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| **STUDY PROGRAMME:** | **Professional Undergraduate Study Programme *Agriculture***  Specific field of study: Course foundations | |
| **Course:** | **PRINCIPLES OF ZOOTECHNICS** | |
| **Course code:** 273331  **Course status**: compulsory | **Semester: II** | **Semester: I** |
| **Course holder:** | **Marijana Vrbančić Igrić,** M.Eng.Agr, senior lecturer | |
| **Course associates:** | Goran Mikec, M.Eng.Agr., assistant | |
| **Modes of delivery:** | **Number of hours** | |
| Lectures | 45 | |
| Excersises, | 30 | |
| Practical training | 8 | |

**Course objectives:** To train students to be able to independently classify domestic animals by species, breeds and production types, evaluate their exterior and general and special characteristics for selection, and select and carry out the selection process using the data entered in the registry books.

**Course content**

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|  | **Course units** | **Modes of delivery:** | | | **Places of delivery:** |
| **L** | **E** | **S** |
| **1.** | **The economic importance of animal husbandry** | 2 |  |  | Classroom |
| **2.** | **Origin of domestic animals** | 2 |  |  | Classroom |
| 2.1. | Original forms and domestication of animals |  | 2 |  |
| 2.2. | Changes in the characteristics of domestic animals due to domestication (morphological and physiological changes) |  | 2 |  |
| **3.** | **Breeds** | 1 |  |  | Classroom |
| 3.1. | General and special breed characteristics | 1 |  |  |
| 3.2. | Division of breeds | 2 |  |  |
| **4.** | **Variability and inheritance** | 1 |  |  | Classroom |
| 4.1. | Traits, phenotype and genotype | 2 |  |  |
| 4.2. | Basics of inheritance | 2 | 2 |  |
| 4.3. | Mendel's laws of inheritance | 1 | 2 |  |
| 4.4. | Hereditary and non-hereditary variations | 1 |  |  |
| **5.** | **Population and quantitative properties** | 1 |  |  | Classroom |
| 5.1. | Place of the individual in the population, frequency of genes and genotypes, changes in gene frequency, kinship, effective population size | 3 | 2 |  |
| 5.2. | Statistical indicators of variability of quantitative properties | 1 | 3 |  |
| 5.3. | Correlation and regression, heritability and repeatability coefficient | 2 | 2 |  |
|  | Colloquium 1 |  | 1 |  | Classroom |
| **6.** | **General characteristics of domestic animals** | 1 |  |  | Classroom,  Practicum |
| 6.1. | Fertility, maturity, growth and development | 2 |  |  |
| 6.2. | Exterior and measures of development of domestic animals | 1 | 2 |  |
| 6.3. | Constitution and fitness | 1 | 1 |  |
| 6.4. | Temperament and temper | 1 |  |  |
| 6.5. | The ability to utilize food | 1 | 1 |  |
| 6.6. | Fitness | 1 |  |  |
| **7.** | **Production characteristics of domestic animals** | 2 |  |  | Classroom,  Practicum |
| 7.1. | Ability to produce milk, meat, eggs, wool and work ability | 3 | 1 |  |
| **8.** | **Registry bookkeeping** | 1 |  |  | Classroom,  Practicum |
| 8.1. | Marking of domestic animals | 1 | 1 |  |
| **9.** | **Selection** | 2 |  |  | Classroom |
| 9.1. | Economically significant traits and selection effect | 1 |  |  |
| 9.2. | Selection methods | 1 | 1 |  |
| **10.** | **Cultivation value** | 2 |  |  | Classroom |
| **11.** | **Cultivation methods** | 1 |  |  | Classroom |
| 11.1. | Breeding in pure blood, crossing, bastardization | 3 | 2 |  | Classroom |
| **12.** | **Basic fodder in the feeding of domestic animals** |  | 4 |  | Prakticum |
|  | Colloquium 2 |  | 1 |  |  |
| **IN TOTAL** | | **45** | **30** |  |  |

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| Practical training | | | |
| **13.** | PROJECT ASSIGNMENT | PT | prakticum |
| 13.1. | Calculation of basic statistical indicators of variability of quantitative properties of domestic animals | 8 | Prakticum, Classroom |
| **IN TOTAL** | | **8** |  |

L=Lectures, E=Excersises, PT=Practical training

**Learning outcomes (LO)**

After passing the exam, the student will be able to:

LO 1. Assess the importance of certain livestock production and classify domestic animals by species, breeds and production types

LO 2. Present the basic concepts of genetics and breeding of domestic animals

LO 3. Evaluate general and production traits for the selection of domestic animals

LO 4. Organize the selection of domestic animals on the basis of correctly entered data in the registry records

LO 5. Compare domestic animal breeding methods

LO 6. Prepare basic fodder for feeding domestic animals

Course holder:

Marijana Vrbančić Igrić, M.Eng.Agr, senior lecturer

Križevci, July 2024