Ministry of Agriculture of the Republic of Kazakhstan Seifullin University

DISCUSSED

at session Academic Council of the University Protocol № 15 30.05.2019



EDUCATIONAL PROGRAM "Information Business Analytics" (program name)

Code and classification education

Code and classification of training areas

Code in the International standard classification of education Degree awarded 7M06 Information and communication technology 7M061 Information and communication technologies

0613

Master of Technical Sciences / Engineering and Technology in the educational program 7M061 -"Information Business Analytics"

Duration of training

2; 1,5; 1 years

Nur-Sultan, 2019

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	company	
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		"Information and communication
		technologies"

The team of authors was approved by the order of JSC "S. Seifullin KATU", № 932-N from 13.12.2018.

Educational program 7M061 - "Information Business Analytics" was considered at the meeting of the Department "Information and communication technologies", Protocol № 12 from 13.02.2009, and approved by the scientific Council of the faculty of computer systems and vocational education, Protocol № 11 from 14.02.2019.

Dean of the faculty of CSVT

Head of the Department of Information and Communication Technologies

acapt Sugif

K.A. Sarbasova

G.Y. Murzabekova

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1	Passport	of	the	educational	program
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Code and	7M06 Information and communication technology
classification	
education	
Code and	7M061 Information and communication technology
classification of	
training areas	
Code in the	0613
International	
standard	
classification of	
education	
Name of	Business-Informatics
educational	
program	
Type of	New
educational	
program	
Purpose of	Training of professionals in the development and use of information
educational	systems and technologies in business, with knowledge in the field of
program	Informatics, Economics and business administration, taking into
	account innovations in science, education, industry and business.
Level on NQF	7
Level on ORK	5-8
Learning outcome	1. Apply the functional - stylistic characteristics of the scientific
	presentation of the material in the studied foreign language,
	general scientific terminology and the terminological sublanguage
	of the corresponding specialty in the foreign language, to know
	the basics of business correspondence in the framework of
	international cooperation.
	2. The ability to design and carry out comprehensive research,
	including interdisciplinary, based on a holistic systemic scientific
	worldview using knowledge in the field of history and philosophy
	of science, psychology, to analyze modern problems of history
	and philosophy of science and psychology.
	3. Use the fundamental foundations of the modern education
	system; use psychological and pedagogical knowledge; analyze
	and interpret various theoretical concepts; identify and formulate
	pedagogical problems in the form of urgent tasks, understand the
	main categories and concepts of psychological science that
	describe cognitive, emotional-volitional, motivational and
	regulatory areas.
	4. Apply mathematical knowledge to solve scientific and
	technical problems and applied problems associated with the

Legal and regulatory framework	 development and use of information technology, the main classes of mathematical models for the analysis of phenomena, processes; use methods of system analysis and modeling in research activities. 5. Understand the essence of economic processes and the main indicators of their relationship, conduct a search and analysis of innovations in economics, management and ICT, apply research tasks, choose methods of experimental work, and prepare the basis for scientific research.6. Профессионально penuarь задачи производственной и технологической деятельности с учетом современных достижений науки и техники, включая: разработку алгоритмических и программирования, разработку математических, информационных и имитационных моделей по тематике выполняемых исследований. 7. Able to use modern technical means and information technologies to solve analytical and research problems, Implement in practice modern methodologies for managing the life cycle and quality of systems, software and information technology services. 8. To take part in the management of projects for creating information systems at the stages of the life cycle, implement and justify the choice of design decisions by types of information systems support, interpret and present the results of scientific research, draw up practical recommendations based on them, put forward fundamentally new hypotheses, predict trends. Constitution of the Republic of Kazakhstan. Law of the Republic of Kazakhstan dated July 27, 2007 № 319-III "On education" (with amendments and additions as of 01.01.2009). Order of the Minister of education and science of the Republic of Kazakhstan dated October 31, 2018 №04 "On approval of state educational standards at all levels of education". National qualifications framework in the field of information and communication technologies, No. 1 of 20.12.2016.
	communication technologies, No. 1 of 20.12.2016. • Professional standards: "System analysis in information and
	• Frotessional standards: System analysis in information and communication technologies", "Business analysis in information and communication technologies", "Business analytics and IT project management"
Department	Information and communication technologies

2 General characteristics of the educational program

2.1 Relevance

At present, competencies in the field of information business analytics are extremely sought after by companies striving to improve their corporate governance and strategic management processes. These competencies are relevant for any company.

The profession allows you to realize your creativity and creativity. Specialists in the field of information business analytics can influence the success of the company by effectively managing the development of the innovative potential of the enterprise, thereby ensuring rapid career growth. A master's degree in the Information Business Analytics program provides an opportunity to enter the dynamic world of business, management and entrepreneurship.

2.2 Competitive advantages

The program involves acquaintance with the main types of analytical information systems that make it possible to translate managerial theory into a practical plane. Unlike traditional courses on the study of software products, this program pays considerable attention to the study of methods implemented using information systems and business tasks, the solution of which is aimed at the introduction of modern information technologies. In the process of training, students complete practical tasks according to the real data of their companies.

2.3 Potential professions (positions)

• Heads and business analytics of IT departments and analytical departments of organizations and companies.

• Consultants in the field of analytical applications and business intelligence systems.

• Specialists in consulting and innovative companies requiring professional knowledge in the field of economics, mathematics, management and information technology, as well as in the field of electronic business.

3 Competency model (portrait) of a graduate

3.1 Areas of professional activity

The scope of professional activity of graduates who have mastered the master's program includes

- design of enterprise architecture;

- strategic planning for the development of IP and ICT enterprise management;

- organization of the processes of the life cycle of IP and ICT enterprise management;

- analytical support of decision-making processes for enterprise management.

A graduate in this area and profile of training can carry out professional activities in:

- organizations of any legal form (commercial, non-profit, state, municipal) in which graduates work as executors or managers in various services of the administrative apparatus;

- financial, economic and analytical divisions of enterprises and institutions of all legal forms, banks, insurance companies;

- bodies of state and municipal government;

- structures in which graduates are heads of small and medium enterprises in various fields of business;

- structures in which graduates are entrepreneurs creating and developing their own business.

3.2 Types of professional activity

In accordance with the selected types of professional activity, which the master's program is oriented to, the graduate should be ready to solve the following professional tasks:

Organizational and management activities:

- organization of a survey of enterprise architecture;

- development and implementation of a strategy for the development of enterprise architecture;

- management of the development of electronic regulations for enterprises and its IT infrastructure;

- lifecycle management of the enterprise IT infrastructure;

- development of recommendations for optimizing the costs of maintenance and development of IT infrastructure;

- management of design and implementation groups;

- management of electronic enterprises and e-business units of non-network companies;

- management of enterprise information security;

Analytical activity:

- analysis and modeling of enterprise architecture;

- selection of methodology and tools for analysis and improvement of enterprise architecture;

- analysis of customer needs in the field of ICT;

- analysis of the compliance of business processes and IT infrastructure with the strategies and goals of the enterprise;

- analysis of innovations in economics, management and ICT.

Project Activities:

- design of enterprise architecture;

- development and implementation of enterprise architecture components;

- project management of the creation and development of enterprise architecture.

Research Activities:

- research and development of models and techniques for describing enterprise architecture;

- development of methods and tools for the creation and development of electronic enterprises and their components;

- research and development of methods for improving the IT infrastructure of the enterprise;

- Search and analysis of innovations in economics, management and ICT.

Innovative and entrepreneurial activity:

- management of innovative and entrepreneurial activities in the field of ICT;

- management of the development of innovative potential of the enterprise. *Pedagogical activity:*

- teaching management and IT disciplines;

- Development of educational programs and teaching materials on managerial and IT disciplines.

3.3 General competencies

• Use the basics of philosophical knowledge to form a worldview position.

• Analyze the main stages and patterns of the historical development of society for the formation of a civic position.

- Use the basics of economic knowledge in various areas of life.
- Use the basics of legal knowledge in various areas of life.

• Ability to communicate verbally and in writing in the state or Russian and foreign languages for solving problems of interpersonal and intercultural interaction.

• Work in a team, tolerantly perceive social, ethnic, confessional and cultural differences.

• Ability to self-organization and self-education.

3.4 Core competencies

A graduate of a master's program must have the following basic competencies:

• ability to abstract thinking, analysis, synthesis;

• willingness to act in non-standard situations, bear social and ethical responsibility for decisions made;

• readiness for self-development, self-realization, use of creative potential.

• willingness to communicate verbally and in writing in Russian and foreign languages to solve the problems of professional and scientific activities;

• willingness to lead the team in the field of their professional activities, tolerantly perceiving social, ethnic, religious and cultural differences;

• the ability to creatively adapt to the specific conditions of the tasks performed and their innovative solutions.

3.5 Professional competencies

• A graduate of a master's program should have the following professional competencies:

• the ability to prepare analytical materials for evaluating events and developing strategic decisions in the field of ICT;

• the ability to analyze the innovative activity of the enterprise;

• the ability to apply methods of system analysis and modeling for analysis, enterprise architecture;

• the ability to develop a strategy for the development of enterprise architecture;

• the ability to plan the life cycle management processes of the enterprise IT infrastructure and organize their implementation;

• the ability to manage research and design teams;

• the ability to manage an electronic enterprise and e-business units of nonnetwork companies;

• ability to design enterprise architecture;

• ability to develop and implement enterprise architecture components;

• the ability to conduct research and search for new models and methods for improving enterprise architecture;

• the ability to search and analyze innovations in economics, management and ICT;

• the ability to conduct research to develop strategic decisions in the field of ICT;

• the ability to organize independent and collective research work;

• ability to manage innovative and entrepreneurial activities in the field of ICT;

• the ability to manage the introduction of innovations for the development of enterprise architecture;

• willingness to develop educational programs and teaching materials on managerial and IT disciplines;

• willingness to conduct lectures and practical classes in managerial and IT disciplines.

4 Base of professional practices

The bases for professional practice are the university's educational laboratories ("Information Technologies", "Artificial Intelligence", the IT Training Center, Big Data), state and private enterprises and organizations that develop, implement and use information and communication technologies in various fields, as well as members Kazakhstan Association of IT Companies (Kazakhtelecom JSC, Kazdream Technologies LLP, G1 Software Kazakhstan LLP, OPEN SYSTEMS DEVELOPMENT LLP, QLT LLP, Kazakhstan GIS Center JSC, ArtaSoftware LLP).

5 The structure of the educational program of the master's program in the scientific and pedagogical direction (training period 2 years)

		Total la	bor intensity
N⁰	The name of the cycles and disciplines	in academic	in academic
		hours	credits
1	2	3	4
1	Cycle of basic disciplines (DB)	1050	35
	High school component	600	20
	History and philosophy of science	150	5
1)	Foreign language (professional)	150	5
1)	Pedagogy of higher education	90	3
	Management psychology	150	5
	Pedagogical practice	60	2
	Component of choice	450	15
	Econometric study	150	5
	Risk management / Requirements	150	5
2)	Management	150	5
	Optimization methods in the economy /	150	5
	Business performance management Systems	130	5
3	Cycle majors (AP)	1170	39
	High school component	690	23
	Artificial intelligence methods	240	8
1)	System theory and system analysis	150	5
	Business process modeling and	200	10
	management	300	10
	Component of choice	480	16
	Decision support systems / Business process	150	5
	optimization tools	150	5
2)	Simulation systems / Information	180	6
2)	technologies for mathematical modeling	100	0
	International business planning practice /		
	Methodology and tools for modeling	150	5
	business processes		
3	Research practice	300	10
4	Research work of a master's student	720	24
5	Final certification	360	12
	Subtotal	3600	120

The structure of the educational program of the master's program in the field of study (term of study 1.5 years)

		Total la	bor intensity
N⁰	The name of the cycles and disciplines	in academic	in academic
		hours	credits
1	2	3	4
1	Cycle of basic disciplines (DB)	450	15
	High school component	180	6
1)	Foreign language (professional)	60	2
1)	Менеджмент	60	2
	Management psychology	60	2
	Component of choice	450	9
	Business communications / Business	120	Λ
2)	performance management Systems	120	4
	Risk management / Requirements	150	5
	Management	150	5
3	Cycle majors (AP)	1110	43
	High school component	900	30
	Econometric study	240	8
1)	Business analysis methodology	180	6
1)	International business planning practice	120	4
	System theory and system analysis	180	6
	Manufacturing practice	180	6
	Component of choice	390	13
	Optimization methods in Economics/		
2)	Business process Modeling and	180	6
2)	management		
	Decision support systems / Business process	210	7
	optimization tools	210	,
3	Research practice	540	18
4	Experimental research work of a master's	540	18
	student	2.10	10
5	Final certification	360	12
	Subtotal	3180	106

The structure of the educational program of the master's program in the field of study (term of study 1 years)

		Total la	bor intensity
N⁰	The name of the cycles and disciplines	in academic	in academic
		hours	credits
1	2	3	4
1	Cycle of basic disciplines (DB)	300	10
	High school component	180	6
1)	Foreign language (professional)	60	2
1)	Менеджмент	60	2
	Management psychology	60	2
	Component of choice	120	4
2)	The analysis of big data / Modern data	120	1
	processing methods	120	4
3	Cycle majors (AP)	750	25
	High school component	600	20
	Econometric study	150	5
1)	Optimization methods in Economics	150	5
	System theory and system analysis	180	6
	Manufacturing practice	120	4
	Component of choice	150	5
2)	Simulation systems / Information	150	5
	technologies for mathematical modeling	150	5
3	Research practice	390	13
Δ	Experimental research work of a master's	390	13
4	student	390	15
5	Final certification	360	12
	Subtotal	2190	73

Appendix 1. Academic Calendar

Академический календарь на 2019-2020 учебный год

для модульной образовательной программы 7М061 - "Информационная бизнес-аналитика"

Направление подготовки: 06 - Информационные-коммуникационные технологии

Стенень: Магистр технических наук / техники и технологий по образовательной программе 7М061 - "Ниформационная бизнес-аналитика"

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- ПН презентационная мелеля
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- С сессия экзаменационная
- Л летный семестр
- К каннкулы

Прязаначные дин:

30 августа - День Конституции 24 сентябра - Курбан Айт 1 декабра - День Первого Президента 16, 17 декабра - День незавасныости 1, 2 январа - Новай год 7 январа - Рождество Христово

- Пи педагогическая практика
- Пр проязводственная практика
- Ин исследовательская практика
- н нирм
- Э ЭИРМ
- НА игоговая агтестация

марта - Международный ненский день.
 21, 22, 23 марта - Наурыз мейрамы
 1 мая - Праздник единства народа Казахстана
 7 мая - День защитника Отичества
 9 мая - День Победы
 6 нима - День столицы

теоретическое обучение - 60 недель экзаменационная неделя - 10 недель канукулы зимние - 6 недель канукулы весенние - 2 недели каникуды летние - 3 или 9 недель летний семестр - 6 недель

тооретическое обучение - 43 неделя экзаменационоцая неделя - 8 недель канукулы значие - 6 недель канукулы весенния - 1 неделя каникулы летные - 3 или 9 недель летный семестр - 6 недель

Всего недель: проф (1 год)

Всего недель:

Всего недель:

проф (1,5 года)

науч-нед (2 года)

теоретическое обучение - 20 ислель экзанетационная неделя - 4 недель канукулы замяние - 3 неделя канукулы весенние - 1 неделя

Appendix 2. Work Curriculum

Дайындық балыты (мамандыны)/Направление подготовки (специальность)/Direction of training (specialty): Ақпараттық коммуникациялық технологиялар/ Йнформационные подготовки (специальность)/Direction and Communication Білім беру бигдарламасы (мамандандыру)/Образовательная программа (специализация)/Educational program (specialization): Ақпараттық бизнес-аналитика/ Информационная бизнес-аналитика / Information Business Analytics Оку кезени/Период обучения/Period of study: 2019 - 2021

Дайындық деңгейі/Уровень образованик/Level of training: /Магистр по научно-педаголическому направленико/

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		6П 5Д BS	ЖК ВК UC	PVSh5205	Жогары ментен педагогикасы Педагогика высшей школы Pedamutics of higher school	3,00	90,00	30,90	20,00	10,00			12,00	48,00			3,00				Третый триместр	
		60 62 85	26K BK UC	PU5207	Баскару психологиясы Психология упревления Римскоloux of павалетенt	5,00	150,00	50,00	30,00	20,00			20,00	80,00			5,00				Третий триместр	
Mo	уль бойынша барлыгы:/Итого по мел	y-mat/Total	in module:	1	a stranger of an an all of the	18,00	\$40,00	180,00	80,00	100,00			72,00	285,00			18,90				4	
5		T	1			2.M	assaulterer.	\$61./IV.IIL.34	pi /2.Mo	аули сни	100.06.06.00	crn/2.5g	ecialty m	odules		-	I					
1	Корыстынды атуествани Птоговая агуествани Final validation	KA HA FE		OZMD601	Магжетринк диссертационы/жобаны ресімдеу және коргау Оформление и завинта магистерской диссертациян/проектв Design and defense of master's thesis/project	12,00	360,00													12,00	Шестой трамостр	~
2	Экономикалык-баскарушылык Экономико-уприлагический Есовотіс and manaserial	611 6,1 05	TK KB SC	115202	Эконометриклык зерттуулер Эконометрические исследования Econometric studies	5,00	150,00	50,00	20,00	30,00			20,00	80,00	5,00						Первый траместр	
		611 6,1 85	TK KB SC	UR5204	Tayesenni баскару Управление рысками Risk management	5,00	150,00	50,00	20,00	30,00			20,00	80,00	5,00						Первый тряместр	
		БП БД В5	TK KB SC	UT5206	Талинтекрам баскару У правление требованиями Requirements management	5,00	150,00	50,00	20,00	30,00			20,00	80,00	5,00						Первый триместр	
3	Касілтія Професснональный Professional	KTI IUJ PS	TK KB SC	SPPR5301	Шешіндаграї кабыллауды коллау Системы поддержен принятик решений Decision Support Systems	5,00	150,00	50,00	20,00		30,00		20,00	80,00		5,00					Второй триместр	

	кп	36K	MILSIOT	Жасанды интеллент элістері	8.00	240.00	10.00	40.00		40.00		32,00	128.00		8.00					Bropoil	
	PS	UC	3013902	Artificial intelligence methods	-													-		триместр	-
	KTT TLT PS	HK BK UC	TSSA5303	Жүйслер және жүйслік таллау теориясы Теория систем и системный анализ Theory of systems and systems analysis	5,00	150,00	50,00	20,00		30,00		20,90	80,00	5,00						Первый тряместр	
	КП ПД Р5	XX BK UC	MUBP6304	Бизиес-процесстераї молгадку жэне баскару Молелирование в управление бизиес- процессами Business Process Modeling and Management	10,00	300,00	100,00	50,00		50,00		40,00	160,00					10,00		Патый тримостр	
	кп гц PS	TK KB SC	SOBP5305	Бизнес процестераї онтайликлару караллары Средства онтимизации бизнес-процессов Business Process Optimization Tools	5,00	150,00	50,00	20,00		30,00		20,00	80,00		5,00					Второй траместр	
	КП ПД Р5	TK KB SC	MIMBP530 6	Encanec-exponencerpai wontensary asicremeci west signatuupsa Merutuatorini n nineerpywentupink ann moneninginiannin fininee-upotaeccon Methodislogy and tools for business process modeling	5,00	150,00	50,00	20,00		30,00		20,00	80,00		5,00					Второй триместр	
	611 6,1 85	TK KB SC	MOE5208	Экономикаданы онтайландыру алістері Метолы оптимосации в экономовсе Optimization Methods in Economics	5,00	150,00	50,90	20,00		30,00		20,00	80,00	5,00						Первый тряжестр	
	кп пд РS	TK KB SC	MPBP5308	Betwee-weeringmayition samasapamasa tzasipusfeci Mewitymapoinnas практика бизиес- плановрованов International business planning practice	5,00	150,00	50,00	20,00		30,00		20,00	80,00		5,00					Второй триместр	
	611 6,1 85	TK KB SC	SUEB5209	Батинес тибиділігія баскару жүйесі Састемы управлення эффективностью быласса Виліпезь Performance Management Systems	5,00	150,00	50,00	20,00		30,00		20,00	80,00	5,00						Первый тряместр	
	кл пд PS	TK KB SC	SIM6309	Ныятациялық модельдеу жүйелері Спетемы имитационного моделирования Simulation modeling systems	6,00	180,00	60,00	30,00		30,90		24,00	96,00				6,00			Четвертый трянестр	
	티망	TK KB SC	ITMM6311	Математикалык молельлеудия выпаряттык технологиянары Имформациянные технология математического молелирования Information technologies of mathematical modeling	6,00	180,00	60,00	30,00		30,00		24,00	96,00				6,00			Четвертый триместр	
вь бойынша барлыгы:/Нтого по моду	unec/Tetal i	n module:			92,00	2 760,00	500,00	358,00	90,00	360,00		320,00	1 280,00	30,00	28,00		12,90	18,99	12,00	15	L
асінті такірнбе модулі Іодуль профессійскальной практики refereional Practice в module	Зж НР RW		NBRMVVM D601	Масистранттың (ылыны-зерттеу жұмысы, магистрлік диссертацияны ормодаумен коса Научно-исследовательская работа магистранта, включая выполнение магистранта, включая выполнение магистранта, включая выполнение магистранта, включая выполнение магистранта, включая выполнение магистранта, включая выполнение магистранта, включая выполнение магистерской диссертация MS student's research work, incl. Master doesis	24,00	720,00	цульдер	4,1000.0	11172.154	LAC MILITURE	e-t.Addi		ALLINCS		2,00		7,00	7,00	8,00	Второй триместр, Шестой триместр, Четвергый триместр, Гіятый триместр	
	КП ПД PS	ЖК ВК UC	IP6307	Septrney raxipuñeci Hecineannarensekan upacrinka Research practice	10,00	300,00											7,00	3,00		Пятый тряместр, Четвертый	
	кп	жк ВК	PP5310	Пелагогикалык таківибе Пелагогическая пластика Теасhing gractice	2,00	60,00										2,00				Третній триместр	L

Maryan foinnung fannsarsa:/Repro no sonyant/Total in module:	36,00	1 980,00		1.0							2,00	2,00	14,00	10,90	8,00	7	
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Зелиттеу жумыстары:/Исследовательская работа:/Research work:	24,00	728,00									2,00		7,00	7,00	8,00	4	
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Дайындың балыты (мамандыны)/Hanpashenive mujrotosee (one-pransion-on-s)/Dention of training (specially): Agrapatruis, коммуникациялық технологиялар/ Информационно-коммуникационные технологие/ Information and Communication technologies Firme Sepy Sergapriseacu (watering https://OSpassearensine npirpawea (cneukanogum)/Educational program (specialization). Agragathus Swater-ananitesal Hubopwageomas Swater-ananitesal / Information business Analytics

Dry examplifieperor of yourses/Period of study 2019 - 2021

Дайындын дөнгөй:Уровень образования/Level of training. Магистр по направлениям, 1,5 года/

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AX

Жүйсхэр вана жүйсэн талаар торнысы

Білім негізінде/На база/Оп the base: Жоғарғы білім/Высшее образование/ билан алушылардың барлық аданыс уақылы (сағ) Кредиттерлі коро жанат Epcarringial syste advect Биджет рабочего аремени обучающиется (в часах) same or community, councep (sponsery), empranj dollarma dany Student builget-time (in hours) emprori federation feature lissuage rypt Pacropencies appendies Дарісканалық сабақтар Pacepcacetose spilarios Формы всяетрелля Аудиторные занятия но курсам и отместрен но курсан и понестран Forms of control тренестрен, кадтален) Class work Страныстрам, анартилан Distribution of crudes by Distribution of condits by courses and according mariney and sintenstors." Origenters, searcers). (trimentors, masters). 差 Понаер етегы Milliona anterior 1 mpc (year) 2 appe (year) Hamptonause according :2 Handware services and services and 36 Discipline name Module name APR OTO N 3 . 2 3 1 2 Транастирногі антиларі Tpiesecrop, airi arraiaje **CONH** CRIMA Нологи в тремостра Haractes in terresentation Weeks per transition Works per transition 10 10 ýØ. \$6 10 18 1. Kanna sung marp 1. Ofenne sung au'l Common madules Третий 皕 363 Eler risi (accide) TRADUCTORY AND THE TOP 32,09 2,00 20,00 20,00 1,00 2,99 60,09 TY'sP1303 621 BK Никсеранный язык (профоссиональный) quancep уманитария-социальный Internet and Internet 82 110 foreign langraage (professional) Tpenali 107 300 Багарр перекологияны 32,00 2,00 2,00 60,08 29,00 10,00 10,00 8,00 6.0 BK. PU5304 Пенекскатия упражления sperieocop 105 110 Prochology of management 4,08 2 14,00 64.80 4,00 120,00 46,01 10,00 30,09 Maxyon formation imposers collarses on sources: (Total in module: Mannette nan woxy-margi/LMozy an commanancem/LSpecialty modules Магистрона закопрталиямы/асобаны роснылту KA Denail chel actorial KONTINGSK STRUTSLESS 12,00 360,00 12,00 CO2MEMOR HA Оформалияе и захити нагистровий spanace p PE. INCOMPTIGATION OF THE OWNER OWNER OF THE OWNER OF THE OWNER OWNE OWNER OWNER OWNER OWNER OWNER OWNER HINTIMA ATTICIDATE Dusign and defense of master's Herris/pergent Final validation 631 **WK** Decement presses approximate Includence has forced in the 8,00 \$1,01 40,00 30.00 20.00 32,00 126.00 E25204 8.00 246,00 na. BK. Interest president relationships 2 Distance y upon a tracta all convective readice Economic and managerial 15 130 Перений 440 TK техници баскару 20.00 80.00 5,60 5,00 159,00 56,00 20.00 30,00 1085305 ЪЛ. 631 ерааловы: рыжаны question of the 85 look management Трений 副 **B**K Management 32,00 2,00 10.00 2,00 60,00 20,00 10,00 10,08 M3206 6.0 BK Monaccontent quantity. .85 130 Management Reprosil 60 TK Галанттарлые баскару 30,00 29,00 80,00 3,00 5,00 150,00 51,00 20,00 1/15207 ĸл KB-Угражление тробскатотого quinctp Requirements management 10 Первый -671 TK CREEKER ADDRESS ADDRESS Kacimula. 20.00 16,00 64,00 4.00 4.90 120,00 40,00 211/30 DIC5264 ALL 103 ZENIMAE RENALD HARRISON spinactifi 3 Photocommunit funitarità communicational Professional Rf. 54 Dropoil KII. TK Incontinuous terra complicant any activity 10.06 24,00 96,00 6,00 6,00 180,00 60,00 :30,00 11.0 \$33 MOETINI. Мачилы отгосотыции в негосооры 120100210 Optimization Mothode in Economica 15 Переніі 611 365 largenti-rankay susceptions 6,00 36,60 24.00 96,00 36,00 MBATNU 6,80 191,00 98,00 **IUI** 186 Memaneore feeser-autoros 10MIANTER hasiness assilytis methodology 15 - UK Батоос типадатто баскару жүйсээ fleprosit 101 TK 4.06 Системы управления эффоктивностью 20,00 20.00 14,00 64.90 4.00 129,00 40.00 103 \$6,9385203 1,11 eposializing: 101004 85 50 uniness Performance Management Systems Тально-проказостиров молохалу жине баскару TK Bropoli 101 24,00 96,00 6.00 30.00 60.00 30,00 MU0275303 Misarcopenations or ytiplotectures: Because 6,00 181.00 11,1 KBL 100000000 15 sc **SPORADOURNESS** wereen Process Modeling and Management 8(1) TK Internation authorized and solvery Tournal 7,00 30,00 40,00 28,00 112,00 70,00 SPPR.5305 7,00 318,00 tpenetrop. 11.0 838 Concrement exceptions representing possibles Recission Support Systems

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	¥71 103 月5	1K 88 5C	\$0895307	Билинт проластираї сигнійликанду віднілиры Средства потичнатальна билика-проластия Пинаная Рексия Срейнілися Талія	3,96	235,00	71,01	30,00		40,00		26,00	112,00			7,00			Tpressil. speaketty	
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Дайындық бағылы (камандыны)/Hanpasnesive подготовок (отециальность)/Direction of training (specietly): Agraparтық коммуникациялық технологиялар/ Информационно-коммуника Сеу колени Перика обучанни Ресой об кылу. 2019 - 2020 Дайындых деңгей/Уровень образований, личё оf training. /Магистр по направлениям, 1 год/ Білім негізндалі в базе/Оп the base: Жогаргы білім/Высшее образование/

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Appendix 3. Description of the disciplines of compulsory and university components

1. Basic information about the discipline:						
Name of the	History and philosophy of science					
discipline:						
2. Prerequisites:						
3. Post requisites:						
4. The content of the	The structure of scientific knowledge, methods of scientific research, functions of					
discipline:	scientific theories and laws; expanding the world Outlook; developing ideas about the					
_	criteria of scientific research and the requirements that should meet scientific research					
	and its results, as well as developing a style of scientific thinking based on the study of					
	the history and philosophy of science.					

1. Basic information about the discipline:						
Name of the	Foreign language (professional)					
discipline:						
2. Prerequisites:						
3. Post requisites:						
4. The content of the	Mastering future masters of the language for professional and academic purposes at an					
discipline:	advanced level, which will allow you to freely operate the scientific and conceptual					
	apparatus of the specialty, expand the scientific and information base, master the skills of					
	interpreting scientific information, argument, persuasion, scientific polemics, and					
	academic writing.					

1. Basic information about the discipline:						
Name of the	Pedagogy of higher education					
discipline:						
2. Prerequisites:						
3. Post requisites:						
4. The content of the	Basics of pedagogy of high school. The subject and tasks of pedagogics of the higher					
discipline:	school. Methodology and methods of pedagogical research in higher education.					
	Didactics of higher education. Pedagogical process in higher education. Laws,					
	regularities and principles of training. Methods, forms and means of higher education.					
	Current state of higher education in Kazakhstan. The purpose of education as a					
	pedagogical problem.					

1. Basic information about the discipline:						
Name of the	Management psychology					
discipline:						
2. Prerequisites:	Philosophy, psychology, history, cultural studies, sociology					
3. Post requisites:	Passing of pedagogical practice					
4. The content of the	Conceptual apparatus. Manager and team. Conflicts. Management communication.					
discipline:	Decision-making technology. The concept of the subject and object of management. The					
_	Manager and the leader. Psychology of the order. Democratic leadership style and its					
	features. Psychology of criticism. Psychotypes of communication subjects. Psychological					
	problems of training and retraining of management personnel. Recruitment and					
	placement of personnel. Personnel rotation.					

1. Basic information about the discipline:						
Name of the	Artificial intelligence methods					
discipline:						
2. Prerequisites:	Mathematical foundations of information technologies, Foundations of neural networks					
_						
3. Post requisites:						
4. The content of the	Introduction to intelligent systems. Software tools for developing knowledge-based					

discipline:	systems. Data and knowledge representation models. Character processing languages and
-	programming languages for artificial intelligence. Formal model. Production systems.
	Ontologies and ontological systems. Models of ontology and ontological system.
	Methodology for creating ontologies. Examples of ontologies. Classification of
	knowledge-based systems. Expert system.

1. Basic information a	1. Basic information about the discipline:							
Name of the	System theory and system analysis							
discipline:								
2. Prerequisites:	Game theory							
3. Post requisites:	Manufacturing practice							
4. The content of the	Systems and patterns of their functioning and development. Basic concepts that							
discipline:	characterize the structure and functioning of systems. Classification of systems. Stages							
-	and methods of system analysis. Methods of conducting the examinations. System							
	analysis in business Analytics.							

1. Basic information a	1. Basic information about the discipline:						
Name of the	Business process modeling and management						
discipline:							
2. Prerequisites:	Business process analysis						
3. Post requisites:	Manufacturing practice						
4. The content of the discipline:	Prerequisites for the formation of new approaches to the organization of the company's activities. The concept of a business process. Process approach and process-oriented organization. Theoretical foundations of business process management. Main approaches and standards for business process modeling. Business process modeling methodologies. Software tools for modeling business processes. Methods for describing various subject areas of the organization. Methods for analyzing business processes. Controlling and monitoring processes.						

1. Basic information a	1. Basic information about the discipline:							
Name of the	Methodology and tools for modeling business processes							
discipline:								
2. Prerequisites:	Business process analysis							
3. Post requisites:	Manufacturing practice							
4. The content of the	Instrumental systems for simulation of the processes of the organization. Analysis of							
discipline:	business processes using business modeling systems. A balanced scorecard as a means of							
_	managing the organization's processes. Methods of deep analysis and optimization of							
	business processes.							

1. Basic information about the discipline:	
Name of the	Management
discipline:	
2. Prerequisites:	
3. Post requisites:	
4. The content of the	The ability to make decisions, "predict, plan, organize, coordinate and control",
discipline:	motivate and lead various groups of people-training these skills that are necessary for
	managers, future leaders of companies for effective business and management.

1. Basic information about the discipline:	
Name of the	Pedagogical practice
discipline:	
2. Prerequisites:	Pedagogy

3. Post requisites:	Research practice
4. The content of the	Drawing up an internship plan. Study the curriculum. Educational and program
discipline:	documentation on the topic of the work, its analysis and development principles.
I I	Planning the educational process in accordance with the material and technical base.
	Planning, developing and conducting classes. Monitoring and analysis of classes as a
	method of controlling the quality of the educational process and the effectiveness of
	individual methodological systems. Preparing a report on the practice.

1. Basic information about the discipline:	
Name of the	Research practice
discipline:	
2. Prerequisites:	Pedagogy
3. Post requisites:	Master's thesis
4. The content of the	Drawing up an individual practice plan and developing a research program. Preparation
discipline:	of the study. Formulation of the research topic. Analysis of the state of development of
	the scientific problem, assessment of their applicability in the study. Analysis of sources
	on the research problem. Research: data processing, analysis and specification of results.
	Preparation of a scientific article and report on the direction of the dissertation research;
	report on research practice.

Appendix 4 Description of Disciplines of the Optional Component

1. Basic information about the discipline:	
Name of the discipline:	Econometric study
2. Prerequisites:	
3. Post requisites:	Analysis and improvement of business processes
4. The content of the discipline:	Basics of data analysis. The paired regression analysis. Multiple regression analysis. Time series. The study of the characteristics of the time series. Stationary time series. Autoregression and moving average models. Forecasting in regression models. Some aspects of time series modeling. Forecasting and analyzing its quality. Analysis of results. Conclusions and report writing.

1. Basic information about the discipline:	
Name of the discipline:	Risk management
2. Prerequisites:	IT project management
3. Post requisites:	Methodology of business process research
4. The content of the	The concept of risk. Classification of risk situations. The nature of uncertainty in
discipline:	Economics and business. Classification of decision-making tasks by the degree of
I.	certainty of the consequences (outcomes) of decisions. Mathematical models of
	decision-making in conditions of uncertainty and risk. Payment matrix, risk matrix.
	Selection criteria in conditions of uncertainty and risk. The cost of the full information.
	Decision tree. Utility theory.

1. Basic information about the discipline:	
Name of the discipline:	Requirements management
2. Prerequisites:	IT project management
3. Post requisites:	Research methodology of business processes
4. The content of the	Methods for identifying requirements. The modeling activities. Getting functional

discipline:	requirements based on user requirements. Requirements specification to the system.
-	Modeling a high-level architecture is a process for analyzing requirements.
	Distribution of functions by components and subsystems of the implemented system.
	Evaluating models and selecting design methods. Planning for multiple software
	artifacts that require development.

1. Basic information about the discipline:	
Name of the discipline:	Optimization methods in Economics
2. Prerequisites:	Applications of discrete mathematics and numerical methods
3. Post requisites:	Methodology of business process research
4. The content of the discipline:	Optimality criterion. Necessary conditions for optimization. Formulation of the problems of static and dynamic optimization. Scope of static and dynamic optimization problems in the economy. Methods for solving one-dimensional static optimization problems. A classical method for investigating functions at an extremum. A classical method for investigating functions at an extremum. Numerical methods for solving one-dimensional static optimization problems. Features of linear programming problems.

1. Basic information about the discipline:	
Name of the discipline:	Business performance management systems
2. Prerequisites:	Fundamentals of Economics and law
3. Post requisites:	Research methodology of business processes
4. The content of the discipline:	Information support system and the essence of corporate governance and strategic management. Classification of information flows of the corporate governance and strategic management information support system. Fundamentals of information support for corporate governance and strategic management. Business performance management information systems. Information systems for management accounting and controlling. Standards and methods for the preparation of consolidated financial statements.

1. Basic information about the discipline:	
Name of the discipline:	Decision support systems
2 Duono quigita qu	Foonometries for husiness solutions
2. Prerequisites:	Econometrics for business solutions
3. Post requisites:	Modern methods and business processes, modern business process modeling tools
4. The content of the	Modeling and Informatization of decision-making. Information technology of the
discipline:	decision-making process. The definition of systems of support of decision-making.
L.	Definition of expert systems. Building a DSS primarily based on mathematical models
	and a database. Expert shell of the decision support system. Using methods of
	decision-making under conditions of probabilistic determinacy in the environment of
	the EDSS.

1. Basic information about the discipline:	
Name of the discipline:	Business process optimization tools
2. Prerequisites:	ICT, ICT Markets and sales organization
3. Post requisites:	Modern methods and business processes, modern business process modeling tools
4. The content of the	Business modeling system. Qualitative analysis of business processes. Quantitative
discipline:	analysis of business processes. Methods of process analysis. Tools for improving
Ĩ	processes. Simplification. Idealization. Structuring method. Statistical process

-	
	management. Business process reengineering. Benchmarking. Purpose of simulation
	modeling and functional cost analysis. The methodology of the simulation and the
	FSA. Analysis of simulation results. Optimization of business processes.

1. Basic information about the discipline:		
Name of the discipline:	International business planning practice	
2. Prerequisites:	ICT, ICT Markets and sales organization	
3. Post requisites:	Analysis and improvement of business processes, it design methods	
4. The content of the	Business planning standards. Strategic aspects of business planning. Examples of	
discipline:	business plans. Structural content of the financial model of the business plan. Assessment of the feasibility and economic viability of the business project. System of operational and investment performance indicators of the project. Graphical interpretation of the impact of the project. Comparison of business planning applications. Interaction with investors in the business planning process. Attracting investments and interacting with investors. Methodology for drawing up an investment Memorandum.	

1. Basic information about the discipline:	
Name of the discipline:	Simulation systems
2. Prerequisites:	Modeling processes and systems
3. Post requisites:	Business process modeling, Modern business process modeling tools
4. The content of the	Building models of production processes. Model of formation of optimum assortment.
discipline:	The construction of models of logistics and risk. Modeling of financial flow
-	management tasks. Analysis of simulation systems. Analysis of simulation tools. The
	construction of simulation processes for the tasks of production and business. Dynamic
	construction of simulation processes for the tasks of production and business. Dynamic
	modeling of typical parts of production systems. Simulation of typical production
	systems.

1. Basic information about the discipline:		
Name of the discipline:	Information technologies of mathematical modeling	
2. Prerequisites:	Modeling processes and systems	
3. Post requisites:	Business process modeling, Modern business process modeling tools	
4. The content of the discipline:	The simplest commands in the MATLAB environment. Package structure, application areas. two-dimensional graphics. Plot function, figure command, multiple curves on the graph, line style and color, axis and grid commands, graphs of multi-valued functions, curves set parametrically, graphs in polar coordinates. Three-dimensional graphics. Spatial curves, meshgrid command, mesh command, surf, surfl. Basic numerical methods.	

1. Basic information about the discipline:		
Name of the discipline:	Big data analysis	
2. Prerequisites:		
3. Post requisites:		
4. The content of the	Introduction to big data Analytics. Practical methods of big data Analytics. Classes of	
discipline:	modern tasks that require the use of big data Analytics tools. Data analysis lifecycle.	
-	Data acquisition. Data preparation. Planning the model. The transmission of results.	
	Commissioning. Main tasks of business Analytics. Machine learning. Technologies	
	and tools. Data analysis and research.	

1. Basic information about the discipline:	
Name of the discipline:	Modern methods of big data processing
2. Prerequisites:	
3. Post requisites:	
4. The content of the	Overview of information sources. Big data storage and processing technologies.
discipline:	Statistical methods of data analysis: descriptive statistics, parametric, nonparametric,

nominal methods (correlation, regression, variance analysis, cluster, discriminant,
factor analysis). Modern software tools for analyzing large amounts of information.
Visualization of source information and analytical data.

1. Basic information about the discipline:		
Name of the discipline:	Business communication	
2. Prerequisites:		
3. Post requisites:		
4. The content of the	Ethics of business communication. Business negotiations: preparation and	
discipline:	conduct. Service communication. The rules of the service relationship.	
	Psychological climate in the workforce. Problems of intercultural	
	communication. National styles of business relations. Features of the national	
	ethics of business partners. National peculiarities in business communication	
	(on the example of different countries).	