



## Project “Enhancing capacity of universities to initiate and to participate in clusters development on innovation and sustainability principles” (UniClaD)

Program Erasmus +, projectKA2 n° 609944-EPP-1-2019-1-LT-EPPKA2-CBHE-JP

# Template for the creation of courses

## 1 Title of the course

### Zootechnics

**Editor:** Name and organization

**Technical University of Moldova**

## 2 Learning outcomes of the whole course

### **Short description and definition of competences acquired**

The curriculum comes to meet the needs of trainees enrolled in the retraining program Psycho-pedagogical module regarding the training and development of skills necessary for teaching subjects in the field of agricultural sciences. The need to develop specific professional skills derives from the analysis of national educational policy documents, in which objectives and directions for the development of psycho-pedagogical skills are prioritized for teaching staff without basic pedagogical training.

The competences developed by the trainees as a result of studying the Zootechnics course unit will constitute a necessary foundation for the design and implementation of the teaching-learning-evaluation process, corresponding to the level of the professional technical school. All this will constitute a transferable and multifunctional set of knowledge, skills and attitudes, which the graduates of the program will need for personal growth and development and professional insertion.

The curriculum, through the theoretical contents and the planned practical activities, aims to develop critical and analytical thinking, creativity, the ability to implement teaching-learning-evaluation strategies, in correlation with the didactic approach corresponding to the professional technical school, as well as the ability to plan activities of training and to achieve them in accordance with the rigors of didactic principles. All this will serve as a starting point for the future specialized teachers, making them responsible for the quality of the teaching activities they are going to carry out.



As a result of studying this course unit, the trainees will develop their personal and professional responsibilities for the success of their own teaching career, making the most of their intellectual and creative potential, thus contributing to increasing the quality of the training process.

### **The student is able...**

The specific professional competencies for this course unit, correlated with the professional and transversal competencies established for the "Psychopedagogical Module" program, are the following:

- Valorization of the conceptual framework of the teaching of disciplines in the Animal Science field.
- Application of didactic principles through the lens of specialized didactic objectives.
- The integration of the didactic taxonomy in the realization of the educational approach.
- Capitalizing on didactic strategies for teaching zootechnical subjects.
- Capitalizing on assessment strategies for teaching zootechnical subjects.
- Organizing and carrying out the teaching-learning-evaluation process through the effective use of resources and didactic means.
- Objective self-assessment of the need for continuous professional training for the purpose of insertion on the labor market and adaptation to the dynamics of access requirements and for personal and professional development.
- Effective use of language skills and knowledge of information and communication technology.

The established competencies will be acquired by trainees during the entire training period by completing the content units, completing the practical tasks offered by the trainers, complemented by interdisciplinary knowledge in the psycho-pedagogical field.

## 3 Overall structure of the course

Title of the units:

- Content unit no. 1 – Nutritive value in relation to the chemical composition, preservation, preparation and quality of fodder intended for farm animals
- Content unit no. 2 – Nutritional requirements and techniques for calculating fodder rations and combined fodder recipes
- Content unit no. 3 – Own productive performance of farm animals
- Content unit no. 4 – Matching pairs in the selection of farm animals
- Content unit no. 5 – Methods of raising domestic animals
- Content unit no. 6 – Performances in the reproduction of farm animals
- Content unit no. 7 – Modern technologies for raising and exploiting cattle
- Content unit no. 8 – Modern pig farming technologies
- Content unit no. 9 – Modern technologies for raising and exploiting farm birds



# 4 Unit description

## 4.1 Description of Unit 1

<p><b>Name of the Unit:</b> Nutritive value in relation to the chemical composition, preservation, preparation and quality of fodder intended for farm animals</p>	<p><b>Estimated duration for students:</b> xxx minutes</p>
<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Notions of chemical composition and nutritional value of fodder, fodder rations and combined fodder.</li> <li>• The relevance of the principles of conservation and preparation of fodder intended for farm animals</li> <li>• The economic exploitation of modern techniques and procedures for the preparation and preservation of fodder.</li> </ul>	<p><b>Competences:</b></p> <p>The learner is able to ...</p> <ul style="list-style-type: none"> <li>• To define the notions of chemical composition and nutritional value of fodder, fodder rations and combined fodder.</li> <li>• To interpret and argue the nutritional value of rations and recipes of combined fodder.</li> <li>• To argue the relevance of the principles of conservation of fodder intended for farm animals</li> <li>• To apply appropriate procedures for the preparation of fodder intended for farm animals.</li> <li>• To explain the economic valorization of modern techniques in the sector of fodder preparation and conservation</li> </ul>

### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...



## 4.2 Description of Unit 2

<p><b>Name of the Unit:</b> Nutritional requirements and techniques for calculating fodder rations and combined fodder recipes</p>	<p><b>Estimated duration for students:</b> xxx minutes</p>
<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Nutritional requirements for farm animals</li> <li>• Techniques for calculating fodder rations</li> <li>• Combined fodder for farm animals</li> <li>• Fodder base for a livestock farm</li> </ul>	<p><b>Competences:</b></p> <p>The learner is able to ...</p> <ul style="list-style-type: none"> <li>• To identify the nutritional requirements for different species and categories of farm animals</li> <li>• To apply techniques for calculating fodder rations for farm animals</li> <li>• To nutritionally analyze feed rations for farm animals</li> <li>• To be able to develop balanced combined fodder recipes</li> <li>• To determine the need for fodder for a livestock holding</li> </ul>

### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...

## 4.3 Description of Unit 3

<p><b>Name of the Unit:</b> Own productive performance of farm animals</p>	<p><b>Estimated duration for students:</b> xxx minutes</p>
<p><b>Content:</b></p> <ul style="list-style-type: none"> <li>• Exterior of domestic animals</li> <li>• Constitution and condition of domestic animals.</li> <li>• Breeding and individual development of domestic animals.</li> <li>• The specifics of domestic animal production.</li> </ul>	<p><b>Competences:</b></p> <p>The learner is able to ...</p> <ul style="list-style-type: none"> <li>- To analyze the relevance of studying the exterior of domestic animals.</li> <li>- To argue the application of the terminology of constitution and condition of domestic animals.</li> <li>- To operationalize the growth and development of domestic animals.</li> <li>- To know the specifics of domestic animal production.</li> </ul>



### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...

## 4.4 Description of Unit 4

<b>Name of the Unit:</b> Matching pairs in the selection of farm animals	<b>Estimated duration for students:</b> xxx minutes
<b>Content:</b> <ul style="list-style-type: none"> <li>• Homogeneous pair matching</li> <li>• Heterogeneous pair matching</li> <li>• Related pair matching</li> </ul>	<b>Competences:</b> <ul style="list-style-type: none"> <li>- To define the notion of matching pairs;</li> <li>- To analyze productive performances for matching pairs;</li> <li>- To argue the application of the technique of matching pairs in the selection of farm animals.</li> </ul>

### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...

## 4.5 Description of Unit 5

<b>Name of the Unit:</b> Methods of raising domestic animals	<b>Estimated duration for students:</b> xxx minutes
<b>Content:</b> <ul style="list-style-type: none"> <li>• Classification of domestic animal breeding methods.</li> <li>• Breeding of domestic animals in pure breed.</li> <li>• Breeding by crossing.</li> <li>• Hybridization.</li> <li>• The phenomenon of heterosis and selection for heterosis.</li> </ul>	<b>Competences:</b> <ul style="list-style-type: none"> <li>- To define the breeding methods of domestic animals.</li> <li>- To classify the methods of rearing domestic animals.</li> <li>- To argue the role of domestic animal breeding methods.</li> <li>- To analyze the advantages and application limits of domestic animal breeding methods.</li> <li>- To explain the importance of hybridization and the phenomenon of heterosis.</li> </ul>



### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...

## 4.6 Description of Unit 6

<b>Name of the Unit:</b> Performances in the reproduction of farm animals	<b>Estimated duration for students:</b> xxx minutes
<b>Content:</b> <ul style="list-style-type: none"> <li>• The specificity of the morpho-topography of the male and female genital apparatus on spermatogenesis. And so on</li> <li>• The specifics of keeping the biological material with the aim of maintaining the superior genetic background;</li> <li>• Methods of inoculation of biological material in different species of animals;</li> </ul>	<b>Competences:</b> <ul style="list-style-type: none"> <li>- Characterization of the male and female genital system;</li> <li>- Argumentation of spermatogenesis and sperm morphology.</li> <li>- The role of male and female hormones in neuroendocrine regulation</li> <li>- Characterization of the classic methods of preserving biological material.</li> <li>- Dilution media for biological material kept at hypothermic temperatures, refrigeration and cryopreservation.</li> <li>- Methods of inoculation in different species of animals</li> </ul>

### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...

## 4.7 Description of Unit 7

<b>Name of the Unit:</b> Modern technologies for raising and exploiting cattle	<b>Estimated duration for students:</b> xxx minutes
<b>Content:</b> <ul style="list-style-type: none"> <li>• Performing breeds of cattle of different morpho-productive types;</li> <li>• Cattle maintenance and exploitation systems.</li> </ul>	<b>Competences:</b> <ul style="list-style-type: none"> <li>- To characterize the morpho-productive indices of different types of cattle;</li> <li>- To argue the use of different exploitation systems of different morpho-productive types of cattle;</li> </ul>



### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...

## 4.8 Description of Unit 8

<b>Name of the Unit:</b> Modern pig farming technologies	<b>Estimated duration for students:</b> xxx minutes
<b>Content:</b> <ul style="list-style-type: none"> <li>• High-performing pig breeds of different morpho-productive types;</li> <li>• Pig maintenance and exploitation systems.</li> </ul>	<b>Competences:</b> <ul style="list-style-type: none"> <li>- To characterize the morpho-productive indices of different types of pigs;</li> <li>- To argue the use of exploitation systems of different morpho-productive types of pigs;</li> </ul>

### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...

## 4.9 Description of Unit 9

<b>Name of the Unit:</b> Modern technologies for raising and exploiting farm birds	<b>Estimated duration for students:</b> xxx minutes
<b>Content:</b> <ul style="list-style-type: none"> <li>• Performant breeds and crosses of birds of different morpho-productive types;</li> <li>• Farm poultry maintenance and exploitation systems.</li> </ul>	<b>Competences:</b> <ul style="list-style-type: none"> <li>- To characterize the morpho-productive indices of different species and morpho-productive types of farm birds;</li> <li>- To argue the use of exploitation systems of different morpho-productive types of farm birds;</li> </ul>

### Director's plan

Please state, how many video sequences, scripts and activities you are planning in this unit.

### Assessment / Certificate of Performance

e.g. Self-assessment quiz, survey, reflection, ...