SULAWE Co-funded by the Erasmus+ Programme of the European Union

Topic titles	Type of work (hours)					Forms of teaching/learning	Assessment	Persons responsible
	Work in person				Self-study			
	Lectures	Lab work	Practical work	Other (e.g. consultancy)				
Topic 1: Concepts of sustainable development, sustainable agricultural production and sustainable livestock management Topic 1								
1. Concepts of sustainable development and sustainable agricultural production**;**	2					Visualisation lecture		***NUBiP:*** *PhD Hryshchenko Nataliia*
1.2 Sustainable management in agricultural and livestock production	2					Oral interaction with students		***NUBiP:*** *PhD Zlamaniuk Liudmyla*
1.3 Sustainable development as a paradigm of agricultural production			2				Interim colloquium, testing	***NUBiP:*** *PhD Hryshchenko Nataliia*
2.The concept of sustainable livestock production			2					***NUBiP:*** *PhD Zlamaniuk Liudmyla*
1.Prerequisites for the formation of a sustainable development paradigm; 2. New problems and trends in the development of the concept of sustainable development; 3.The role of stakeholders in promoting sustainable agricultural development in the world 4.Social perception of sustainable livestock development in terms of consumers and producers; 5.Animal welfare in the context of sustainable livestock development; 6.Methods and means of livestock management; 7. Sustainable development in terms of preserving the planet; 8. The disappearance of indigenous animal breeds					16	Self- study	Group activity and teamwork. Discussion club.	
Theme 2. Impact of livestock production, health and welfare on biodiversity, environment, climate change and antimicrobial resistance								

1.Impact of livestock development on environmental biodiversity and climate change	2					Lecture with the use of multimedia equipment	Conversation with students (questions / answers)	***PSAU:*** *PhD Larysa Kuzmenko*
2.Impact of livestock development on human health	2					Visualisation lecture	Oral interaction with students	***PSAU:*** *PhD Usenko Svitlana*
1.Calculating the impact of livestock production on air quality and water resources			2			Practical work (calculation)	Preparation of a laboratory report	***NUBiP:*** *PhD Hryshchenko Nataliia*
2.Impact of livestock products quality on consumers			2			Practical work	Testing	***PSAU:*** *Prof. Dr Shostia Anatolia*
1. Impact of livestock farming on the environment and biodiversity; 2. Air quality in the livestock farming area; 3. Water quality in the livestock area; 4.Harmful emissions from various livestock industries; 5.Animal welfare as an aspect of animal health in industrial production; 6. Climate change in the period of industrial agricultural production; 7. Occupational / professional diseases of farm workers; 8.Biosafety in the production of livestock products.					16	Self-study	Group activity and presentation of teamwork. Discussion club.	
Topic 3: **Innovative and sustainable technologies in livestock production**								
1. Innovative technologies in animal husbandry;	2					Lecture (multimedia equipment)	Interaction with students (a question answer)	***PSAU:*** *PhD Larysa Kuzmenko*
2. Industrial technologies in animal husbandry	2					Lecture (multimedia equipment)	Oral interview	*V. Dahl EUNU:* *PhD Tetiana Stryzhak*
3. Resource-saving technologies in animal husbandry as a concept of sustainable development	2					Lecture (multimedia equipment)		***NUBiP:*** Andriy Getya
4. Innovations in livestock production;			2			Practical work - calculation	Laboratory report	***PSAU:*** *PhD Usenko Svitlana*
5. Industrial production of livestock products as a component of civilisation development;			2			Practical work - calculation	Laboratory report	*V. Dahl EUNU:* *PhD Tetiana Stryzhak*
6. Sustainable livestock production in industrial technology			2			Practical work - calculation	Laboratory report	***NUBiP:*** *PhD Gryshchenko Sergii*

1. The innovation concept in agriculture; 2. Causes and consequences of production intensification; 3. Intensive use of animals from an economic and bioethical perspective; 4. Sustainable production from the perspective of economics and bioethics in animal husbandry; 5. Resource saving as a component of sustainable production; 6. Sustainable technologies in industrial production; 7. Waste management in livestock production; 8. Sustainability of genetic resources; 9. The logic of interaction between sustainable livestock production and industrial technology.					18		Group activity of students and teamwork. Workshop (presentation - discussion).	
Topic 4. Sustainability assessment and sustainability criteria for livestock products								
1.Methodology for assessing sustainable livestock production	2					Lecture (the use of multimedia equipment)		**LNUVMB:** *PhD Petro Bodnar*
2. Sustainability criteria for livestock products	2							**LNUVMB:** *PhD Petro Bodnar*
1.Methodology for assessing sustainable livestock production			2					***LNUVMB:*** *Prof. PhD Yuriy Kropyvka* *PhD Petro Bodnar* ***NUBiP:*** *Andriy Getya*
2.Assessment of sustainability criteria for livestock products			2					***LNUVMB:*** *Prof. PhD Yuriy Kropyvka* *PhD Petro Bodnar*
1. Global food security and the role of sustainable agricultural production in it; 2. The phenomenon of overproduction and shortage of livestock products; 3. Disposal of livestock products; 4. Criteria for sustainable animal husbandry and good agricultural practices; 5. Distance of livestock production facilities from people's homes; 6. Animal productivity and animal stress as elements of technology; 7. Fundamentals of livestock product quality; 8. Sustainability of the supply of livestock products to consumers.					16	Self-organisation of students during independent work.		

Topic 5. **Livestock products, raw materials and end products**								
1. Meat biochemistry in relation to animal stress (Galicia)	2					Conference-webinar	Oral interaction	SLU Galia.Zamaratskaia
2. The livestock production chain "from field to table"			2			Practical work: synthesis and analysis of cause and effect	Testing, preparing a summary	*V. Dahl EUNU* *PhD Liudmyla Parkhomenko*
1. Standardisation of livestock products; 2. Poultry products; 3. Dairy and cattle products; 4. Pork products; 5. Apiculture products; 6. Poultry products; 7. Aquaculture products.					14	Self-organisation of students while self-study.	Group activity and presentation of the teamwork. Discussion club. Student self-assessment.	

SULAWE Module diagram