

ACADEMIC YEAR: 2018-2019

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
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**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

- **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.
- **Applying knowledge and understanding:** Ability to formulate feeding rations by using a feed formulation software (supermix, plurimix o CPM dairy).
- **Making judgements:** at the end of the course, students will be able to assess the environmental impact of their rationing choices.
- **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.
- **Learning skill:** Ability to access and understand data on rationing problems and on environmental impact of livestock farming.
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**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

## LOGO DELLA STRUTTURA PRIMARIA

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### 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

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### 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'Ateneo Lucano 10, Potenza.

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### EXAMINATION SESSIONS<sup>1</sup>

25-4-18, 16-5-18, 21-6-19, 25-7-18, 7-9-18, 17-10-18, 15-11-18, 13-12-18, 24-1-19, 21-2-19, 20-3-19.

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SEMINARS BY EXTERNAL EXPERTS YES  NO

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### FURTHER INFORMATION

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