ACADEMIC YEAR: **2017-2018**

COURSE:

Sustainable Animal Husbandry: Sustainable animal rationing and feeding

TYPE OF EDUCATIONAL ACTIVITY: **Characterizing**

TEACHER: **Prof. Corrado Pacelli**

e-mail: **corrado.pacelli@unibas.it**	website:
Phone: **+39-0971205036**	Mobile (optional):

Language: **Italian**

ECTS: 9 (8 credits: lessons; 1 credit: farm practice)	n. of hours: (lessons e tutorials/practice) 64 lessons- 16 farm practice	Campus: Potenza School: SAFE Program: MSc Agricultural Science and Technology	Semester: second

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The aim of the course is providing basic knowledge on animal rationing, keeping into account environmental and economic sustainability of livestock farming; during the course, students will be provided the basic tools for the definition of suitable rations for animal in order to ensure the protection of environmental resources

- o   **Knowledge and understanding:**   Knowledge of the principal issues on sustainable animal rationing, such as feed choice, formulation and administration; knowledge of balanced ration formulation based on forages, concentrates, crop residues and agro-industrial by-products; knowledge of animal nutrient requirements at different stages of their production: weaning, growing, pregnancy, lactation.
- o **Applying knowledge and understanding:** Ability to formulate feeding rations by using a feed formulation software (supermix, plurimix o CPM dairy).
- o **Making judgements:** at the end of the course, students will be able to assess the environmental impact of their rationing choices.
- o **Communication skills:**   Ability to communicate to farmers the fundamental role of precision feeding for the protection of environmental sustainability and the reduction of farming expenses.
- o **Learning skill:** Ability to access and understand data on rationing problems and on environmental impact of livestock farming.
- o

PRE- REQUIREMENTS

Knowledge acquired from the course "ANIMAL NUTRITION AND FEEDING" is required

SYLLABUS

The course is divided in 3 blocks

BLOCK 1

Digestive tract physiology. Feed intake and requirements. Energy and protein value of feed. Ruminal degradability. Nitrogen excretion. Forages and concentrates. Feed technique and compound and integrated feed. Rationing.

BLOCK 2

Conditionality. Environmental sustainability of livestock. Nitrates directive. Animal human food competition. Climate and atmosphere. Life Cycle Assessment. Food transformation efficiency.

BLOCK 3

Precision feeding in livestock.

TEACHING METHODS

Theoretical lessons (64 hours), and farm practices (16 hours). Students will have the opportunity to simulate animal rations and process compounded and integrated feed using professional software.

EVALUATION METHODS

Oral examination based on the formulation of a food ration for an animal species at a definite physiological stage. The student must be able to demonstrate its merits and criticalities in relation to the nutritional characteristics and the effect on production, reproduction and environment

TEXTBOOKS AND ON- LINE EDUCATIONAL MATERIAL

P. Mc Donald, R.A. Edwards, J.F.D. Greenhalgh. Nutrizione Animale. Ed. Tecniche Nuove.

M. Antongiovanni. Nutrizione degli animali in produzione zootecnica. Edagricole

Notes provided by the teacher

INTERACTION WITH STUDENTS
At the beginning of the course, objectives, program and methods of evaluation will be described; furthermore, it will be collected the list and data of students attending the course. During the lessons, teaching materials will be provided. Students can contact the teacher anytime by e- mail either for clarifications or to set an appointment in his office at SAFE, IV floor, Viale dell'Ateno Lucano 10, Potenza.

EXAMINATION SESSIONS[1]
27-4-17, 18-5-17, 22-6-17, 26-7-1, 7-9-17, 12-10-17, 16-11-17, 14-12-17, 18-1-18, 15-2-18, 22-3-18.

SEMINARS BY EXTERNAL EXPERTS YES □   NO X

FURTHER INFORMATION

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