

**CABINET OF MINISTERS OF UKRAINE  
NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCE OF UKRAINE**

**CURRICULUM  
to train specialists as 2013 year entrants**

Educational qualificative level	“Master”
Know loads	1001 “Agricultural technology and energy production”
Specialty	8.10010101 “Energetics of agricultural production”
Specialization	Manufacture
Master’s programmes	“Electrical Networks and Systems”, “Computer-integrated process control systems in the fields of agriculture”, “Energy Engineering in Agriculture”, “Energy supply in agriculture”, “Process of automation and computer integrated management information and resources tehnolhichnymy agriculture”
Specialization	Research
Master’s programmes	“Energy Efficient management for biotechnical objects”, “Scientific and technical principles of electromechanical energy conversion”, “Electrical Networks and Systems”, “Energy supply providence in agriculture”
Form of studying	full-time
Term of training	1,5 year
Qualification	research engineer in energetics for agriculture
Institute of	<b>Implement a master’s program:</b>
faculty of	energetics and automation
Departments of	energetics and automation
	Electric drives and power technologies,Power Supply, Automation and robotic systems named after acad. I.I. Martynenko, Thermal Power

**I. Schedule of learning process**  
**a) to train Masters as 2013 year enterants**  
**Specialty 8.10010101 “Energetics of agricultural production”**

Course	2013 year																	2014 year																																					
	September				30	October			November				December				30	January			27	February			24	March				31	April			28	May				June			30	July			28	August								
	2	9	16	23	IX	7	14	21	X	4	11	18	25	2	9	16	23	XII	6	13	20	I	3	10	17	II	3	10	17	24	III	7	14	21	IV	5	12	19	26	2	9	16	23	VI	7	14	21	VII	4	11	18	25			
	7	14	21	28	X	12	19	26	XI	9	16	23	30	7	14	21	28	I	11	18	25	II	8	15	22	III	8	15	22	29	IV	12	19	26	V	10	17	24	31	7	14	21	28	VII	12	19	26	VIII	9	16	23	30			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52			
I																		-	:	:																						:	:	X	X	X	X	-	-	-	-	-	-	-	-
Course	2014 year																																																						
	September				29	October			November				December				29																																						
	1	8	15	22	IX	6	13	20	X	3	10	17	24	1	8	15	22	XII																																					
	6	13	20	27	X	4	11	18	25	XI	8	15	22	29	6	13	20	27	I																																				
	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70																																					
II										:	:	II	II	II	II	//																																							

**b) to train Masters as 2012 year enterants**  
**Specialty 8.10010101 “Energetics of agricultural production”**

Course	2013 year																	2014 year																																		
	September				30	October			November				December				30	January			27	February			24	March				31	April			28	May				June			30	July			28	August					
	2	9	16	23	IX	7	14	21	X	4	11	18	25	2	9	16	23	XII	6	13	20	I	3	10	17	II	3	10	17	24	III	7	14	21	IV	5	12	19	26	2	9	16	23	VI	7	14	21	VII	4	11	18	25
	7	14	21	28	X	12	19	26	XI	9	16	23	30	7	14	21	28	I	11	18	25	II	8	15	22	III	8	15	22	29	IV	12	19	26	V	10	17	24	31	7	14	21	28	VII	12	19	26	VIII	9	16	23	30
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
II										:	:	II	II	II	II	//																																				

**Symbols:**

- |   |                      |    |                          |
|---|----------------------|----|--------------------------|
|   | - Theoretical study  | X  | - Manufacturing practice |
| : | - Examination period | II | - Diploma planning       |
| - | - Holidays           | // | - State certification    |

**II. PLAN OF STUDYING PROCESS**  
**Specialty 8.10010101 “Energetics of agricultural production”**

№	Course title	The total amount		Forms of knowledge control according to semesters			Classroom hours			self study	The practical training		Distribution of weekly hours for courses and semesters			
		acad hours	credits	course projec	exam	test	In all	including			educational ptactice	manufacturing practice	1-st year		2-st year	
								lectures	laboratory classes				practical classes	1-st	2-nd	3-d
		Quantity of weeks for semester			18	18	10									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>I. NORMATIVE ACADEMIC DISCIPLINES</b>																
<b>1.1. Cycle of humanitarian and socio-economic training*</b>																
1	Foreign Language	216	6,0		3		164			164	52			2	2	2
2	Philosophy of science and innovation development	54	1,5		1		36	18		18	18			2		
<b>Total</b>		<b>270</b>	<b>7,5</b>		<b>2</b>		<b>200</b>	<b>18</b>	<b>0</b>	<b>182</b>	<b>70</b>			<b>4</b>	<b>2</b>	<b>2</b>
<b>1.2. Cycle of professional and practical training*</b>																
1	Electricity supply for agriculture	108	3		2		42	24	18		48				2	
2	Design of electrification, automation and energy supply	108	3	KП	1		36	18		18	54			2		
3	heat and water supply in agriculture	108	1			1	36	18	18		72			2		
4	Electrical technologies in agriculture	108	3			2	18	9	9		72				1	
5	Technology maintenance and repair of power equipment and means of automation	108	3		1		54	18	18	18	36			3		
6	Safety in industry (Electrical)	108	3		2		36	18	18		54				2	
7	Mathematical Software for Master's programs	108	4			2	20	9		9	70				1	
8	Informative Technology	72	3			2	36	18	18		36				2	
9	Human resource management	72	3			1	20	9		9	52			1		
10	Electric production machines and mechanisms	108	3		1		36	18	18		72			2		
11	Energy efficiency and renewable energy	72	3			2	36	18	18		18				2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
12	Technologies of Investigations	72	3			2	18	9		9	54				1	
<b>In all</b>		<b>1152</b>	<b>29</b>	<b>1</b>	<b>5</b>	<b>7</b>	<b>388,0</b>	<b>186,0</b>	<b>135,0</b>	<b>63</b>	<b>638,0</b>	<b>0,0</b>	<b>0,0</b>	<b>10,0</b>	<b>11,0</b>	<b>0,0</b>
<b>2. SELECTIVE COURSES</b>																
<b>2.1. University's Choice Discipline</b>																
<b>2.1.1. Cycle of humanitarian and socio-economic training*</b>																
1	Agricultural, land and environmental law	36	1,0			1	36	18			0			1		
2	Strategy of sustainable development of nature and society	36	1,0			1	36	18			0			1		
<b>Total</b>		<b>72</b>	<b>2,0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>72</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>0</b>			<b>2</b>	<b>0</b>	<b>0</b>
<b>Master's program "Computer-integrated process control systems in the fields of agriculture"</b>																
1	Informative technology in control systems	108	3,0	KП	2		54	18	18	18	36				3	
2	Computer-aided casual management	108	3,0			2	36	18	18		72				2	
3	Engineering-service automation systems	108	3,0			3	30	10		20	78					3
4	Economic calculations in engineering activities	72	2,0			3	20	10		10	52					2
5	Typical technological objects and processes in the fields of agriculture	144	4,0			3	20	10		10	124					2
6	Modeling of biotechnical objects in the field of agriculture	144	4,0			5	20	10		10	124					2
<b>Total</b>		<b>684</b>	<b>19,0</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>180</b>	<b>76</b>	<b>36</b>	<b>68</b>	<b>486</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>9</b>
<b>Master's program "Process of automation and computer integrated management information and resources tehnolhichnymy agriculture"</b>																
1	Informative technology in control systems	108	3,0	KП	2		54	18	18	18	36				3	
2	Computer-aided management	108	3,0			2	36	18	18		72				2	
3	Engineering-service automation systems	108	3,0			3	30	10		20	78					3
4	Economic calculations in engineering activities	72	2,0			3	20	10		10	52					2
5	Typical technological objects and processes in agriculture	144	4,0			3	20	10		10	124					2
6	Simulation of informative technology systems	144	4,0			5	20	10		10	124					2
<b>Total</b>		<b>684</b>	<b>19,0</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>180</b>	<b>76</b>	<b>36</b>	<b>68</b>	<b>486</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>9</b>
<b>Master's program "Energy Engineering in Agriculture"</b>																
1	Technical service of power equipment	180	5,0	KП	2		90	36	36	18	72				5	
2	Energy audit and management in agriculture	180	5,0			3	40	20		20	140					4
3	Engineering activities in servicing of electric power systems	144	4,0			3	20	10		10	124					2
4	Reliability of technical systems, technological risks	180	5,0			3	30	20		10	150					3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Total</b>		<b>684</b>	<b>19</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>180</b>	<b>86</b>	<b>36</b>	<b>58</b>	<b>486</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>9</b>
<b>Master's program "Electrical Networks and Systems"</b>																
1	Electrical Networks and Systems	180	5,0	KП	2		90	36	36	18	72				5	
2	Design of power supply systems in agriculture	180	5,0			3	40	20	20		140					4
3	Automated control and management of power consumption	144	4,0			3	30	20		10	114					3
4	Transients in power systems	180	5,0			3	20	10	10		160					2
<b>Total</b>		<b>684</b>	<b>19</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>180</b>	<b>86</b>	<b>66</b>	<b>28</b>	<b>486</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>9</b>
<b>Master's program "Energy supply in agriculture"</b>																
1	Heat power installations and systems	180	5,0	KП	2		90	36	36	18	72				6	
2	Accounting and control the distribution and expenditure of energy	180	5,0			3	30	20	10		150					3
3	Alternative and renewable energy sources in agriculture	144	4,0			3	40	20		20	104					4
4	Energy efficiency of power equipment in agricultural production	180	5,0			3	20	10		10	160					2
<b>Total</b>		<b>684</b>	<b>19</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>180</b>	<b>86</b>	<b>46</b>	<b>48</b>	<b>486</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>9</b>
<b>Master's program "Energy Efficient management for biotechnical objects"</b>																
1	Informative technology in control systems	216	6,0	KП	3		40	10	20		166					3
2	Typical technological objects and processes in agriculture	180	5,0			3	20	10		10	160					2
3	Modeling of biotechnical objects	180	5,0			3	20	10	10		160					2
4	Computer simulation control system in agriculture	180	5,0			3	20	10		10	160					2
5	Neral Networks	180	5,0			3	20	10		10	160					2
6	Calculations of cost-effectiveness research developments	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Master's program "Scientific and technical principles of electromechanical energy conversion"</b>																
1	Modern scientific problems in the field of energy	216	6,0	KП	3		40	10	20		166					3
2	Energy audit and management in agriculture	180	5,0			3	20	10		10	160					2
3	Patent engineering experiment and theory	180	5,0			3	20	10	10		160					2
4	The modern theory of electromechanical energy	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Master's program "Electrical Networks and Systems"</b>																
1	Transients in power systems	216	6,0	KП	3		40	10	20		166					3
2	The economic-efficiency energy systems in agriculture	180	5,0			3	20	10		10	160					2
3	Reliability of supply	180	5,0			3	20	10	10		160					2
4	AIC criterion problem of power supply	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Master's program "Energy supply in agriculture"</b>																
1	Accounting and control of energy resources and energy	216	6,0	KП	3		40	10	20		166					3
2	The economic-efficiency energy systems in agriculture	180	5,0			3	20	10		10	160					2
3	Optimization of energy systems and energy efficiency	180	5,0			3	20	10	10		160					2
4	Nanotechnology intensification of heat mass transfer	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>2.2. Students Choice Disciplines</b>																
<b>Production specialization</b>																
<b>Master's program "Computer-integrated process control systems in the fields of agriculture"</b>																
<b>Master's program "Process of automation and computer integrated management information and resources tehnohichnymy agriculture"</b>																
1	Methods and tools of modern automated control of casual technological processes	216	6,0	KП	3		40	10	20		166					3
2	Technical equipment, automation equipment and automated control	180	5,0			3	20	10	10		160					2
3	Microprocessor control system	180	5,0			3	20	10	10		160					2
4	Optimal Automation systems	180	5,0			3	20	10		10	160					2
<b>Total</b>		<b>576,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>82,0</b>	<b>30,0</b>	<b>40,0</b>	<b>0,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Master's program "Energy engineering for agriculture"</b>																
1	Technologies for energy engineering	216	6,0	KП	3		40	10	20		166					3
2	The operational reliability of electrical equipment in agriculture	180	5,0			3	20	10		10	160					2
3	Accounting and regulation of expenditure for energy resources and energy carriers	180	5,0			3	20	10	10		160					2
4	The quality of energy resources and energy carriers	180	5,0			3	20	10		10	160					2
5	Economics of energy consumption	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Master's program "Electrical Networks and Systems"</b>																
1	Relay protection and automation systems of power	216	6,0	KП	3		50	10	20	10	166					3
2	Automation and Control systems of power	180	5,0			3	20	10	10		160					2
3	Electrical installations and electrical system	180	5,0			3	20	10		10	160					2
4	Small power plants in agriculture	180	5,0			3	20	10	10		160					2
<b>Total</b>		<b>576,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>90,0</b>	<b>30,0</b>	<b>30,0</b>	<b>20,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Master's program "Energy supply providence for agriculture"</b>																
1	Energy storage in heating technologies	216	6,0	KП	3		30	10	10	10	186					3
2	Biofuels	180	5,0			3	20	10		10	160					2
3	Gas supply	180	5,0			3	30	10		10	150					2
4	Small hydro and wind power installations in agriculture	180	5,0			3	20	10		10	160					2
<b>Master's program "Energy Efficient management for biotechnical objects"</b>																
1	Operations Research	216	6,0	KП	3		40	10	20		166					3
2	Intelligent Systems	180	5,0			3	20	10		10	160					2
3	Neuro Information Systems	180	5,0			3	20	10	10		160					2
4	Adaptive systems	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Master's program "Scientific and technical principles of electromechanical energy conversion"</b>																
1	Asynchronous machines and high-energy electromagnetic and electromechanical processes in compensated induction motors	216	6,0	KП	3		40	10	20		166					3
2	Matematical modeling of electromagnetic devices and electromechanical energy converters	180	5,0			3	20	10		10	160					2
3	Calculation of electromagnetic devices and electromechanical energy converters	180	5,0			3	20	10	10		160					2
4	Relibility of electromagnetic devices and electromechanical energy converters	180	5,0			3	20	10		10	160					2
5	Reach Methods electromagnetic devices and electromechanical energy converters vachiv	180	5,0			3	20	10		10	160					2
6	Testing electromagnetic devices and electromechanical energy converters	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Master's program "Electrical Networks and Systems"</b>																
1	Simulation and optimization of supply	216	6,0	KП	3		40	10	20		166					3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2	Information management system in grids	180	5,0			3	20	10		10	160					2
3	Alternative and renewable energy sources	180	5,0			3	20	10	10		160					2
4	Relay protection and automation systems of power	180	5,0			3	20	10		10	160					2
5	Functional alloys in electrical vehicles	180	5,0			3	20	10		10	160					2
<b>In all</b>		<b>360,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>10,0</b>	<b>486,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Master's program "Energy supply agriculture"</b>																
1	Modelling of thermal and hydrodynamic processes	216	6,0	KП	3		40	10	20		166					3
2	Integrated use of alternative and renewable energy sources	180	5,0			3	20	10		10	160					2
3	Heat and Mass Transfer in technological processes of processing agricultural products	180	5,0			3	20	10	10		160					2
4	Cogeneration plants	180	5,0			3	20	10		10	160					2
		<b>576,0</b>	<b>16,0</b>	<b>1,0</b>	<b>1,0</b>	<b>2,0</b>	<b>80,0</b>	<b>30,0</b>	<b>10,0</b>	<b>30,0</b>	<b>496,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>7,0</b>
<b>Total</b>		<b>1404</b>	<b>39,0</b>	<b>2,0</b>	<b>2,0</b>	<b>11,0</b>	<b>404,0</b>	<b>178,0</b>	<b>76,0</b>	<b>68,0</b>	<b>972,0</b>	<b>0,0</b>	<b>0,0</b>	<b>4,0</b>	<b>5,0</b>	<b>16,0</b>
<b>Quantity of exam</b>				<b>X</b>	<b>10</b>	<b>X</b>										
<b>Quantity of test</b>				<b>X</b>		<b>16</b>										
<b>Quantity of course project</b>				<b>3</b>	<b>X</b>	<b>X</b>								<b>1</b>	<b>1</b>	<b>1</b>
<b>Research practice</b>		<b>216</b>	<b>6,0</b>										<b>216</b>			
<b>Production practice</b>		<b>144</b>	<b>4,0</b>											<b>144</b>		
<b>Preparation and defense of master's thesis</b>		<b>216</b>	<b>6,0</b>									<b>480</b>				
<b>Total</b>		<b>3240</b>	<b>90,0</b>	<b>3,0</b>	<b>9,0</b>	<b>18,0</b>	<b>992,0</b>	<b>382,0</b>	<b>211,0</b>	<b>313,0</b>	<b>2160</b>	<b>216,0</b>	<b>144,0</b>	<b>18,0</b>	<b>18,0</b>	<b>18,0</b>

\* Names cycles of disciplines as required by industry standards for higher education approved after 27.08.2010 year, EQC and EPP



### III. STRUCTURE OF THE CURRICULUM

Educational disciplines	Hours	Credits	%
I. Statutory subjects	1332	37	41
1.1 Cycle of humanities and socio-economic disciplines*	144	4,0	4
1.2 Cycle of professional and practical training disciplines*	1188	33,0	37
2. Selective Courses	1332	37	41
2.1 Courses at the choice of University	756	21,0	23
2.1.1. Cycle of the humanities and socio-economic disciplines*	72	2,0	2
2.1.2 Cycle of professional and practical training disciplines*	684	19,0	21
2.2 Disciplines chosen by the student	576	16,0	18
2.1.2 Cycle of professional and practical training disciplines*	576	16,0	18
3. Other load	576	16,0	18
<b>In all</b>	<b>3240</b>	<b>90</b>	<b>100</b>

\* Names cycles of disciplines as required by industry standards for higher education approved after 27.08.2010 year, EQC and EPP

### IV. SUMMARY TIME BUDGET, WEEKS

Course	Theoretical study	Examination period	Practical training	Preparation of master's thesis	State certification	Holidays	In all
1	36	4	8	1		8	57
2	10	2		4	1		17
<b>In all for GLR</b>	<b>46</b>	<b>6</b>	<b>8</b>	<b>5</b>	<b>1</b>	<b>8</b>	<b>74</b>

### V. PRACTICAL TRAINING

№	Kind of practise	Semester	Hours	Credits	Weeks
1	Manufacturing of electrical operation	1	144	4	4
2	Research on the topic of master's thesis	2	216	6	4

### VI. COURSEWORK PAPERS AND PROJECTS

№	Subjects	Hours	Credits	Coursework	Course project
1	Comprehensive course project for disciplines: "Designing for systems of electrification, automation and energy supply", "Technology service and repair of energy equipment and means of automation" and "Electric actuator of industrial machines and mechanisms"	36	1	1	KII
2	Disciplines in the chosen sector (specialization)	36	1	1	KII
3	Disciplines of the student self-selection	36	1	1	KII

### VII. STATE ATTESTATION

№	Component of certification	Hours	Credits	Weeks
1	Preparation and defense of master's thesis	216	6	5

