S.Seifullin Kazakh Agrotechnical University

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S.Seifullin Kazakh Agrotechnical University
Departament of Computer Systems
and Vocational Education
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«30» 05 2022 y

CATALOG OF ELECTIVE DISCIPLINES

For students in the direction of preparation 8D061 Information and communication technologies

Brief description of the elective disciplines of the educational program

EPG	EP	Form of education	The name of discipline	Code of subject	Discipline cycle	Component	Number of credits	Level of training	Cafedra	Course	Academic period	Pre-requisitions	Post-requisitions	Brief content of the discipline	Key learning outcomes	Name of the alternative discipline
D094 - «Information technology»	8D06103 - «Modeling and optimization of business processes»	Full-time (PhD 3 years) tremestr	Modern Theory of Business Processes in IT	STBPI 7206	BS	Elective subjects	5.0	Doctoral studies by specialization (scientific & pedagogical direction)	Computer science	1	2	Academic writing, Analysis and Improvement of Business Processes of IT structures, Methods of scientific researches	PhD student's research work, incl. doctoral thesis, Research practice	The discipline "Modern Theory of Business Processes in IT" is one of the directions of the theory of processes, studying the sections related to mathematical models of the behavior of dynamic systems, business processes, project management and ways to optimize portfolio management.	Modeling, analyzing the organizational structure and developing proposals for its improvement, organizing the process of studying and describing the business processes of the organization, predicting opportunities and prospects for reengineering in the organization, putting into practice analytical and computational methods in the process of making management decisions on managing business processes in modern specialized business process management software.	Methods of building a business model
D094 - «Information technology»	8D06103 - «Modeling and optimization of business processes»	Full-time (PhD 3 years) tremestr	Methods of building a business model		BS	Elective subjects	5.0	Doctoral studies by specialization (scientific & pedagogical direction)	Computer science	1	2	Theory of systems and systems analysis, Business Process Modeling and Management	PhD student's research work, incl. doctoral thesis, Research practice	The discipline is dedicated to the study of basic methods and methodologies of building a business model. Structure and classification of business models. Different approaches to business modeling. Business models of famous companies. Much attention is paid to business modeling methods: structural methods, methods of object-oriented modeling, methods of imitation modeling, integrated methods. Stages in history of modelling of business processes. Various methodologies of modeling of business processes are also presented in the course	Classify basic concepts in the field of business process theory, determine types of business processes and their features, diagnose microeconomic simulations using modern tools, compare methods for developing a feasibility study of investment projects, own a methodology and methodology for conducting scientific research, master the skills of independent scientific and research work.	Modern Theory of Business Processes in IT

D094 - «Information technology»	8D06103 - «Modeling and optimization of business processes»	Full-time (PhD 3 years) tremestr	Research of methods of analysis and synthesis of business processes	IMASBP 7303	AS	Elective subjects	5.0	Doctoral studies by specialization (scientific & pedagogical direction)	Computer science	1	2	Academic writing, Analysis and Improvement of Business Processes of IT structures, Methods of scientific researches	PhD student's research work, incl. doctoral thesis, Research practice	Methods of analysis and synthesis of business processes. Qualitative process analysis: qualitative process analysis based on subjective assessments (SWOT analysis of the process, analysis of process problems, process ranking); visual analysis of graphical process; requirements analysis. Quantitative process analysis: measurement and analysis of indicators.	Analyze and improve the IT processes business processes, model the organizational structure and develop proposals for its improvement, streamline and assess the vulnerabilities and risks of information systems, design information security systems in organizations, install and configure information security tools, design and implement enterprise IT infrastructure strategic objectives and business process support.	Business Process Optimization Methods
D094 - «Information technology»	8D06103 - «Modeling and optimization of business processes»	Full-time (PhD 3 years) tremestr	Business Process Optimization Methods		AS	Elective subjects	5.0	Doctoral studies by specialization (scientific & pedagogical direction)	Computer science	1	2	Theory of systems and systems analysis, Business Process Modeling and Management	PhD student's research work, incl. doctoral thesis, Research practice	Formalization of the formulation of economic problems. Optimization model of a business process: a set of variables expressing the intensity (frequency) of reproducing operations of a business process; the objective function; a system of resource constraints; system of technological limitations.	Identify the areas of application of various optimization methods and evaluate their effectiveness, build mathematical models for various classes of optimization problems and select the most appropriate algorithms for solving them, develop software to search for optimal options, use mathematical methods and modern tools to solve applied information systems problems.	Research of methods of analysis and synthesis of business processes

The catalog of elective disciplines was reviewed and approved by the faculty council, protocol № 14 15.06 2022

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