LOGO DELLA STRUTTURA PRIMARIA

COURSE: **ANIMAL BREEDING** SSD AGR/17			
ACADEMIC YEAR: **2018/19**			
TYPE OF EDUCATIONAL ACTIVITY: **CHARACTERIZING**			
TEACHER: prof. **RANDO Andrea**			
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phone: **0039 0971 205025**		mobile (optional): **3392908820**	
Language: **Italian**			
ECTS: **8 CFU of Lessons** **1 CFU of Exercises**	n. of hours: **64 hours of Lessons** **16 hours of Exercises**	Campus: **Potenza** Dept./School: **Scuola di Scienze Agrarie, Forestali, Alimentari, ed Ambientali (SAFE)** Program: **Tecnologie Agrarie**	Year: 2 Semester: 1

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Students will be acquainted with the biological bases of animal productions and analysis methods of their variability. This way, they will be able to identify strategies to be used for genetic improvement. At the end of the course, students will be aware of domestic animals, their taxonomy, productions and reproduction; biological bases of animal productions; environmental effects; animal productions in Italy anf EU; breeders associations and their roles, the Italian system of functional controls; elements of population and quantitative genetics; criterya of selection, evaluation of sires and dams, selection schemes; the breeder equation; breeding and inbreeding.

- **Knowledge and ability to comprehend**: students will have the possibility to study the importance of animal productions in the national agricultural system and the importance of the genetic component within the phenotypic variability of animal productions.
- **Ability to apply knowledge**: students will be acquainted with methods necessary to move production means at the level of both single herd and breed/species.
- **Autonomy of judgement:** students will have the possibility to make differences among several approaches and to weigh positive and negative effects of the followed roads.
- **Communication** ability: each student is invited to make exercises at the board with the aim to analyse, improve and/or correct his/her communication ability.
- **Learning ability**: during the course students are often invited to study specific topics through defined web sites in order to complete arguments studied during lessons. This study contributes to increase autonomy and the ability to solve problems referring to the genetics of animal populations.

PRE-REQUIREMENTS

Students must have acquired and assimilated the concepts on the structure of the cell , biochemistry, general genetics and anatomy and physiology of domestic animals.

SYLLABUS

BLOK 1 (8hours) methods necessary to study the structure of animal populations with particular reference to density, structural traits and life-time statistics.

BLOK 2 (8hours) Herdbooks and their organization. Demography factors affecting animal breeding. Animal populations dynamics.

BLOK 3 (16hours-exercises) knowledge of morphology and productions of the different bovine, ovine, caprine and swine breeds.

BLOK 4 (8hours) traits under selection in different species.

BLOK 5 (8hours) introduction to quantitative genetics and methods to estimate the different components of the variance.

BLOK 6 (8hours) mating systems and their effect on animal populations.

BLOK 7 (8hours) different methods of selection and estimation of R.

BLOK 8 (8hours) examples of different selection methods in different species.

BLOK 9 (8hours) examples of different selection methods in different species.

TEACHING METHODS

The course is organized as follows:

- Theoretical lessons (64 ore);
- Classroom and Laboratory tutorials (16 ore)

EVALUATION METHODS

Oral examination according to the following guidelines:

1) It is necessary to answer to three questions in order to pass the examination with acceptable votes;
2) Student unable to answer to the first question cannot go further and will repeat the examination;
3) Student unable to answer to two out of three questions cannot go further and will repeat the examination;
4) I am not supposed to say anything during the examination. For few or small errors requesting a necessary interruption, after agreement of the student, there will be a point minus for each intervention;
5) Student answering to two of the three questions will have a vote of 18/30;
6) Student answering to the three questions will have a vote of 24/30;
7) Students of point 6, upon request and at the same conditions will have the possibility to obtain 28/30 with an answer to a fourth question and 30/30 with an answer to a fifth question.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

- Genetica Animale Applicata – Giulio Pagnacco – Casa editrice Ambrosiana.
- Genetica e Genomica – Gianni Barcaccia e Mario Falcinelli – Liguori Editore.
- Breeds can be studied in the web sites of breeders associations.

INTERACTION WITH STUDENTS

Tutorial hours:

Tuesdays, Wednesdays and Thursday from 17.00 to 19.00; professor room.

All students know that, In addition to weekly reception, the professor is available any time for a contac by e-mail.

EXAMINATION SESSIONS (PROVISIONAL)[1]

21/02/2019, 21/03/2019, 18/04/2019, 16/05/2019, 13/06/2019, 11/07/2019, 19/09/2019, 17/10/2019, 21/11/2019, 19/12/2019, 16/01/2020

SEMINARS BY EXTERNAL EXPERTS YES □ NO X

FURTHER INFORMATION

Examination board: Chairman prof. ANDREA RANDO
Member prof. PAOLA DI GREGORIO
Substitute member prof. ADRIANA DI TRANA

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