

Innovation Competence Matrix

Partner university: NPUA

	Innovation COMPETENCES	<i>History, methodology and modern problems of science</i>	<i>Foreign language</i>	<i>IT programming</i>	<i>Phys.-math. Disciplines</i>	<i>Multidimensional control systems</i>	<i>MATLAB and SIMUNLINK package use in control</i>
1	Basic knowledge on innovation and entrepreneurship, skills to transform new ideas and scientific results	x					
2	Ability to think creatively, differently and outside of the box	x					x
3	Ability to integrate knowledge and technologies from multiple technical disciplines			x	x	x	x
4	Ability to critically evaluate existing solutions, identify needs for improvement and seek new solutions	x				x	
5	Ability to take initiatives on interested tasks with devotion and entrepreneurial mindset						x
6	Ability to develop teamwork, communicate and build collaboration networks		x				x
7	Ability to apply the modern IT tools for problem solving		use of modern tools	x			x
8	Ability to design, calculate and solve problems			x	x	x	x
9	Ability to participate actively in learning process						x
10	ability to formulate technical tasks			x	x		x
11	ability to use innovation approaches for the development of new technologies to invest and ceommercialize						x
12	ability to elaborate and implement innovation activity organizational plan within teamwork						x
13	Ability of self-development	x	x				

Innovation Competence Matrix

<i>systems</i>	<i>Modern methods of automat control system theor.</i>	<i>Use of LabView robotics module and toolbox to design and investigate robots</i>	<i>Fuzzy logic and neural networks</i>	<i>Optimal control theory</i>	<i>Use of stateflow package in robot modeling</i>	<i>Mobile robots</i>	<i>Innovation systems</i>	<i>Entrepreneurs hip</i>
							namely into viable business	namely into viable business
		x	x		x	x	x	x
x		x	x	x	x	x	x	x
x				x			x	x
		x	x		x	x	x	x
		x	x		x	x	x	x
		x	x		x	x	x	x
x		x	x	x	x	x	x	x
x		x	x	x	x	x	x	x
		x	x		x	x	x	x
		x			x	x	x	x
x				x			x	x

Innovation Competence Matrix

Partner university: AUPET

Programme: Instrument Engineering

Innovation COMPETENCES

Software for controllers in control systems
Nonlinear control systems
Means of information-measuring systems
Robotic systems
Mechatronic systems
Evaluation of reliability of instruments and systems
Robotics system reliability analysis
Expert systems in power engineering
Methods for planning and analyzing a scientific exper-
Design of energy efficiency of power system
Intelligent control and monitoring
Expert systems and art-
Designing syste

1	Ability to think creatively, differently and outside of the box				X			X			X	X		X
2	Ability to critically evaluate existing solutions, identify needs for improvement and seek new solutions		X						X				X	
3	Ability to integrate knowledge and technologies from multiple technical disciplines or business branches	X		X	X	X		X	X	X			X	X
4	Ability to take initiatives on interested tasks with devotion and entrepreneurial mindset				X		X			X			X	
5	Ability to develop teamwork and build collaboration networks	X	X		X	X	X	X	X			X	X	X
6	Basic knowledge on innovation and entrepreneurship, skills to transform new ideas and scientific results into viable business				X		X	X		X	X	X	X	
7	Adaptability and Flexibility: Displaying the capability to adapt to new, different, or changing requirements.				X			X		X	X	X		X
8	Client/Stakeholder Focus: Efficiently and effectively addressing the needs of clients	X			X			X		X	X	X		X

Measurement systems in power engineering	Robotics	Intelligent information systems
--	----------	---------------------------------

Innovation Competence Matrix

AI
AI systems
AI intelligence
AI systems with artificial intelligence

Innovation Competence Matrix

Innovation COMPETENCES

History and philosophy of science *Foreign languages* *Pedagogy, psychology* *Introduction to polimer sciences* *Polymer reaction engineering* *Applied mathematics* *Industrial statistics* *Simulation of chemical processes* *Spectroscopy research methods* *Chemical en...*

1	Ability to think creatively, differently and outside of the box	X		X		X			X		X
2	Ability to critically evaluate existing solutions, identify needs for improvement and seek new solutions			X		X			X		X
3	Ability to integrate knowledge and technologies from multiple technical disciplines or business branches					X		X			X
4	Ability to take initiatives on interested tasks with devotion and entrepreneurial mindset									X	
5	Ability to develop teamwork and build collaboration networks	X	X	X	X	X	X	X	X	X	X
6	Basic knowledge on innovation and entrepreneurship, skills to transform new ideas and scientific results into viable business										
7	Environmental responsibility, reduce ecological impact of a decision (damage caused to other species, to nature or future generations).				X	X	X	X	X	X	X
8	Use learning in a strategic, autonomous and flexible way, throughout life	X	X	X	X	X	X	X	X	X	X
9	Ability to use the modern techniques, skills and updated tools necessary for the practice of the profession				X	X	X	X	X	X	X
10	Design and evaluate a process effectively until it is finalized in a project				X	X	X	X	X	X	X

Innovation Competence Matrix

Partner university: BSU (Georgia)

Proramme: Civil Engineering

Innovation COMPETENCES

Object oriented
Programming
C++

Matematikal
Modeling

Reecearch
Methods

Construction
Management

Compuiter
Desining System
of Construction
LIRA

Structural
Mechanics

Building
Materials

Mechanics of
Soils and
Foundations

Structural Steel
Design

		1	2	3	4	5	6	7	8	9
1	Ability to think creatively, differently and outside of the box		X		X				X	X
2	Ability to critically evaluate existing solutions, identify needs for improvement and seek new solutions		X	X					X	X
3	Ability to integrate knowledge and technologies from multiple technical disciplines or business branches	X	X	X		X				
4	Ability to take initiatives on interested tasks with devotion and entrepreneurial mindset			X	X					
5	Ability to develop teamwork and build collaboration networks				X					
6	Basic knowledge on innovation and entrepreneurship, skills to transform new ideas and scientific results into viable business									X
7	be able to apply theories, methods and tools of decision-making and analysis to practical management activities.	X		X	X					
8	be able to logically think through a problem and solve it, to contribute to innovative thinking, and to unambiguously communicate knowledge and solutions to the constructor community and society, orally and in writing			X	X					
9	be able to analyse processes and structures of organisations and their development issues				X					
10	be able to work with others in task-oriented groups, productively participating and interacting in the group			X	X					

Innovation Competence Matrix

10	11	12	13	14	15	16	17	18	19	20
<i>Structural Reinforce Concrete Design I</i>	<i>Labor Safety</i>	<i>Legislation of Construction Process</i>	<i>Structural Steel Design II</i>	<i>Structural Reinforce Concrete Design II</i>	<i>Construction Process</i>	<i>Earthquake engineering</i>	<i>Construction Survey and Testing</i>	<i>Innovation Systems</i>	<i>Enterpenatural for Engineers</i>	<i>Master's Thesis</i>
X			X	X	X		X	X	X	X
X	X	X	X	X	X	X	X	X	X	X
	X									X
					X					X
		X			X			X	X	X
X			X	X	X			X	X	X
						X		X	X	
	X	X						X	X	X
	X							X	X	X
	X	X						X	X	X

7

7

11

Innovation Competence Matrix

Partner university: GTU

Program -"Energy and Electrical Engineering"	1	2	3	4	5
---	----------	----------	----------	----------	----------

Innovation COMPETENCES

Preparation and Execution of Investment Projects
Energy Finances and Financial Account - 1
Power Engineering and Society
Technologies of Electricity Production, Transmission and Distribution-1
Electricity Supply

1	Ability to think creatively, differently and outside of the box	X		X		
2	Ability to critically evaluate existing solutions, identify needs for improvement and seek new solutions		X			X
3	Ability to integrate knowledge and technologies from multiple technical disciplines or business branches					
4	Ability to take initiatives on interested tasks with devotion and entrepreneurial mindset	X		x		
5	Ability to develop teamwork and build collaboration networks					
6	Basic knowledge on innovation and entrepreneurship, skills to transform new ideas and scientific results into viable business	X				
7	Advocate organizational changes necessary for developing					
8	Maximiz leadership strengths					
10	Ability to adapt the principles of life cycle thinking and sustainable development in the domain of energy and the environment	X		X		
11	be able to analyse processes and structures of organisations and their development issues				X	

Innovation Competence Matrix

6	7	8	9	10	11	12	13	14	15
---	---	---	---	----	----	----	----	----	----

1 of Technological Complexes	Business Communication (English)	Energy Finances and Financial Account - 2	Management of Organizational-Economic Systems and Basics of Prognosis -1	Technologies of Electricity Production, Transmission and Distribution-2	Innovation Systems	Technical Translation Theory and Practice (English)	Management of Organizational-Economic Systems and Basics of Prognosis -2	Planning and Development of Energy Production	Economic and Financial Risks in Energy Production (Operational) Management
------------------------------	----------------------------------	---	--	---	--------------------	---	--	---	--

				X				X	
	X	X		X		X	X	X	X
		X				X		X	
		X		X		X			X
X				X	X				X
		X		X		X		X	
		X		X		X	X	X	X
X		X				X			
							X	X	
		X	X	X		X	X	X	X

Innovation Competence Matrix

Partner university: BrSTU (Belarus)

Programme: Artificial intelligence

Innovation COMPETENCES

		1	2	3	4	5	6	7	8	9
		<i>Modern Problems of Informatics</i>	<i>Graph theory</i>	<i>Innovation technology of intelligent systems design</i>	<i>AI technology</i>	<i>Systems theory</i>	<i>Statistical methods of data processing</i>	<i>Knowledge representation</i>	<i>Time series analysis</i>	<i>Text information processing</i>
1	Ability to think creatively, differently and outside of the box	X		X	X	X			X	
2	Ability to critically evaluate existing solutions, identify needs for improvement and seek new solutions		X	X	X		X			X
3	Ability to integrate knowledge and technologies from multiple technical disciplines or business branches			X	X					X
4	Ability to take initiatives on interested tasks with devotion and entrepreneurial mindset	X		X	X	X	X		X	
5	Ability to develop teamwork and build collaboration networks		X	X					X	
6	Basic knowledge on innovation and entrepreneurship, skills to transform new ideas and scientific results into viable business			X	X				X	
7	be able to apply theories, methods and tools of decision-making and analysis to practical management activities.			X	X					
8	be able to logically think through a problem and solve it, to contribute to innovative thinking, and to unambiguously communicate knowledge and solutions to the constructor community and society, orally and in writing		X	X	X			X		X
9	be able to analyse processes and structures of organisations and their development issues			X	X	X		X		X
10	be able to work with others in task-oriented groups, productively participating and interacting in the group			X	X			X		

Innovation Competence Matrix

10	11	12	13	14	15	16	17	18	19	20
<i>Intelligent methods of data protection</i>										
	<i>Information search methods</i>									
		<i>Immune systems</i>								
			<i>Intelligent robotics</i>							
				<i>Cryptography</i>						
					<i>Pedagogy</i>					
						<i>Foreign Language</i>				
							<i>Base of information technology</i>			
								<i>Innovation Systems</i>		
									<i>Enterpenaural for Engineers</i>	
										<i>Master's Thesis</i>
		X							X	X
X				X	X			X	X	X
	X				X			X		X
X	X		X		X	X	X	X		X
		X	X	X				X	X	X
			X					X	X	X
				X				X	X	X
	X			X				X	X	X
								X	X	X
								X	X	X

7

7

11

Innovation Competence Matrix

Partner university: BSU (Belarus)	1	2	3	4	5	6	7	8	9
Programme: Mechanics and Mathematical Modeling									

Innovation COMPETENCES

		Economics	Programming methods and informatics	Computational methods	Internal equations	Fundamentals of entrepreneurship	Information technologies	Computational systems and networks	Theoretical mechanics	Continuum mechanics
1	ability to think creatively, differently and outside of the box	X		X	X	X			X	
2	ability to critically evaluate existing solutions, identify needs for improvement and seek new solutions		X	X	X		X			X
3	be able to apply the methods of scientific knowledge (analysis, comparison, systematization, abstraction, modeling, data validation, decision-making etc.)			X	X					X
4	have the ability to adapt to new situations, practical understanding of the accumulated experience and assessment of their capabilities	X		X	X	X	X		X	
5	be able to conduct professional, including research activities in the field of mechanics, solve practical problems, creatively comprehend the results of international scientific and scientific-technical research		X	X					X	
6	basic knowledge on innovation and entrepreneurship, skills to transform new ideas and scientific results into viable business			X	X				X	
7	be able to apply theories, methods and tools of decision-making and analysis to practical management activities.			X	X					
8	be able to analyze, verify, evaluate the completeness of information in the course of professional activity, if necessary, fill in and synthesize the missing information, work in conditions of uncertainty		X	X	X			X		X
9	be able to analyse processes and structures of organisations and their development issues			X	X	X		X		X
10	be able to work with others in task-oriented groups, productively participating and interacting in the group			X	X			X		

Innovation Competence Matrix

	10	11	12	13	14	15	16	17	18	19	20
<i>Mechanics of materials</i>			X						X	X	X
<i>Computational mechanics</i>	X				X	X			X	X	X
<i>Information theory</i>		X				X			X		X
<i>Computer mechanics</i>	X	X		X		X	X	X	X		X
<i>Calculus of variations</i>			X	X	X				X	X	X
<i>Pedagogy</i>				X					X	X	X
<i>Foreign Language</i>					X				X	X	X
<i>Complex function theory</i>		X			X				X	X	X
<i>Innovation Systems</i>									X	X	X
<i>Enterpenaural for Engineers</i>									X	X	X
<i>Master's Thesis</i>									X	X	X