

ACADEMIC YEAR: 2019-2020

COURSE: **TECHNOLOGY FOR ANIMAL BREEDING**

TYPE OF EDUCATIONAL ACTIVITY: Characteristic

TEACHER: **Prof. Emilio GAMBACORTA**

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Language: Italian

ECTS: 6 (5 Lectures + 1 practicals)	n. of hours: 56 (40h lesson and 16h tutorials/practice)	Campus: Potenza Dept./School: Scuola di Scienze Agrarie, Forestali, Alimentari ed Ambientali (SAFE) Program: L 25 Agricultural technology	Semester: I
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EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

KNOWLEDGE AND SKILLS

The course allows to see the animal of zootechnic interest into the context of productive realities, after acquiring the knowledge of the anatomical, physiological and genetic aspects of the same. At the end of the course, the student highlights the knowledge about factors involved in animal husbandry, he knows the modeling of productive expressions and the variation of the qualitative aspects of the products, conditioned by the variation of the effect of the individual factors involved. It has skills in defining the efficiency of the animal of zootechnical interest, seen as a thermal machine, such that it is possible to determine, among the genetic types available, what is the most suitable and the most sustainable, within the systems considered.

knowledge and understanding: the student must show that he possess the knowledge and ability to tackle the problems and suggest solutions, in relation to:

- the commercial importance of animal production;
- the environmental factors of breeding and their contribution into the classification of livestock systems;
- the morpho-functional characteristics of animals of zootechnical interest and their productive attitudes;
- lactogenesis, milk ejection, profile galactopoiesis and modeling of the same;
- physiological processes of myopoiesis;
- variation of the characteristics of the productions, due to the variations of the conditioning factors.

Ability to apply knowledge and understanding: the student must demonstrate to be able (to apply the knowledge acquired) to evaluate and / or estimate:

- to evaluate the aptitude or specialization of animals of zootechnical interest;
- to evaluate the aptitude to grazing of herbivores of zootechnical interest;
- to evaluate the productive efficiency of milk and meat;
- to define the energy costs of production in the livestock production unit.

Making judgements: the student must, on the basis of the acquired knowledge, hypothesizes the combination of the more suitable zootechnical factors for a more appropriate sustainability; he chooses the most suitable genetic type for inclusion in specific bioregional contexts; he choose among cows the genetic type most suitable for the production of specific cheeses; he combines the fodder for a more efficient production result; he defines the zootechnical impact in the various territorial realities.

Communication skills: the student must demonstrate that he has acquired the ability to transmit, also through the use of new communication tools, issues related to animal production.

Learning skill: at the end of the course, the student must demonstrate the ability to possess and update his general and specific knowledge on animal productions, using both search engines and journals.

PRE-REQUIREMENTS

Is necessary to have acquired and assimilated the knowledge provided in the course of "Anatomy and Physiology of the domestic animals" and elementary concepts of "animal genetics".

SYLLABUS

The group is divided in 6 teaching blocks.

Block 1. (8h, lectures):

- importance of animal productions also in relation to the trade balance ;
- morpho-functional characteristics of genetic types of zootechnical interest and their distribution;
- methods for assessing the aptitude in zootechnical productions.

Block 2. (8h, lectures)

- lactogenesis and galactopoiesis, in relation to the genetic and environmental factors;
- milk ejection and milking systems;
- implementation of case studies.

Block 3. (8h, lectures)

- principles of miopoiesis and meat quality, in relation to the genetic and environmental factors;
- production chain of meat.

Block 4. (8h, lectures)

- basic elements about nutrition and feeding of animals in livestock production;
- rationing techniques;
- implementation of case studies.

Block 5. (8h, lectures)

- elements for reproductive efficiency definition;
- factors of efficiency variation of animals in breeding;
- breeding systems and characterizing factors;
- acquisition of knowledge on breeding technologies.

Block 6. (16h, Practical activity)

In the classroom: vision, description and consideration on Genetic Types covered during the course; implementation of case studies.

In the laboratory: chemical analysis of meat, milk and feed composition; physical analysis: color, drip loss, texture ecc.. There will be some in-depth seminars on specific topics and technical visits to livestock farms.

TEACHING METHODS

The course is based on 6 teaching blocks and it includes 40 h lectures and 16 h practical tutorials, concerning exercises in the classroom, laboratory and technical visits to livestock farms and food processing industries. There will be some in-depth seminars on specific topics.

EVALUATION METHODS

The assessment will be made through continued interaction with students during the lessons. The examination consists in an oral presentation and regards the various topics discussed and dealt with during the course.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

ANTONGIOVANNI M., e GUALTIERI M., *Nutrizione e alimentazione animale*. Edagricole, Bologna, 1998.

BALASINI D., - *Zootecnica Speciale*. Edagricole, Bologna, 1990.

BRANDANO P., ZOOTECNICA SPECIALE I, http://www.uniss.it/dipartimenti/dip_zootecnica/

GRAU R., *Scienza della carne*. Edagricole, Bologna, 1984.

PARIGINI BINI R., *Le razze bovine*. Patron, Bologna, 1983

PARIGINI BINI R., SAMEDA, DE MARCO A., *Zootecnica speciale dei bovini*, vol. I e II. Patron, Bologna, 1989

SUCCI G., *La vacca da latte*. Città Studi, Milano, 1993.

- o Dispense proposte dal Docente

<https://iaassassari.com/dispense/...agro-zootecniche/zootecnica-speciale-i-ruminanti/><https://www.google.it/>

INTERACTION WITH STUDENTS

At beginning of the course the lecturer will explain to students the pre-requirements needed, the educational goals, the expected learning outcomes, the course syllabus (structure/organization), the evaluation methods and the reference textbooks. Subsequently the students who will attend assiduously the course are asked for their surname, name, telephone number, registration number and E-mail. Simultaneously it is given indication that the teacher contacts are provided on the UNIBAS website.

The lecturer will be available to receive students on Monday and Wednesday (16.00-19.00) in his study and/or even in other days, preferably after an E-mail contact.

EXAMINATION SESSIONS (FORECAST)¹

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SEMINARS BY EXTERNAL EXPERTS SI NO

EVALUATION COMMITTEE

Prof. Emilio Gambacorta (President), Prof.ssa Annamaria Perna (member), Prof. Pierangelo Freschi (replacement member).

¹ Subject to possible changes: check the web site of the Teacher or the Department/School for updates.