

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

**EDUCATION PLANE  
training specialists since 2013 year**

Educational and qualification level	“Master”
Branch of knowledge	0901 “Agriculture and forestry”
Specialty	8.09010101 “Agronomy ”
Specialization	Production oriented disciplines
Master program	“Manufacture and marketing of fodder crop production”, “Production and marketing of industrial crops”, “Production and marketing of cereal crops”, “Transportation, storage and processing of plant products”.
Specialization	Research oriented disciplines
Master program	“Agricultural crops productivity formation management”, “Theoretical foundation and development of energy-efficient ecological agriculture in Ukraine”, “Energy conservation techniques in fodder production”, “Quality of crop production depending on factors of postharvest handling, storage and processing”
Form of training	full-time
Term of study	1,5 years
Qualification of graduates	agronomist-researcher

**Implement a master's program**

SRI	institute of plant sciences, ecology and biotechnologies
Faculty	agrobiology
Departments	Plant Growing, Agriculture and Herbology, Technologies of Storage, Processing and Standardization of Plant Production named after Professor B. V. Lesyk, Forage production and Melioration

**I. TRAINING PROCESS SCHEDULE**  
**a) training specialists EQL “Master” since 2013 year**  
**specialty 8.09010101 “Agronomy”**

Year of study	2013 year																		2014 year																																		
	September				30	October			28	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	VI	12	19	26	VII	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	
<b>I</b>																																																					
																		-	-	:	:										:										:	X	X	X	X	X	X	X	X	-	-	-	-
Year of study	2014 year																																																				
	September				29	October			27	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	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																																			
<b>II</b>										:	:	II	II	II	//																																						

**б) training specialists EQL “Master” since 2012 year**  
**specialty 8.09010101 “Agronomy ”**

Year of study	2013 year																		2014 year																																	
	September				30	October			28	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	VI	12	19	26	VII	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
<b>II</b>										:	:	II	II	II	//																																					

**Legend:**

<input type="checkbox"/>	-	theoretical training	<input type="checkbox"/>	<b>X</b>	-	industrial practice
<input type="checkbox"/>	:	examination period	<input type="checkbox"/>	<b>II</b>	-	writing of master's thesis
<input type="checkbox"/>	-	vacation	<input type="checkbox"/>	//	-	state certification (defense of master's thesis)

## II. PLAN OF THE EDUCATIONAL PROCESS

№	Subjects	The total volume		Forms of knowledge control (by semester)			Audience lessons (hours)				Independent work	The work experience		The distribution of hours per week on courses and semesters			
		The total number of hours	The number of credits	Exam	Test	Coursework (project)	Total	including				Industrial practice	Research practice	And year of study		2 year study	
								Lectures	Lab works	Practical lessons				1s.	2 s.	3 s.	
												Number of weeks per semester					
										17	8	9	10				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>1. REGULATORY ACADEMIC DISCIPLINES</b>																	
<b>1.1. Cycle of humanitarian, social and economic training*</b>																	
1	Economic and organization of agricultural service	108	3.0		t		16			16	92				2		
2	Business foreign language	72	2.0	e			34		34		38			2			
3	Philosophy of science	90	2.5	e			17	17			73			1			
4	Agricultural and Environmental Law	90	2.5		t		17	17			73			1			
5	Civil protection	36	1.0		t		10	10			26						1
<b>Total number</b>		<b>396</b>	<b>11</b>	<b>2</b>	<b>3</b>		<b>94</b>	<b>44</b>	<b>34</b>	<b>16</b>	<b>302</b>			<b>4</b>	<b>2</b>		<b>1</b>
<b>1.2. Cycle of natural science (fundamental) training*</b>																	
1	Information technology in agronomy	144	4.0		t		34	17	17		110			2			
2	Geographic information systems	144	4.0		t		34	17	17		110			2			
<b>Total number</b>		<b>288</b>	<b>8</b>		<b>2</b>		<b>68</b>	<b>34</b>	<b>34</b>		<b>220</b>			<b>4</b>			
<b>1.3. The cycle of professional and practical training*</b>																	
1	Adaptive farming systems	162	4,5	e		CW	51	17	34		111			3			
2	Methods and organization of research in Agronomy	90	2.5		t		34	17	17		56			2			
3	Prediction and programming of yields of agricultural crops	90	2.5		t		34	17	17		56			2			
4	Biotechnology in crop production	90	2.5		t		34	17	17		56			2			
5	Special genetics	108	3.0	e			32	16	16		76				4		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
6	Systems of modern intensive technologies	162	4.5	e			64	32	32		98				8		
7	Labor protection in the branch	54	1.5	e			17	17			37			1			
8	Innovative technologies in crop-growing products post harvest handling, storage and processing	108	3.0		t		32	16	16		76				4		
<b>Total number</b>		<b>864</b>	<b>24</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>298</b>	<b>149</b>	<b>149</b>	<b>0</b>	<b>566</b>			<b>10</b>	<b>16</b>	<b>0</b>	<b>0</b>
<b>Total according to regulatory part</b>		<b>1548</b>	<b>43</b>	<b>6</b>	<b>9</b>	<b>1</b>	<b>460</b>	<b>227</b>	<b>217</b>	<b>16</b>	<b>1088</b>			<b>18</b>	<b>18</b>	<b>0</b>	<b>1</b>
<b>Production oriented disciplines</b>																	
<b>2. ELECTIVE ACADEMIC DISCIPLINES</b>																	
<b>2.1. Disciplines chosen by University</b>																	
<b>2.1.1. Cycle of professional and practical training*</b>																	
<b>The cycle of disciplines “Agro-economical reasoning of organization and technologies of crop-growing products production”</b>																	
1	Modern systems of ecological agriculture	126	3.5	e		CW	36	18	18		90					4	
2	Innovative technologies in crop-growing	108	3.0		t		36	18	18		72					4	
3	Agro-technologies of development and use of forage lands	126	3.5	e			36	18	18		90					4	
4	Field crops varietal resources	90	2.5		t		36	18	18		54					4	
5	Regulatory support of branches of crop-growing products storage and processing	90	2.5		t		18		18		72					2	
<b>Total</b>		<b>540</b>	<b>15</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>162</b>	<b>72</b>	<b>90</b>	<b>0</b>	<b>378</b>			<b>0</b>		<b>18</b>	<b>0</b>
<b>2.2. Disciplines chosen by students</b>																	
<b>2.2.2. Cycle of professional and practical training*</b>																	
<b>Master program “Manufacture and marketing of fodder crop production”</b>																	
1	Field and meadow fodder production	144	4.0	e		CW	60	30	30		84						6
2	Energy saving technologies of fodder production	108	3.0	e			50	30	20		58						5
3	Growing of fodder plants for sowing methods of their quality defining	108	3.0	e			30	10	20		78						3
4	Technological and marketing bases of fodder production	108	3.0	e			30	20	10		78						3
<b>Total</b>		<b>468</b>	<b>13</b>	<b>4</b>		<b>1</b>	<b>170</b>	<b>90</b>	<b>80</b>		<b>298</b>			<b>0</b>		<b>0</b>	<b>17</b>
<b>Master program “Production and marketing of industrial crops”</b>																	
1	Marketing and technological grounds of industrial crops production	162	4.5	e		CW	90	45	45		72						9
2	Seed science and methods of seed quality evaluation for industrial crops	162	4.5	e			60	30	30		102						6
3	Phytoenergetics	144	4.0		t		20	10	10		124						2
<b>Total</b>		<b>468</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>170</b>	<b>85</b>	<b>85</b>		<b>298</b>			<b>0</b>		<b>0</b>	<b>17</b>

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>Master program “Production and marketing of cereal crops”</b>																	
1	Technological and marketing grounds of cereal crops production	180	5.0	e		CW	80	40	40		100						8
2	Seed science and methods of cereal crops seed quality estimation	144	4.0	e			50	30	20		94						5
3	Energy and raw phytoresources	144	4.0		t		40	20	20		104						4
<b>Total</b>		<b>468</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>170</b>	<b>90</b>	<b>80</b>		<b>298</b>			<b>0</b>		<b>0</b>	<b>17</b>
<b>2.1. Disciplines chosen by University</b>																	
<b>2.1.1. Cycle of professional and practical training*</b>																	
<b>The cycle of disciplines “Reduction of losses, quality improvement on the stages of post harvest handling, storage and primary processing of crop-growing products which will ensure their high venality”</b>																	
1	Post harvest handling, storage and transportation of crop-growing products	198	5.5	e		CW	72	36	36		126					8	
2	Commodity of crop-growing products	180	5.0	e			54	18	36		126					6	
3	Techno-chemical control of crop production	162	4.5		t		36	18	18		126					4	
<b>Total</b>		<b>540</b>	<b>15</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>162</b>	<b>72</b>	<b>90</b>	<b>0</b>	<b>378</b>			<b>0</b>		<b>18</b>	<b>0</b>
<b>2.2. Disciplines chosen by students</b>																	
<b>2.2.2. Cycle of professional and practical training*</b>																	
<b>Master program “Transportation, storage and processing of plant products”</b>																	
1	Standardization and certification of processed crop material	90	2.5		t		30	10	20		60						3
2	Processing grain and industrial raw materials	144	4.0	e		CW	60	30	30		84						6
3	Processing of fruits and vegetables	144	4.0	e			50	20	30		94						5
4	Material and technical base for storage and processing of plant products	90	2.5		t		30	10	20		60						3
<b>Total</b>		<b>468</b>	<b>13</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>170</b>	<b>70</b>	<b>100</b>	<b>0</b>	<b>298</b>			<b>0</b>		<b>0</b>	<b>17</b>
<b>Research oriented disciplines</b>																	
<b>2. ELECTIVE ACADEMIC DISCIPLINES</b>																	
<b>2.1. Disciplines chosen by University</b>																	
<b>2.1.1. Cycle of professional and practical training*</b>																	
<b>The cycle of disciplines “Scientific reasoning of organization and technologies of crop-growing products production”</b>																	
1	Scientific reasoning of farming systems	126	3.5	e		CW	36	18	18		90					4	
2	Theory of agro systems sustainability	108	3.0		t		36	18	18		72					4	
3	Ecologization of technological processes in fodder production	126	3.5	e			36	18	18		90					4	
4	Genetic-selection aspects of breeding varieties	90	2.5		t		36	18	18		54					4	
5	Scientific aspects of the management quality of plant products during storage and processing	90	2.5		t		18		18		72					2	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>Total</b>		<b>540</b>	<b>15</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>162</b>	<b>72</b>	<b>90</b>	<b>0</b>	<b>378</b>			<b>0</b>	<b>0</b>	<b>18</b>	<b>0</b>
<b>2.2. Disciplines chosen by students</b>																	
<b>2.2.2. Cycle of professional and practical training*</b>																	
<b>Master program "Agricultural crops productivity formation management"</b>																	
1	Ecology and biology of agricultural crops	180	5.0	e		CW	80	40	40		100						8
2	Biometry	90	2.5		t		30	10	20		60						3
3	Seed science	108	3.0	e			40	20	20		68						4
4	Methods and organization of research work in crop science	90	2.5		t		20	10	10		70						2
<b>Total</b>		<b>468</b>	<b>13</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>170</b>	<b>80</b>	<b>90</b>		<b>298</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>
<b>Master program "Theoretical foundation and development of energy-efficient ecological agriculture in Ukraine"</b>																	
1	Zonal farming systems	108	3.0	e		CW	40	20	20		68						4
2	Scientific aspects of agriculture	72	2.0		t		20	10	10		52						2
3	Theoretical and applied herbology	108	3.0	e			40	20	20		68						4
4	Ecological problems in farming	108	3.0		t		30	10	20		78						3
5	Methods and organization of research in agriculture	72	2.0		t		40	20	20		32						4
<b>Total</b>		<b>468</b>	<b>13</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>170</b>	<b>80</b>	<b>90</b>		<b>298</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>
<b>Master program "Energy conservation techniques in fodder production"</b>																	
1	Scientific-technical backgrounds of fodder production	144	4	e			50	30	20		94						5
2	Fodder production biologization	90	2.5	e			40	20	20		50						4
3	Management of fodder crop quality in technological process	144	4.0	e		CW	50	30	20		94						5
4	Methods and organization of research in fodder production	90	2.5		t		30	10	20		60						3
<b>Total</b>		<b>468</b>	<b>13</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>170</b>	<b>90</b>	<b>80</b>		<b>298</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>
<b>2.1. Disciplines chosen by University</b>																	
<b>2.1.1. Cycle of professional and practical training*</b>																	
<b>The cycle of disciplines "Scientific principles of long-term storage of fruit, vegetables, industrial raw materials seeds. Methods of obtaining biologically valuable and ecologically safe products of primary processing"</b>																	
1	Research methods of storage and processing of plant products	144	4.0		t		36	18	18		108						4
2	Biochemical changes in crop production during storage	180	5.0	e			54	18	36		126						6
3	Scientific substantiation technologies post harvest handling, storage and transportation of crop production	216	6.0	e		CW	72	36	36		144						8
<b>Total</b>		<b>540</b>	<b>15</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>162</b>	<b>72</b>	<b>90</b>	<b>0</b>	<b>378</b>			<b>0</b>	<b>0</b>	<b>18</b>	<b>0</b>

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
<b>2.2. Disciplines chosen by students</b>																	
<b>2.2.2. Cycle of professional and practical training*</b>																	
<b>Master program “Quality of crop production depending on factors of postharvest handling, storage and processing”</b>																	
1	Processing of crop products	144	4.0	e		CW	60	30	30		84						6
2	Commodity of raw materials and processed plant products	126	3.5	e			40	20	20		86						4
3	Technical biochemistry	108	3.0	e			40	20	20		68						4
4	Quality management and certification of plant products	90	2.5		t		30	10	20		60						3
<b>Total</b>		<b>468</b>	<b>13</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>170</b>	<b>80</b>	<b>90</b>	<b>0</b>	<b>298</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>
<b>Total number of elected part</b>		<b>1008</b>	<b>28</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>332</b>	<b>142</b>	<b>190</b>	<b>0</b>	<b>676</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>17</b>
<b>Practical training</b>		<b>468</b>	<b>13</b>														
<b>Writing and defense of master's thesis</b>		<b>216</b>	<b>6</b>														
<b>Number of coursework</b>						<b>3</b>											
<b>Number of tests</b>					<b>15</b>												
<b>Number of examinations</b>				<b>11</b>													
<b>TOTAL FOR SPECIALTY</b>		<b>3240</b>	<b>90</b>	<b>11</b>	<b>15</b>	<b>3</b>	<b>792</b>	<b>369</b>	<b>407</b>	<b>16</b>	<b>1764</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>

\* Names of disciplines cycles in accordance with the requirements of higher education industry standards, ratified after 2007 year, EQH and EPP.

### III. STRUCTURE OF A TRAINING PLAN

The disciplines	Hours	Credits	%
1. Regulatory academic disciplines	1548	43.0	48.0
1.1. Cycle of humanitarian, social and economic training*	396	11.0	12.0
1.2. Cycle of natural science (fundamental) training*	288	8.0	9.0
1.3. The cycle of professional and practical training*	864	24.0	27.0
2. Elective academic disciplines	1008	28.0	31.0
2.1. Disciplines chosen by University	540	15.0	17.0
2.1.1. The cycle of professional and practical training*	540	15.0	17.0
2.2. Disciplines chosen by students	468	13.0	14.0
2.2.1. The cycle of professional and practical training*	468	13.0	14.0
3. Other load	684	19.0	21.0
<b>Together for EQL</b>	<b>3240</b>	<b>90.0</b>	<b>100</b>

\* Names of disciplines cycles in accordance with the requirements of higher education industry standards, ratified after 2007 year, EQH and EPP.

### VII. STATE CERTIFICATION

№	Component certification	Hours	Credits	Number of weeks
1	Writing and defense of master's thesis	216	6	4

### IV. SUMMARY THE BUDGET ON TIME, WEEKS

Year of study	Theoretical study	Examination period	Practical training	Writing of master's thesis	State certification	Vacation	Total
1	34	4	10	-	-	8	56
2	10	2		3	1	-	16
<b>Together for EQL</b>	<b>44</b>	<b>6</b>	<b>10</b>	<b>3</b>	<b>1</b>	<b>8</b>	<b>72</b>

### V. PRACTICAL TRAINING

№	Type of practice	Semester	Hours	Credits	Number of weeks
1	Production (scientific-research) practice	1. 2	468	13	10

### VI. COURSE WORK

№	Subjects	Hours	Credits	Coursework	Course project
1	Adaptive farming systems	18	0.5	CW	
2	Modern systems of ecological agriculture	18	0.5	CW	
3	Field and meadow fodder production	18	0.5	CW	
4	Marketing and technological grounds of industrial crops production	18	0.5	CW	
5	Technological and marketing grounds of cereal crops production	18	0.5	CW	
6	Post harvest handling, storage and transportation of crop-growing products	18	0.5	CW	
7	Processing grain and industrial raw materials	18	0.5	CW	
8	Scientific reasoning of farming systems	18	0.5	CW	
9	Ecology and biology of agricultural crops	18	0.5	CW	
10	Zonal farming systems	18	0.5	CW	
11	Management of fodder crop quality in technological process	18	0.5	CW	
12	Scientific substantiation technologies post harvest handling, storage and transportation of crop production	18	0.5	CW	
13	Processing of crop products	18	0.5	CW	