveness of the university for internal and external investors;
- be recognised through international accreditation and global rating.

Strategic objectives are based on the recognised scientific and educational potential and traditions formed in the rich history of the University development. The main objectives of the strategic development of I. Razzakov KSTU are aimed at the development and implementation of programmes of innovative and research path of development; at the development and implementation of the digitalisation programme in the areas of activity; at ensuring the transition to the model of the fourth generation universities - widespread introduction of technology transfer, knowledge in the economy; at the development and improvement of the quality management system, etc.

Execution of KSTU quality policy for 10 years allowed the university to focus on the implementation of the model of new business process management system, which allows to ensure the formation of a business, creative, intellectual environment and cohesion of individual efforts of the team as a whole, aimed at effective results of KSTU activity.

All structural units, based on the University Strategy, develop and approve their strategic plans, including the development of educational programmes, affecting all aspects of the activities of the educational unit (Department Development Strategy 24-29).

At the beginning of the academic year, the educational structural units approve the current work plan reflecting the strategic planning and quality system, the plan of meetings, minutes with operative part are kept. A responsible person is appointed for each activity. (Work

plan of the department for the academic year 2023-2024.)

Semi-annual and annual reports reflect the fulfilment of planned work in all activities, which are reviewed and discussed at the department meeting. The set goals and objectives of programme processes are analysed, corrective and preventive actions are taken.

At the HEI level, through monitoring and auditing of institutional and programme processes, analysis and decision-making for improvement, the achievement of strategic goals and set objectives are determined, and the results are reviewed at the Quality Council.

The development of the strategic plan of the department involves all stakeholders, namely the management, employers and stakeholders, heads of the EPs, students, as well as graduates of the department. Employers inform about the actual problems they face and make their amendments to the development strategy. Monthly meetings of the department are also held, where the topics of improving the quality of education are discussed (Plan of AMI department meeting 23-24). In addition, students and graduates on a regular basis pass questionnaires, where they leave their feedback and wishes.

In the main educational programme for the direction 580500 Business Informatics approved by the rector of KSTU named after I. Razzakov Chynybaev M.K. 16 March 2022 outlined the objectives of the educational programme (EP 580500 BI p. 5-6). Also in the basic educational programme the expected learning outcomes are specified (EP 580500 BI p. 8-9).

At the HEI level, through monitoring and auditing of institutional and programme processes, analysis and decision-making on improvement, the achievement of strategic goals and objectives is determined, and the results are reviewed by the Quality Council (QC). Quality assurance policy control is conducted at KSTU on an annual basis in accordance with the approved model of quality assurance system of education SOQA and internal quality assessment. For this purpose, there is an institutional process (No. 27) on monitoring and auditing processes, which also applies to lyceum and colleges. The internal quality assessment system is developed through the rating of teaching staff (KPI) and educational structures, self-assessment of educational programmes and the university, audit of educational units, divisions, centres, departments are provided for. The audit is conducted according to the Regulations on the audit of the system of quality assurance of education in KSTU. The results are heard at the Quality Council, Academic Council. Decisions on improvement and adjustment of actions are taken.

Since 2019 monitoring of the classroom fund, living conditions in dormitories, as well as audit of departments and services of KSTU and branches, providing institutional processes and infrastructure processes. The results of monitoring and audit are heard at the Quality Council, departments and services are given recommendations to improve processes and deadlines for eliminating non-conformities.

At the level of institutes and departments, programmes are self-evaluated, strengths and weaknesses are identified, and measures for improvement are taken. To assess the quality, departments, institutes/faculties are rated, the best educational units are identified and awarded with financial means to improve the material and technical base.

Social surveys of students, faculty members, employers, graduates are conducted annually to assess the quality of implementation of the educational process and programmes. The results of social surveys, including the questionnaire 'Teacher in the eyes of students', 'We are against corruption' are considered at the Quality Council. Teachers with low scores are included in the monitoring of training sessions and pedagogical activities on the basis of the order and schedule of visits. Monitoring of teaching sessions is carried out in accordance with the Regulation on Monitoring and Attendance, by visiting teachers and evaluating their teaching sessions. The results

are discussed at the SC, measures are taken to eliminate discrepancies and improve teachers' qualifications through professional development courses, etc.

Annual monitoring, internal quality assessment, audit of processes, analysis, correction, control, allows to make comparison in dynamics and improvement of processes in the university and branches. This system allows to prepare KSTU for accreditation and external evaluation of the university and programmes. The reports of the Department of Education Quality (DEQ) provide information about the work done during the academic year.

In all areas of the current KSTU Development Strategy the tasks are defined, indicators of their fulfilment are set. The strategy is implemented through the current plans of the university and structural units (Department Work Plan for 2023-24). Rectorate analyses the implementation of strategic plans, reports are heard at the Academic Council of KSTU.

All structural units (institutes, departments, colleges) on the basis of the HEI Strategy, develop and approve their strategic development plans, including the development of educational programmes, affecting all aspects of the activities of the educational unit, their implementation by years from one to five years.

Educational structural units at the beginning of the academic year approve the current work plan (for the year) reflecting the strategic planning and quality system, the plan of meetings, minutes with the operative part are kept. A responsible person is appointed for each activity. Semi-annual and annual reports reflect the fulfilment of planned activities in all activities. The goals and objectives of the programme processes are analysed and corrective and preventive actions are taken.

Current issues of educational process and other activities are considered weekly at the Rector's Council, the work of which is regulated by the Regulations on the Rector's Council of KSTU.

At the level of the University every month there is a meeting of the Academic Council of KSTU in accordance with the plan for the current year, where the activities of each individual unit of KSTU and relevant educational programmes are considered in terms of resource provision, satisfaction of stakeholders, identification of strengths and weaknesses of the EP, dynamics of development and prospects of educational programmes, etc.

At the level of departments and institutes meetings of departments and the Institute Council are held, where the issues on management and implementation of OPs, interaction with stakeholders, etc. are considered according to the work plans for the current year.

Teaching and methodical activity and its support is considered at the Teaching and Methodical Council of KSTU, according to the Regulations on the EMC of KSTU. In institutes there are educational-methodical commissions regulating methodical work of corresponding educational structures. At the department level there is a responsible person for methodical work, whose duties include planning and reporting on the publication of teaching aids, manuals, textbooks, etc. The department is responsible for methodical work.

A set of measures to reduce the impact of potential risks is outlined in the KSTU Development Strategy and Guidelines. Management processes. Risk analyses and measures related to risks in the educational process are prepared in annual reports of Institute Directors. The issues of occurrence of various kinds of risks are considered at the meetings of departments.

Branch councils with the participation of employers are created at institutes or departments to discuss issues of educational, scientific and other types of activities
https://kstu.kg/fileadmin/user_upload/23_polozhenie_ob_otraslevykh_sovetakh_2018.pdf

Heads of educational programmes are appointed by the Rector's order, who is responsible for coordination of work on

development, implementation, monitoring and improvement (development) of the programme. Aims and tasks of the head of educational programme are reflected in the Regulations on the main educational programme of directions and specialties of higher professional education at KSTU. KSTU has a Board of Trustees, the work of which is regulated by the Regulations on the Board of Trustees of I. I. Razzakov KSTU. The main tasks of the Board, in addition to attracting capital and funds for the development of the university are aimed at assisting in the implementation of state policy in the field of education, improving the quality of educational services, assistance and help in conducting external and internal audits to ensure the competitiveness of the university. The PS meets at least twice a year according to the work plan. .	
Criterion 5.2. Educational programme management system Management functions of the system of education quality assurance are carried out by the Quality Council (QC) and the Academic Council headed by the Rector of KSTU. The representative of the quality management is the Vice-Rector for Academic Work. The composition of the Quality Council was approved by the Rector's order No. 174 from 24.11.2022. The rights and duties, main directions of its work are given in the Regulations on the Quality Council. The Quality Council carries out its activity according to the annual work plans. The meeting of the Quality Council is held at least once a semester (twice a year) or as necessary, minutes are kept. Organisational and methodological support of the Council activity is assigned to the Department of Education Quality. The functions of the Department are given in the Regulation on the Department of Education Quality. In structural subdivisions of KSTU (departments, divisions, centres, services) there are appointed responsible for quality, performing their functions on the basis of the Regulations on responsible for quality of structural subdivisions and divisions of KSTU. Responsible for quality interact with the Department of Education Quality in KSTU (DKO) to study and communicate to the relevant structural units the mission, goals, learning outcomes of the University, issues on quality system, process approach in training, preparation for accreditation, etc. The functional matrix of processes specifies structural units that implement or participate in them, indicators for each process. The documentation of processes reflects the goals, objectives, owners and responsible persons for the processes, as well as local normative documents that regulate a particular process. The normative documents are currently updated due to the structural transformation https://kstu.kg/otdel/otdel-kachestva-obrazovanija/lo . Chairs are involved in many programme processes, so the work plans include issues on their implementation and monitoring. Annually provide a report on implementation with evidence base. Heads of EPs conduct marketing research of the labour market, benchmarking in accordance with the Regulations on the organization of marketing research and career guidance work in I.Razzaakov KSTU, organize social surveys among employers, graduates on satisfaction with the educational programme, educational process, learning outcomes. The results of such events are reflected on the websites of graduating departments. Recommendation questionnaires are presented on the DKO website.	Executed

When forming the educational programme, the objectives and expected learning outcomes are discussed with the specialists of the relevant industry or profile and are coordinated with the requirements of the labour market. Involvement of labour market representatives in the assessment of the quality of educational programmes is carried out by means of social survey of employers on the organisation and conduct of practical training, their participation in the SAC, round tables, seminars. Branch councils are created at departments or institutes, which are regulated by the Provision on Branch Councils in I. Razzakov KSTU. The websites of the departments and institutes contain information on interaction with industry representatives and mechanisms for coordination of educational and methodological materials, including the main educational programme, as well as decision-making on the improvement of programmes. In order to train specialists, corresponding to the realities of the labour market and demanded by students, students (undergraduates, masters, graduates) are actively involved in the process of preparing curricula of educational programmes. To ensure the quality of the educational process and its continuous improvement KSTU has adopted a process-oriented model of education quality assurance system, introduced internal mechanisms of quality monitoring and evaluation. For this purpose quality assurance processes and their owners are defined, functional matrix of processes with indicators of fulfilment is developed. Developed and implemented since 2018. Quality Manual (QM) as a generalising document on the education quality system. In 2020, the document was approved by the Academic Council. In 2023, the RC and the internal quality assurance system were revised in connection with the structural transformation (joining of educational organisations) of the University. QM defines the organisational and management structure of KSTU quality assurance system and its documentation, establishes requirements for the quality assurance system at KSTU. QM is intended for internal needs of the University, serves as a reference for KSTU management and staff on quality assurance, for internal audits (other inspections and control) and social surveys of stakeholders; to familiarise external consumers of the University with the principles of construction and functioning of the quality assurance system at KSTU. The QM specifies institutional and programme processes and their owners, functional matrix of processes and their description, management structure of the education quality assurance system (EQAS), EQAS model and its description, documentation management, changes, analysis, improvements of EQAS. Taking into account continuing education, the institutional processes include activities to ensure the quality of secondary general education and secondary vocational training programmes. The internal quality assurance system is based on continuous monitoring and periodic evaluation of institutional and programme processes, and is aimed at their improvement and modernisation in accordance with the Regulations on the audit of the quality assurance system of education at KSTU. At the level of academic units (departments) and within the framework of implementation of the quality policy, activities in eight areas are carried out taking into account the current plans and process-oriented model, as well as annual audit of the quality management system of the department and programme processes.	
5.3 Review and development of the educational programme The main educational programme Bachelor (hereinafter referred to as Bachelor) in the direction 580500 'Business Informatics' (Bachelor), implemented by the Department of 'Applied Mathematics and Informatics' corresponds to the mission of the university, the established educational goals.	Executed

Procedures for the development and approval of educational programmes at KSTU are set out in the 'Regulations on the main educational programme of directions and specialties of higher professional', approved by the rector of KSTU at the meeting of the UMC (Annex 5.3.1. Minutes of the UMC № 5 from 13.06.2024 Regulations on the main educational programme of directions and specialties of higher professional).

OP is developed taking into account the requirements of the labour market on the basis of the State educational standard of higher professional education in specialty 80500 'Business Informatics', approved by the order of the Ministry of Education and Science of the Kyrgyz Republic from '21' September 2021 № 1578/1 (Annex 5.3.2 to the order of the Ministry of Education and Science of the Kyrgyz Republic from '21' September 2021 № 1578/1).

Educational goals and objectives of the Bachelor's programme in the direction 580500 'Business Informatics' (Annex 5.3.3. - Objectives of the OP BI (Bachelor)) are consonant with the mission of the University (Annex 2.1.4. Mission of KSTU named after I. Razzakov).

In the field of education, the objectives of the OP Bachelor's training in the direction 580500 'Business Informatics' are:

1) Training in the basics of humanities, social, economic, mathematical and natural sciences, obtaining higher advanced professional (at the Bachelor's level) education, allowing the graduate to work successfully in the chosen field of activity, to possess universal and subject-specific competences, contributing to his/her social mobility and sustainability in the labour market.
2) To obtain higher professional profile education (at the Bachelor's level), advanced professional education (at the Master's level), allowing the graduate to work successfully in the chosen field of activity.
3) To possess universal and subject-specific competences, contributing to his/her social mobility and sustainability in the labour market.
4) Formation of social and personal qualities of students: purposefulness, organisation, diligence, responsibility, citizenship, communication, tolerance, improvement of general culture, instilling a sense of patriotism, etc.

When developing training programmes, the analysis of labour market needs is carried out, and similar educational programmes of other universities, including those of foreign and near abroad countries, are studied.

Annex 5.3.1. Minutes of the UMC № 5 from 13.06.2024 Regulations on the main educational programme of directions and specialties of higher professional
Annex 5.3.2 to the order of the Ministry of Education and Science of the Kyrgyz Republic from '21' September 2021 № 1578/1
Annex 5.3.3. - Objectives of the EP BI (Bachelor)) are consonant with the mission of the University
Annex 5.3.4. Mission of KSTU named after I. Razzakov
Annex 5.3.5. EP BI

The expected learning outcomes of the educational programme in the direction 580500 'Business Informatics' are developed in accordance with its objectives, and are achieved on the basis of the learning outcomes of the disciplines and the relevant curriculum for Bachelor's degree training (Annex 5.3.5. EP BI).

Expected results of bachelor's degree training in the educational program in the direction 580500 "Business Informatics"

ER.1. The ability to apply basic knowledge in the field of social sciences, humanities, natural sciences and professional disciplines in a chosen field of activity, to possess universal and professional competencies.

ER.2. The ability to understand and apply traditional and innovative ideas, find approaches to their implementation, and participate in project work using basic research methods.

ER.3. The ability to express their thoughts in the state and official language.

ER.4. Be proficient in one of the foreign languages at the level of social communication and translation.

ER.5. Possess the skills of organizing and conducting work in an interdisciplinary field (disciplines of the basic and variable part of the professional cycle).

ER.6. The ability to acquire new scientific and professional knowledge using modern educational and information technologies.
ER.7. The ability to conduct scientific research and obtain new scientific and applied results.
ER.8. The ability to identify the types and forms of information subject to threats, types and possible methods, and ways to implement threats based on an analysis of the structure and content of the company's information processes, goals and objectives of the company's activities.
ER.9. The ability to conduct a preliminary feasibility study and substantiation of design decisions to ensure information communication.
ER.10. Proficiency in solving problems of production and technological activities at a professional level, including the development of algorithmic and software solutions in the field of system and application programming.
ER.11. The ability to apply methods of analysis of studied phenomena, processes and design solutions when conducting research on the information security system.
ER.12. Knowledge of the organizational and legal foundations of management activities and the use of organizational and managerial skills in professional and social activities.
ER.13. Be able to use regulatory legal documents in their activities, and be persistent in achieving their goals, taking into account moral and legal norms and responsibilities.
ER14. The ability to conduct seminars and practical classes with students, as well as lectures of special courses on the specialization profile.
ER.15. The ability to develop educational and methodological complexes for electronic and mobile learning.
The learning outcomes reflect the requirements of the Federal State Educational Standard for Higher Professional Education (Appendix 2.2.2. - State Educational Standard for Higher Professional Education 580500 Business Informatics), representatives of industries, employers, and other interested parties. For further discussion, complementing and clarifying the learning outcomes, it is planned to hold a number of events with the participation of representatives of industries, employers, graduates and stakeholders: a round table, questionnaires, interviews, as well as during the formation of a qualification framework, a matrix of competencies and a matrix of expected learning outcomes.
With a bachelor's degree, graduates of the PMiI department can easily apply for high positions in banks, government agencies, and IT companies as senior and junior specialists. Many bachelors are employed by various banks as developers, analysts, economists, teachers, etc.

The first graduation in the 580500 "Business Informatics" bachelor's degree (Campus 2) took place in 2023. Undergraduate students of BI have completed prequalification internships at enterprises according to the practice schedule https://kstu.kg/fileadmin/user_upload/grafik_prokhozhdenija_praktik_na_2022-23_uch.god__kampus_1___1_.pdf
(Appendix 2.2.2. - Report on the prequalification practice of the 4th year) with the performance of relevant work functions that provide an opportunity to enhance career growth, professional activity, as well as continuing practical activities (Appendix 2.2.3.- Student employment).
Appendix 2.2.1. OP BI p.7-9
Appendix 2.2.2. - State Higher Professional Education Standard 580500 Business Informatics pp.8-12

The curriculum and characteristics of educational modules have been developed (Appendix 2.3.1. WC) in accordance with the requirements of the State Higher Education Standard (Appendix 2.3.2 to the Order of the Ministry of Education and Science of the Kyrgyz Republic dated September 21, 2021 No. 1578/1)

The EP structure contains universal, professional competencies.

The development and approval of the EP is carried out in accordance with the following procedure established at the university:

1. Approval of the Approximate curriculum – UME in the field of training;
2. Approval of the Working Curriculum- UMS of the University;
3. Approval of the Main Educational Program - UMS of the University;

The educational program is implemented within the framework of the credit system of education, the list and content of educational programs for the courses of the state component correspond to the State Higher Education Standards, and the disciplines of the university component and elective courses meet the requirements of bachelors and employers (can be adjusted annually). This structure of the curriculum makes it possible to take into account current and projected changes in the labor market and the demands of employers to ensure the continuous advancement and personal growth of bachelors.

The basic educational program (EP) and the working curriculum in accordance with the State Higher Education Standard for Bachelor's degree 580500 "Business Informatics", which were reviewed and discussed at round tables, meetings of the department (Appendix 2.3.3. – Minutes of the round table of the department), agreed and approved with the educational department. The working curriculum is approved by the Vice-Rector for Academic Affairs, coordinated by the head of the Department of Applied Mathematics and Computer Science.

The educational program is implemented within the framework of the credit system of education, the list and content of educational programs in the subjects of the compulsory component are publicly available, and the disciplines of the university component and elective courses reflect the requirements of stakeholders.

The total labor intensity of mastering the bachelor's degree program is at least 240 credits (credits) and the duration of study is 4 years. The labor intensity of the OOP HPE in full-time education for an academic year is at least 60 credits (credits).

One credit (credit unit) is equal to 30 hours of student's academic work (including classroom, independent work, and all types of attestation).

The educational program is implemented at the Department of Applied Mathematics and Computer Science; the head of the Department of Applied Mathematics and Computer Science is M.J. Jamanbayev, Ph.D., Professor, and K.D. Duishokov, Ph.D., Head of the educational program (Appendix 2.3.4. - The Order appointing the head of the Department).

The curricula are formed taking into account the logical sequence of the educational process (prerequisites and post-requirements) and the achievement of expected results (each discipline forms certain competencies) (Appendix 2.3.5. "Competence Matrix", Appendix 2.3.6 Guide to RUE KSTU, Appendix 2.3.7. Schedule of the educational process and schedule of modules and exams (Academic calendar)). The structure of the curriculum makes it possible to take into account current and projected changes in the labor market and the requirements of employers, and the constant promotion and personal growth of undergraduate students in the BI field is carried out. Such changes in the curriculum are reflected through the disciplines of the university component and elective courses.

Appendix 2.3.1. working curriculum
Appendix 2.3.2. To the Order of the Ministry of Education and Science of the Kyrgyz Republic dated September 21, 2021 No. 1578/1
Appendix 2.3.3. – Minutes of the round table of the department
Appendix 2.3.4. - The order on appointment of the head of the EP
Appendix 2.3.5. "Competence Matrix"
Appendix 2.3.6 Guide to WEP KSTU
Appendix 2.3.7. Schedule of the educational process and schedule of modules and exams (Academic calendar)

The University demonstrates the existence of a documented monitoring and periodic evaluation procedure to achieve the goal of the EP and continuously improve its content. The educational programs of the Department of Applied Mathematics and Computer Science are evaluated and adjusted in the process of monitoring the opinions of employers, stakeholders, in particular, teachers, and taking into account the opinions of undergraduates identified

by regular surveys of satisfaction with the quality of the educational process and graduates. The results are discussed at the department meetings (Appendix 2.4.1. Questionnaire for employers, Appendix 2.4.2. Questionnaire for students, Appendix 2.4.3. Questionnaire for graduates, Appendix 2.4.4. Questionnaire for determining the quality of the dining room, Questionnaire on student satisfaction with living conditions in dormitories, Appendix 2.4.5. Questionnaire curator with students' eyes, Appendix 2.4.6. Questionnaire after practice, Appendix 2.4.7. Survey on the quality of work of the NTB, Appendix 2.4.8. Survey on the quality of work of the university archive).

The mechanism for reviewing and changing educational programs is reduced to the processing and systematization of information (Appendix 2.4.10. Questionnaire), periodically received proposals from stakeholders - employers, due to changing labor market demands, proposals from graduates, undergraduates and teaching staff, government and public organizations of the Kyrgyz Republic by making appropriate changes to the State Higher Education Standards, guidelines, goals and learning outcomes educational programs (Appendix 2.4.11. Analysis of the results of the survey of employers, Appendix 2.4.12. Analysis of the results of the survey of graduates).

The periodic assessment of the learning outcomes and achievement of the goals of Educational programs by graduates for the period from 2018 and its continuous monitoring is carried out by departments that implement relevant assessments based on the results of employers' feedback on the quality of their professional activities, as well as an audit by the Department of Education Quality. Employers' feedback on the professional activities of graduates and the learning outcomes of Educational programs is heard at the department meeting.

The documentation confirming the periodic assessment of the level of achievement of the objectives of educational programs is reflected in the minutes of the department meeting (Appendix 2.4.13. Minutes of the round table).

Appendix 2.4.13. Protocol of the round table

According to the curriculum, the educational program provides for three types of practice: academic (4 semesters, 4 weeks), industrial (6 semesters, 4 weeks), prequalification (8 semesters, 8 weeks).

Internships are conducted according to the working curriculum (Appendix 2.5.1. RUP) and the schedule of the educational process (Appendix 2.5.2. - Schedule of the educational process) and the regulations on the organization of internships for students of KSTU named after I. Razzakov (Appendix 2.5.3. - Regulations on the organization of internships for students of KSTU).

The Department of Applied Mathematics and Computer Science has agreements on cooperation and mobility with employers. As part of this cooperation, students in the field of Business Informatics are sent to enterprises for internships: Dos-Grand LLC, Golden Drinks CJSC, EcoIslamikBank CJSC, Ugut Soglasie International Public Association, the National Statistical Committee of the Kyrgyz Republic, INTELTRANS LLC, Cifromatika LLC, LLC "AG5P" (Appendix 2.5.4. - Contracts with employers).

Currently, the places of prequalification (pre-graduate) internship in such companies have been identified: Gazprom Kyrgyzstan LLC, Commercial Bank Kyrgyzstan OJSC, RSK Bank OJSC, Silk Way Travel LLC, Interactive Consulting Center, etc. (Appendix 2.5.5. - Places of practice).

According to the schedule of the educational process for the academic year 2023-2024 (Appendix 2.5.6. - Academic calendar for the academic year 2023-24), students in the period from 15.01.2024 to 07.03.2024 were sent to prequalification practice. The content of the practices is aimed at mastering the professional activities of the program, consolidating, expanding, deepening and systematizing the knowledge gained in the study of disciplines. The content offers the acquisition of initial experience, the development of professional thinking, the formation of general and professional competencies, as well as the acquisition of professional experience, the verification of professional readiness for independent practical and research activities of the future bachelor.

After completing the internship, the bachelors submit reports, completed internship diaries, and after the bachelors defend their report, the supervisor evaluates the internship level by giving appropriate scores. A bachelor's degree can get a maximum of 100 points, taking into account activity, the manifestation of skills, theoretical

skills in practice, and feedback from managers from enterprises. The defense may be attended by the teaching staff, the head of the OP. The points are credited to the AVN IP.
The reports of the supervisors on bachelor's degree practice are reviewed at the department meeting, problems and recommendations for improving the content of practices are discussed. (Appendix 2.5.7 Report of the head of the practice).
Appendix 2.5.1. WEP
Appendix 2.5.2. - Schedule of the educational process
Appendix 2.5.3.- Regulations on the organization of KSTU students' internships
Appendix 2.5.4. - Contracts with employers
Appendix 2.5.5. - Places of practice
Appendix 2.5.6. - Academic calendar for 2023-24 academic year
Appendix 2.5.7 Report of the head of the practice
The head of the educational program regularly monitors the improvement of the content of specific disciplines at the end of the academic year, which allows you to always be aware of all changes and take into account the demands of the labor market and professional activities. In this regard, the disciplines of the curriculum are being revised in terms of the formation of certain learning outcomes and competencies based on new achievements in science and technology.
In the field of Business Informatics, questionnaires are conducted every year and working groups are regularly created from among the teaching staff/UVS of the main specialized departments (Appendix 2.6.1. Order on the appointment of a monitoring officer), which analyze the compliance of curricula with the catalog of competencies, set goals and objectives, and modern scientific achievements, as well as the presence of subject relations and avoiding duplication of topics. Workshops and round tables on the revision of curricula in the specialty "Business Informatics" have been held several times (Appendix 2.6.2. Protocols of the round table).
Appendix 2.6.1. The order on appointment of the responsible for monitoring
Appendix 2.6.2. Minutes of the round table

Monitoring:- workload, academic performance and graduation of students (bachelor's degree)

The academic load of bachelor's degree programs in the field of BI is 45 academic hours per week and includes classroom classes and SRS, the learning process is 16 weeks per semester. Registration for disciplines is carried out according to the individual curriculum (Appendix 2.7.1. - Individual curriculum). The number of credits scored is recorded in the AVN information system (Appendix 2.7.2. - Registration Sheet) and (Appendix 2.7.3. - Study card).

Based on the statements (Appendix 2.7.4.- AVN Scoring Journal), the results of the final control of students for 1,2,3 semesters (Appendix 2.7.5. - Summary statement - Academic performance in the Department of PMI for the fall semester) were compiled. The results of academic performance are discussed at the meetings of the department (Appendix 2.7.6. - Minutes of the discussion of academic performance) and the university as a whole. The elimination of academic debts and the re-study of the course according to the credit system of study is carried out according to the Rules of the examination session at KSTU, where, in addition to the autumn and spring semesters, a summer semester is provided for the graduating course, a winter semester. Retaking and scoring (20 points) is carried out at a mini-session in the first month of each semester after the main examination session at KSTU (Appendix 2.7.7. - Regulations on the organization of the educational process based on the credit system of education).

At the department level, bachelor's degree programs in BI are monitored on the progress of the curriculum, the presence of academic arrears in disciplines, the number of credits earned, and research at the Department of Applied Mathematics and Computer Science. Students who have no academic debts and have completed the curriculum are allowed to study in the 8th semester of the Bachelor's degree program.

The Department of Applied Mathematics and Computer Science prepares information about future graduates and relevant documents (summary statement) for the issuance of a state-issued diploma of education. The completion of the training is confirmed by the WRC protection protocol and the corresponding order signed by the rector. The educational department, together with the department, submits an application to the Ministry of Education and Science of the Kyrgyz Republic and the printing house for the production of a state-issued diploma of education.

Graduation monitoring is carried out according to the admission of undergraduate students for the 1st year and the number of graduates. Student dropout and recovery monitoring is carried out jointly by the I. Razzakov KSTU Student Service Center and the Dean's Office. The deans conduct an analysis of students' academic performance and dropout rates twice a year based on the results of the sessions with a discussion of the results on the basis of a comprehensive assessment.

The first enrollment in the field of Business Informatics began in the 2016/2017 academic year, for a bachelor's degree. Currently, 301 students are studying full-time, and 203 students are studying part-time. Total: 504 students.

Student body

№	Code	Direction Bachelor's degree program	The form of education	Courses					Total:	
				1	2	3	4	5		
1	580500	**Business Informatics**	o/o	84	65	103	49		**301**	**IIT**
			з/о	9	75	68	35	16	**203**	**IITc**
			Total:	**93**	**140**	**171**	**84**	**16**	**504**	

- the effectiveness of their assessment procedures

In each semester, the final assessment of students in the disciplines consists of the sum of the points of the current, boundary and final control. A modular rating system for assessing knowledge in the bachelor's degree program is used. Boundary and current control – 60 points, final – 40 points. The points for the SRS are included in the boundary control (Regulation 2.7.8. The Regulation on the educational and methodological complex, Regulation 2.7.9. The Regulation on the organization of the educational process based on credit learning technology (ECTS)).

To assess students' knowledge in the disciplines, the work program describes the criteria by which the level of knowledge is assessed. A fund of assessment tools has

been developed: control tasks, tickets for oral questioning, tests, etc. An objective assessment of students' knowledge in the bachelor's degree program is carried out according to the developed procedure for conducting intermediate certification and conducting an examination session at KSTU (Appendix 2.7.10. - Regulations for conducting an examination session at KSTU named after I. Razzakov).

- expectations, needs, and satisfaction of students (bachelor's degree) and employers with the educational program

In order to study the expectations, needs and satisfaction of students, employers and teachers with undergraduate education at the end of the academic year, a survey is conducted among students and graduates, employers and teachers (Appendix 2.7.11. - Student's Questionnaire), (Appendix 2.7.12. -Employer's questionnaire) (Appendix 2.7.13. Questionnaire curator with students' eyes) and others . questionnaires posted on the department's website (Appendix 2.7.14 Department survey).

- the educational environment and support services and their compliance with the objectives of the educational program

To implement the educational program and support it in organizing the educational process and creating an educational environment, the KSTU Library and information center, the training department, the practice department, the information technology center, the AVN information system, and the KSTU educational portal are involved.

Academic advisers are provided for bachelors (Appendix 2.7.15. Academic advisers of the Department of "PMiI") for academic support.

The compliance of the educational environment and support services is monitored by the head of the educational program.

Appendix 2.7.1. - Individual curriculum
Appendix 2.7.2. - Registration list
Appendix 2.7.3. - Study card
Appendix 2.7.4.- AVN Score Log
Appendix 2.7.5. - Summary statement - Academic performance of the Department of PMI for the fall semester
Appendix 2.7.6. - Protocol of discussion of academic performance
Appendix 2.7.7. - Regulations on the organization of the educational process based on the credit learning system
Regulation 2.7.8. Regulations on the educational and methodological complex
Regulation 2.7.9. Regulation on the organization of the educational process based on credit technology of education (ECTS)
Appendix 2.7.10. - Regulations for the examination session at the I. Razzakov KSTU

The Council of the Quality Department and its head at the university level are responsible for monitoring and periodically evaluating the quality of education (Appendix 2.8.1. Department of Education Quality).

Quality managers have been appointed in all structural divisions: at the department - in the person of the head of the department, in the educational department – the head of the department, who are responsible for compliance with the Quality Guidelines, which indicate the annual monitoring of the implementation of the educational program and its updating aimed at satisfying employers, graduates, students, according to the model of the quality assurance system (Appendix 2.8.2. The order on appointment of the responsible for monitoring).

Such joint and multi-level work on quality assurance and its monitoring allows timely measures to be taken to improve the educational program and the learning process.

Monitoring is carried out at the department for the performance of research work, periodic assessment of students' activities, and determining the place of internship.

Appendix 2.8.1. Department of Education Quality
Appendix 2.8.2. The order on appointment of the responsible for monitoring

Since 2017, the Department of Quality has been functioning, where activities aimed at improving and improving the educational process and educational programs, as well

as interaction with stakeholders, are heard and discussed.
The annual review-interview of the departments allows us to identify the level of implementation of the educational process according to the relevant educational program, to motivate educational structures and teachers. According to the schedule of meetings of each month, the Academic Council of KSTU also hears reports from the commission for the inspection of educational structures for all types of their activities, and decides to improve the educational process (Appendix 2.9.1. - Composition of the Quality Council).
For exemplary performance of work duties, in order to provide moral and material incentives to employees for long-term and impeccable work, and other achievements in work, as presented by departments, faculties, and other educational, scientific, and structural divisions of the I. Razzakov KSTU, the administration rewards the distinguished employee with awards (Appendix 2.9.2. Regulations on Awards of the KSTU).
A rating of teaching staff is conducted, which allows to raise the prestige of teaching activities, identify the best teacher, department, faculty with the encouragement of the most successful and promising teachers and structures (Appendix 2.9.3. Regulation on the procedure for determining the rating of teaching staff and educational structural units of the I.Razzakov KSTU).
A survey is organized among the teaching staff on their satisfaction with the conditions and the production environment, etc. (Appendix 2.9.4. Questionnaire "Satisfaction of teaching staff with the activities of the I. Razzakov KSTU")
Students give their recommendations and comments on the work of services, departments, and divisions through a questionnaire. Management meetings are held with students to identify problems in the educational process (Appendix 2.9.5. Monitoring of the DCO).
The results of monitoring and periodic evaluation of the educational process are discussed at the Rector's Council (Appendix 2.9.6. Composition of the Rector's Council)
Conducting opinion polls among undergraduate students on satisfaction with educational programs and conditions at the university, including meals, dormitories and other aspects, is a common practice to assess the quality of education and student life.
Monitoring activities may include analyzing the results of opinion polls, taking measures to improve the quality of education and student life based on feedback, as well as working to solve specific problems identified during monitoring (Appendix 2.9.7. Analysis. Student's questionnaire, Appendix 2.9.8. Analysis. Questionnaire on student satisfaction with living conditions in dormitories, Appendix 2.9.9. Analysis assessment of the quality of the canteen Appendix 2.9.10. Analysis. The questionnaire is curated through the eyes of a student).
Students give their recommendations and comments on the work of services, departments, and divisions. Management meetings are held with students to identify problems in the educational process.
Appendix 2.9.1. - Composition of the Quality Council
Appendix 2.9.2. - Regulations on awards of KSTU
Appendix 2.9.3. Regulation on the procedure for determining the rating of teaching staff and educational structural units of the I.Razzakov KSTU

According to the educational program, the curriculum provides for 28 disciplines of the professional block, for which educational and methodological complexes have been developed, including a work program, syllabus, glossary, lectures, a fund of assessment tools, methodological developments, etc. The provision of teaching materials for disciplines is 100%.

Methodological materials are reviewed by professors and associate professors of relevant specialized education, among qualified employers and representatives of industries. They are discussed at a meeting of the department, reviewed by the educational and methodological commission of the faculty and approved by the Educational and Methodological Council of the university. They are included in the publication plan for replication (Appendix 2.10.1. - Publication plan of methodological guidelines).

The bachelor's degree program is provided with academic literature on the disciplines in hard copy and electronic versions. The provision of students with educational literature is more than 0.5 copies per 1 person (Appendix 2.10.2.- Form 4). Students have free access to the website of the KSTU Electronic

Library (http://libkstu.on.kg/).

Educational and methodological literature is available on the portal https://online.kstu.kg/.

There is a database of electronic textbooks on the disciplines assigned to the department, which are posted on the AVN portal, and students also have access to electronic resources.:

http://libkstu.on.kg/	Electronic catalog of the library of KSTU named after I. Razzakov
http://lib.kg/	An open library
http://www.inform.kg	Information Portal
http://elibrary.ru	Scientific Electronic Library
http://online.mephi.ru	The educational portal of the National Research Nuclear University MEPhI

The educational and methodological works developed by the teachers of the department correspond to the State Higher Education Standard in the field of Business Informatics (Appendix 2.10.3. - Form 5).

Appendix 2.10.1. - The plan of publication of methodical instructions

Appendix 2.10.2. - Form 4

Appendix 2.10.3. - Form 5

Criterion 5.4. Student feedback on the learning process

Executed

Providing feedback to students is an important aspect that makes it possible to evaluate the effectiveness of using various teaching methods and their relevance to learning outcomes. The study of students' opinions regarding the quality of teaching is carried out through an annual questionnaire, organized according to Regulations on the organization and conduct of a social survey of students of the I.Razzakov KSTU at the university level (the student has access to the AVN IP Questionnaire program under his username and password), as well as the website of the Department of Applied Mathematics and Computer Science in the Questionnaire section under the items Student questionnaire on periods of international student mobility, Questionnaire on the quality of sections / modules of the course, Appendix 5.4. The questionnaire is conducted upon completion of the study of the discipline and passing the exam in accordance with the semester individual curriculum of the student, by anonymously filling out electronic questionnaires online, without the participation of a teacher. The assessment of the quality of the educational process is also monitored by a survey of Satisfaction with the quality of the organization of the educational process. Questions about the skills and competencies necessary for further employment of students are included in the Graduate Survey. Thus, the analysis of the respondents' responses makes it possible to determine the quality of the use of various teaching methods and assessment of learning outcomes and the direction of improving the educational program for the future, taking into account all the identified shortcomings and comments.

The management of the Educational institution guarantees the implementation of special adaptation and support programs for students enrolled in the first year, foreign students and students of mobility. International students and doctoral students, undergraduates in the mobility program are usually supervised by the Department of International Relations. On the part of the department, the monitoring of

academic performance, support, and primary adaptation is handled directly by those responsible for doctoral studies, master's degrees, and the head of the graduating department. The Department of Postgraduate and Doctoral Studies introduces doctoral students to the specifics of the educational process in doctoral studies, the necessary information is posted on the university's website for faster adaptation to the program. The necessary adjustments are made by introducing changes to the list of subjects in elective courses, and, if necessary, to the training curricula. The main purpose of monitoring training sessions is to improve the quality of management of institutional and educational software processes, ensure that the requirements of stakeholders are met,predict possible inconsistencies and improve the educational process Regulation on monitoring of the I.Razzakov KSTU.pdf. As part of ensuring the quality of education at KSTU, educational activities and their monitoring are conducted in accordance with the Quality Manual, which provides for an annual assessment of all types of work, including the implementation and updating of educational programs. According to the model of the quality assurance system, at KSTU (the Regulation on the DCO of KSTU named after I.Razzakov), internal audit, self-examination, and self-assessment are conducted at the university, faculty, and department levels. Training under this program has been conducted since 2011. Internal quality control of the management of processes and resources and their continuous improvement is carried out on an ongoing basis, every year by the Department of Education Quality (Regulations on the DCO of the I.Razzakov KSTU). The head of the educational program also constantly analyzes the results (Results of the survey of students of 580500 Business Informatics 2024-2025 academic year) of the survey of students of all courses in the direction of 580500 (Survey of students on periods of international mobility of students in the direction of 580500 Business Informatics, Survey of students in the direction of 580500 Business Informatics on the quality of sections /modules of the course, Questionnaire for employers in the field of "Business – informatics", a questionnaire for graduates in the direction 580500 "Business Informatics"), which allows taking into account the opinion of students of all courses and, accordingly, updating the curricula as far as possible in accordance with the Regulations on Monitoring of the I.Razzakov KSTU.pdf. In this regard, the disciplines of the curriculum are being revised in terms of the formation of certain learning outcomes and competencies based on new achievements in science and technology.	
Criterion 5.5. Distribution of engineering graduates The University demonstrates the existence of a documented monitoring and periodic evaluation procedure to achieve the goal of the OP and continuously improve its content. The educational programs of the Department of Applied Mathematics and Computer Science are evaluated and adjusted in the process of monitoring the opinions of employers, stakeholders, in particular, teachers, and taking into account the opinions of undergraduates identified by regular surveys of satisfaction with the quality of the educational process and graduates. The results are discussed at the department meetings (Appendix 2.4.1. Questionnaire for employers, Appendix 2.4.2. Questionnaire for students, Appendix 2.4.3. Questionnaire for graduates, Appendix 2.4.5. Questionnaire curator with students' eyes, Appendix 2.4.6. Post-practice questionnaire, Appendix 2.4.7. Survey on the quality of NTB work). The mechanism for reviewing and changing educational programs is reduced to the processing and systematization of information (Appendix 2.4.10. Questionnaire), periodically received proposals from stakeholders - employers, due to changing labor market demands, proposals from graduates, undergraduates and teaching staff, government and public organizations of the Kyrgyz Republic by making appropriate changes to the	Executed

State Higher Education Standards, guidelines, goals and learning outcomes educational programs (Appendix 2.4.11. Analysis of the results of the survey of employers, Appendix 2.4.12. Analysis of the results of the survey of graduates). The periodic assessment of the learning outcomes and achievement of the goals of Educational programs by graduates for the period from 2018 and its continuous monitoring is carried out by departments that implement relevant assessments based on the results of employers' feedback on the quality of their professional activities, as well as an audit by the Department of Education Quality. Employers' feedback on the professional activities of graduates and the learning outcomes of Educational programs is heard at the department meeting. The documentation confirming the periodic assessment of the level of achievement of the objectives of educational programs is reflected in the minutes of the department meeting (Appendix 2.4.13. Minutes of the round table). Appendix 2.4.1. Questionnaire for employers Appendix 2.4.2. Application form for students Appendix 2.4.3. Application form for graduates Appendix 2.4.5. The curator's questionnaire with the students' eyes Appendix 2.4.10. Questionnaire Appendix 2.4.11. Analysis of the results of the survey of employers and graduates Appendix 2.4.12. Analysis of the results of the graduate survey Appendix 2.4.13. Protocol of the round table	
Criterion 5.6. Public availability of information The collection, systematization, generalization and storage of information about their activities, conditions and features of the implementation of the OOP in the direction 580500 Business Informatics (Bachelor) is carried out primarily through the official website of the University. The University uses mass media to provide information to the public. The KSTU press secretary provides information to the information portal bilim.akipress.org , newspapers "Kut Bilim", "The Word of Kyrgyzstan", "Ai Danek" and others. To provide the necessary information, along with the website, the university publishes the newspaper "Polytechnic". The page of the Department of Applied Mathematics and Computer Science contains full information about the department and the ongoing training programs.: - - the main documents of the department; information on previous national program accreditation of the OP; - history of the department; - faculty and teaching staff; - implemented areas and training profiles; - information for applicants; - the list of subjects taught in the OP; - information about extracurricular activities; - planning of methodical work; - planning and reports of research activities of teaching staff and undergraduates;	Executed

- information on international cooperation, implementation and participation in international projects;
- information about the employment of graduates;
- news feed;
- contact information.

The information resource of the website is open, publicly accessible and is aimed at shaping the image of the university for prompt and objective information to the public. The information published by the university within the framework of the OP is accurate, objective, and relevant.

The collection, systematization, generalization and storage of the following information by an educational organization for planning and implementing its educational goals is carried out at the department by the head of the educational program. The head of the Business Informatics Department is Ph.D., Associate Professor Batyrkanov M.Sh. The order on the working group is posted in https://drive.google.com/drive/folders/1pjr1N8l8QXtIr3cHTujhntcTPUYrQMpd.

- information about the number of students (bachelors).

The Department of Applied Mathematics and Computer Science has been training bachelors in the 580500 Business Informatics field since the 2015-2016 academic year. There is a license for the right to conduct educational activities: LD160000373, the expiration date of the license is indefinite. The basis for granting the right: Order of the Minister of Education and Science of the Kyrgyz Republic No. 849/1 dated 06/09/2016, Registration number 16/0258. The maximum number of students was 100 people. The license for the right to conduct educational activities of BI is posted on the website https://kstu.kg/fileadmin/user_upload/nalichie_licenzii_bi.pdf. In 2021, due to the demand for direction 580500 “Business Informatics”, according to the admissions committee, an application was submitted to increase the maximum contingent to 200 people. Based on the Order of the Ministry of Education and Science of the Kyrgyz Republic No. 1319/1 dated 07/28/2021 (by decision of the Licensing Council of the Ministry of Education and Science of the Kyrgyz Republic (Protocol No. 15-2 dated 07/27/2021)), License LS190004242 was obtained. The license is published on the website https://kstu.kg/fileadmin/user_upload/nalichie_licenzii_bi.pdf.

The first enrollment in the field of Business Informatics began in the 2015/2016 academic year, for an accelerated form of study (after college). 10 students were enrolled in the 2nd year. In 2019, 7 bachelor's degrees in Business Informatics were graduated, which accounted for 70% of those enrolled. In 2019, for the first time, OP 580500 "Business Informatics" (Bachelor's degree) in the field of "Electronic Business" was successfully accredited for a period of 5 years by the accreditation agency "Agency for Accreditation of Educational Programs and Organizations".

The training is conducted according to the approved work curriculum (Appendix - RUP in the direction of “BI"). Working curricula for full-time Bachelor's degree in Business Informatics https://docs.google.com/spreadsheets/d/1cGZtYmbeDGGbXu1PCMWDo8OlH_UwvTPK/edit#gid=485109196 ; correspondence form using distance learning technologies https://docs.google.com/spreadsheets/d/1zxtF7S8WuSErXRoN8QX2fnMgLVVFEQ37/edit#gid=575232113 and for the accelerated form of education based on the PDF, they are listed on Google Drive.

- data on attendance and academic performance, achievements of students (bachelors) and dropout rates.

The department keeps logs of teachers' attendance in their individual journals in a paper version. Due to the transition to the electronic AVN IP system, the system of maintaining group logs in paper form has been abolished since 2023. Teachers keep records of attendance on the educational

portal https://avn.kstu.kg / in the "Magazine" position. The AVN IP allows you to automatically display the number of missed classes of students. The attendance analysis is discussed at the department meetings. Measures are being taken by the academic advisors of the groups.
Bachelor's academic performance is recorded in electronic records in the AVN IS, reports are generated by groups for semesters. The results of the examination sessions are discussed at the meetings of the Department of “PMiI". The analysis showed that the absolute academic performance in the main session of the students of the "BI" direction was 78%.

Under the joint educational program, bachelors of the BI direction have the opportunity to receive two diplomas: a diploma of the state standard of the Russian Federation and a diploma of the state standard of the Kyrgyz Republic. Within the framework of the Russian-Kyrgyz Consortium of Technical Universities (RCSTU), there is an agreement with Russian partner universities: the National Research University "Moscow Power Engineering Institute" (MEI) (MEI Technical University); "D.F. Ustinov Baltic State Technical University VOENMEH" (BSTU VOENMEH). The agreements are posted on the website https://kstu.kg/fakultet-informacionnykh-tekhnologii/prikladnoi-matematiki-i-informatiki/mezhdunarodnoe-sotrudnichestvo.

Information about students' achievements is published on the department's website and on social networks. https://m.facebook.com/100057147412443/ .

- satisfaction of students (bachelors), their parents, graduates and employers with the implementation and results of educational programs.

The department holds meetings with the participation of the management responsible for the educational program, as well as graduates and potential employers to discuss learning outcomes and educational programs. Based on the results of the discussion, if necessary, management decisions are made to improve the programs in terms of making changes to the curriculum, finalizing work programs, revising the content of practices, etc. The relevant changes and additions are recorded in the Changes and Additions Sheet of the OP. For example, the department held a round table with the participation of representatives of the D.F. Ustinov Baltic State Technical University VOENMEH (O.L. Kireev, Ph.D., Associate Professor, Assistant Rector, coordinator of educational projects within the framework of the Russian-Kyrgyz Consortium of Technical Universities) and employers, which took place on February 24, 2024. Information about the round table is posted on our Facebook page. https://fb.watch/quB3NRYgN_/?mibextid=Nif5oz .

An annual survey is conducted on the satisfaction of students, graduates of the BI department, employers, faculty of the department in the form of an electronic questionnaire.:- "Satisfaction of teaching staff and staff with the activities of the I. Razzakov KSTU"

https://docs.google.com/forms/d/e/1FAIpQLSf7JUA20UDuBM15Kz5wiCS1fKA3wj8h8YSkI8acbvD5997VUw/viewform?usp=sf_link .

- Application form for graduates https://docs.google.com/forms/d/1QuILg8Z6-G-AFWYYh10wnFnwi3nnWZs5Y7NuoFC7H8o/edit .

-Анкета для студентов https://docs.google.com/forms/d/1n5_F48-9gcOEPSpnDTijYMHR_8UErF0jiC43uJuO7OA/edit.

- "Organization of the KSTU canteen" https://docs.google.com/forms/d/1HrSjGvS3-uqi2b3N4qnduvte-IM8qyvhF8YhMonGXFk/edit.

- "Student satisfaction questionnaire on living conditions in dormitories"

https://docs.google.com/forms/d/1PbkSgYqPwFxzUTpWC37rl_GI9OZyk1-O7V8Tkko3NgE/edit.

- Questionnaire for employers in the field of Business Informatics https://docs.google.com/forms/d/1O4zH7jiz3DFtBTYpwoQeWxK4amFr2R2fOlEU-Q4rZHk/edit.

- A questionnaire for analyzing the mutual visits of teaching staff (evaluate the work of the teacher whose class you attended) https://docs.google.com/forms/d/1N0mK9u0DOvBxcnfgbKoZMi2vJFFZfWZHwcC-RUl-r-Y/edit?usp=drive_web.

During the discussion of the survey results, issues of satisfaction with employers by our specialists during their work practice were identified. No negative feedback has been received from employers. Employers were asked to study the work curricula of the BI direction. Recommendations were made to strengthen the practical and laboratory blocks of the professional cycle. Graduates have more theoretical knowledge, and good knowledge of the theoretical course was revealed during the internship.

An analysis of the graduate survey showed that graduates are satisfied with their chosen field (89%). An analysis of the survey of employers showed that, in general, they are satisfied with the training of graduates (86%).

- availability of material and information resources.

Teaching staff have the opportunity to widely use information and communication technologies and software in the educational process. For example, in the educational process, the department uses free versions of company products: C++, C#, JavaScript, Autodesk 3D Max, Anaconda Navigator, CMD.exe Prompt, IBM Watson Studio Cloud, JupiterLab, Orang 3, PyCharm Professional, RStudio, Visual Studio X, ARIS Toolset 7.0, Maple, MathLab, MathCad, SPSS STATISTIKA 22, ArchiMate, 1C: Enterprises. The products mentioned above are used for programming, visualization, calculation, and structural analysis of objects. The department has opened a scientific and educational center in room 2/318, which conducts research on modeling applied problems, processing and analyzing big data.

The lecture halls are equipped with the necessary equipment for visualization of lecture and practical materials. Lectures and practical classes are conducted with the active use of various technical means and software products. The practice of using online education in 2020 allowed KSTU to reach a fairly high level of online student education.

Based on the introduction of modern technologies and computerization of library and information processes, library services are being improved: access to the Internet, acquisition of funds on electronic media, prompt information search in electronic catalogs.

Students can use the resources of the Library and Information Center (BIC), which are included in the Scientific and Technical Library of KSTU. The electronic library allows students and teachers to use the library's collection, which significantly speeds up and improves the conditions for preparing for classes and conducting research. There is also an AVN information system, available both as a web site and as a mobile application for viewing and copying lectures, teaching aids and test assignments in disciplines taught at university departments. There is also an educational portal. https://online.kstu.kg/ New technologies are used as a tool for improving and integrating scientific and educational programs, for this the university has access to the kyrlibnet.kg Association of Electronic Libraries.kg of Kyrgyzstan. Currently, the Irbis program has been implemented in the BIC NTB of KSTU, which automates the work of the library and collects materials for an open archive. The NTB electronic catalog is available on the NTB network and on the website https://lib.kstu.kg/. The collection of periodicals of the university library is completed with publications corresponding to the profile of each educational program of the university. The University uses the database of the National Library of the Kyrgyz Republic. Teaching

staff and students can also use the national and international patent database for inventions. The database of the Eurasian Patent Organization is available for Kyrgyzstan, respectively, and for KSTU. In addition, the KSTU operates a Student Service Center (CSC), where students can receive services such as: accepting applications for reinstatement, transfer, academic leave, expulsion; registration/re-registration/pre-registration for disciplines; issuing certificates; issuing transcripts; issuing protocols for payment; issuing login and password to a personal account.

The university distributes free Wi-Fi on the territory of academic buildings, all computers are connected to the university server both over a local network and via the Internet, students actively use information from open sources Google and Wikipedia.

- employment of graduates.

The analysis of graduate employment is conducted by academic advisors annually. The employment analysis is discussed at the department meetings.

- the results of the bachelor's research work are carried out as part of the bachelor's final qualifying work. The topics of the thesis and the heads are approved by the order of the Department of Applied Mathematics and Computer Science (WRC Approval Orders). The department's website contains reports and photo reports where students participate in student conferences.

- key performance indicators of an educational organization:

For all bachelor's degree disciplines in the 580500 "BI" direction, a curriculum has been compiled, work programs, syllabuses have been developed, according to the curriculum and the State Educational Standard of the Kyrgyz Republic, in which lecture, laboratory and practical hours are distributed by topic, individual classes, a list of questions for theoretical and practical courses for the SRS, tasks for computer and blank testing, written control papers, a list of basic, additional and reference literature, as well as online resources. On AVON educational portals (https://avn.kstu.kg/) and MOODLE (https://online.kstu.kg/) electronic resources on bachelor's degree programs are available (discipline module, discipline work program, syllabus, glossary, teaching materials, knowledge control).

A Big Data Mining Center has been opened on the basis of the PMI Department within the framework of the international ERASMUS+ ELBA (ELBA) project "Creation of training and research centers and development of courses on Big Data Mining in Central Asia (ELBA)". Teaching staff use advanced technologies of the Center's super-powerful computers in the educational process.

There is a highly qualified faculty of the Kyrgyz State Technical University named after I. Razzakov, which provides the educational process of bachelor's degree in Business Informatics. The qualifications, education and experience of the teaching staff meet the requirements of the educational process. Among them: Doctor of Physico-mathematical Sciences, Professor, Corresponding Member of the National Academy of Sciences of the Kyrgyz Republic, Honored Worker of Education of the Kyrgyz Republic, Academician of the Engineering Academy of the Kyrgyz Republic, Academician of the National Academy of Sciences of Higher Education of the Republic of Kazakhstan, Academician of the International Academy of Engineering M. J. Dzhamanbayev.; Doctor of Physico-mathematical Sciences, Professor, Director of IIT Kabayeva G.J.; excellent student of education of the Kyrgyz Republic, Ph.D., Associate professor Tagaeva S.B.; Ph.D., Associate Professor Moldoshev R.A.; Ph.D., Associate Professor Sagyndykov M.K.; associate professor Kubatbekov T.K.; senior teachers Kyshtobayeva G.K., Dushenova U.J., Shekeev K.R., Zhusueva N.J.; Abdyrasulova Ch.A.

Teaching staff of the department are included in the Rating of the best teaching staff: Prof. Kabaeva G.J., senior Rev. Toktogulova A.S.

The faculty of the department has developed video courses in the disciplines of mathematics and computer science (assoc. Tagaeva S.B., senior lecturer. Dushenova U.J.), video tutorials are freely available on the YouTube channel [https://youtu.be/JbislIM4lf0].

Leading university professors involved in the implementation of the Business Informatics Initiative are members of dissertation councils, expert councils of the National Academy of Sciences of the Kyrgyz Republic, are researchers at the National Academy of Sciences of the Kyrgyz Republic, and are members of editorial boards of scientific publications both inside and outside the Kyrgyz Republic (PhD, Prof. Dzhamanbaev M.J.; Doctor of Physico-mathematical Sciences, professor. Kabaeva G.J.; Ph.D., Associate Professor. Tagaeva S.B.).

Over the past 5 years, the faculty of the department has defended 3 candidate's theses based on the results of scientific research (Abdullayeva A.R., Osmonova R.Ch., Shekeev K.R.).

International internships of teaching staff: within the framework of the ELBA project at the University of Santiago de Compostela, Spain (Kyshtobayeva G.K., Dushenova U.J.), in POLITO, Italy (Jamanbaev M.J., Agybaev A.S., Amanbaev M.K.).

The department actively participates in events, in university round tables and in meetings with honorary guests of the I. Razzakov KSTU, holds its own scientific conference on computer science and mathematics, cooperates with universities of the CIS countries. Photo reports are posted on the department's website in the News position.

In the field of Business Informatics, students have the opportunity to study in joint 2+2 programs at Russian partner universities: National Research University "Moscow Power Engineering Institute" (MEI) (MEI Technical University); "D.F. Ustinov Baltic State Technical University VOENMEH" (BSTU VOENMEH). Within the framework of academic mobility, agreements have been signed with the National Research Nuclear University MEPhI [Agreement with the National Research Nuclear University MEPhI]; National Research Tomsk Polytechnic University (TPU) [Agreement with TPU]; L.N. Gumilyov Eurasian National University (ENU) [agreement with ENU, documents on the ENU Academy of Mobility]; International University of Information Technologies (MUIT, Almaty) [Agreement with MUIT RK]; with NAO "D. Serikbayev East Kazakhstan Technical University" [Agreement with NAO VKTU]; with Al-Farabi Kazakh National University [Agreement with KazNU].

- Providing the educational organization with information about its activities on an ongoing basis, including:

- the mission: The mission and vision of the university, goals, and objectives are reflected in the Program of the Development Strategy of the I.Razzakov KSTU for 2021-2030 and in the Charter of the KSTU.

-**Educational objectives:** The educational objectives of studying at KSTU are formed in accordance with the requirements of stakeholders and are given in the DESCRIPTIONS.

-**Expected learning outcomes:** The results of the Bachelor's degree program in the field of 580500 Business Informatics are given in the DESCRIPTIONS.

- **the assigned qualification** is given in the booklet for applicants.

-**the forms and means of teaching and learning** in each discipline are conducted in the educational and methodological complexes of

the PS, i.e. in the work programs of disciplines and syllabuses, and are also posted on educational portals https://avn.kstu.kg// and https://online.kstu.kg/ .

- evaluation procedures

The system of assessing students' academic achievements is regulated by the Regulations on the organization of the educational process at KSTU, specifically in section 8 of this document.

-passing marks and educational opportunities provided to students (bachelors). For applicants, information is provided in the admission rules of KSTU. For students, the university systematically carries out work by the Department of Educational Work, which provides social and psychological support to students, informs about the functioning of various creative groups and interest groups, and provides information about scholarship programs. The department annually monitors the employment of graduates, and the graduate database is periodically updated. Information about employment is available in the Department's Employment tab.

Система оценивания учебных достижений обучающихся регламентирована Положением об организации учебного процесса в КГТУ, конкретно в разделе 8 данного документа.

- information about graduate employment opportunities. At the university level, the Career and Practice Center provides assistance in finding internship and employment opportunities.

- the results of bachelor's research activities (for higher education institutions). Bachelor's research activities are mainly carried out in the preparation of bachelor's thesis topics, as well as in student participation in scientific conferences. Students' achievements are posted in the reports of student scientific and technical conferences. Bachelors also carry out research work (R&D) within the framework of the scientific topic of the Department of "PMiI" of the I. Razzakov KSTU using the results of their research.

To provide information to the public about the implementation of the OP, the Department of Applied Mathematics and Computer Science uses a variety of information methods: the KSTU information website; an online library resource with access to an electronic library; an educational portal https://online.kstu.kg/; educational portal https://avn.kstu.kg/; educational portal http://www.kyrlibnet.kg/; mass media (Kut Bilim newspaper, Ai-Danek newspaper, national television); social networks on Instagram, Facebook, YouTube channel.

In addition, informing the public about the implemented training programs is carried out by conducting active career guidance work of teachers of the department among students of schools in Bishkek, as well as regions and regions of the country. Teachers hold meetings with potential applicants, answer their questions about studying in specific fields, as well as about the expected learning outcomes. It has become a tradition to hold "Open Days" at the university, which allows for better communication with the public.

There are five versions of the department's website: in Russian, in Kyrgyz, in English, in German, and in Chinese.

The University has an automated system for informatization of educational process management, regulatory, methodological and administrative support of educational programs, a system for ensuring and controlling the quality of the educational process, and the marketing of the educational services market (monitoring and forecasting demand, promoting educational services offered) based on the university's unified information network.

KSTU uses an automated educational process management system – "IS AVN". (https://avn.kstu.kg/)

The information system provides automation of the admissions committee, educational management and the dean's office - accounting for the movement and progress of students over the entire period of study, planning the content, accounting and control of the educational process, the implementation of curricula, staff, and management of structural units. The document flow within the university is conducted using the Edoc system, which is integrated into the system avn.kstu.kg and there is also a local fiber-optic network of the university avn.lan, to which all workstations (computers) operating at the university are connected. Automated control systems implemented in management activities make it easier to inform university staff at various levels about the implementation of necessary actions and decisions, on the other hand, they provide the university's management team with the opportunity to track indicators characterizing the operational, tactical and strategic management of the educational process. In avn.kstu.kg and https://online.kstu.kg/ a so-called personal account is provided for each student and employee, which allows teaching staff to work remotely with students, in particular, to provide educational and methodological materials for preparing for classes, assignments for independent work, and consultations. The program provides feedback when students can ask questions, send completed assignments, etc.	
Strengths: **Weaknesses: 1.** No work is underway to attract grants or participate in international projects involving students of the department and faculty mobility. **Recommendations:** to increase the number of contracts between IT companies, expand cooperation on student mobility in the field of Business Informatics and mobility of teaching staff.	