

General information on the course			
Academic subject	Principles of ration formulation in livestock (module of I.C. Agro-forestry-livestock systems)		
Degree course	Sustainable Agriculture Techniques - LP 02		
Academic years	2021/2022		
European Credit Transfer and Accumulation System (ECTS)	1		
Academic discipline	AGR/18 – Animal Nutrition and Feeding		
Attendance	No		
Language	Italian		
Teacher			
Name and Surname	Maria Antonietta Colonna		
Department and address	Department of Agricultural and Environmental Science, University of Bari, Campus, Via Orabona 4, 70126, Bari		
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Phone number	080 5442236		
Tutoring	Monday and Wednesday 10.30-12.30, upon appointment requested by e-mail, in the teacher's office (room II-13 at the Department of Agricultural and Environmental Science, 2° floor Animal Production Sciences). Tutoring can also be performed by using e-learning platforms.		
Class schedule			
Period	2 nd semester		
Year	1 st year		
Type of class	Lectures and exercises		
Academic calendar			
Class beginning	01/03/2022		
Class end	17/06/2022		
Syllabus			
Prerequisites/requirements	Knowledge of chemistry, anatomy and animal physiology and feeding.		
Expected learning outcomes	Formulation of the food ration in different livestock species (cattle, pigs, sheep and goats, horses, rabbits, poultry).		
Contents	<ul style="list-style-type: none"> • Knowledge of the digestive physiology of livestock animals and of their requirements in relation to the physiological and productive stages; • Knowledge of animal feeds: forage, concentrates and their composition in terms of nutrients and fiber content; • Knowledge of the local environment and farming techniques; • Knowledge of food evaluation techniques and calculation of nutritional requirements and supplies; • Knowledge of software for managing the calculation and balancing of a food ration in different animal species. 		
Bibliography	Lesson notes. Scientific papers.		
Notes	Supplementary material will be distributed during the class.		
Class time management			
Hours	Total	Lectures and in-class exercises	Individual study
	25	10	15
Teaching methods	The course will be carried out using PowerPoint presentations through technology enhanced lessons (lectures integrated with distance learning). Classroom exercises will also be performed using technical software packages.		

Expected learning outcomes	
Knowledge and comprehension ability	Knowledge and understanding of animal feeds, their nutritional value and the technological treatments applied.
Knowledge and applied comprehension ability	Acquisition of skills for the formulation of food rations in different livestock animals in relation to the physiological and productive requirements.
Specific and soft skills	<p><i>Autonomy of judgement</i></p> <ul style="list-style-type: none"> • Ability to autonomously judge the animal farm context; • Ability to formulate diets able to safeguard animal welfare and livestock production and quality. <p><i>Communication skills</i></p> <ul style="list-style-type: none"> • Ability to describe feeding techniques and their influence on animal production. <p><i>Learning ability</i></p> <ul style="list-style-type: none"> • Ability to deepen, study and gain update on new animal feeding techniques and on the use of technical software packages.
Profit exam assessment methods	<p>Oral exam aiming to assess knowledge and skills on the topics developed during the lectures and in-class exercise.</p> <p>For foreign students the oral exam will be held in English.</p>
Evaluation criteria	<p><i>Knowledge and comprehension ability</i></p> <ul style="list-style-type: none"> • Calculation of maintenance, production and pregnancy requirements. <p><i>Knowledge and applied comprehension ability</i></p> <ul style="list-style-type: none"> • Definition of the food intake and calculation of the food ration. <p><i>Autonomy of judgement</i></p> <ul style="list-style-type: none"> • Ability to apply the knowledge/skills in a practical-field context and to identify corrective actions. <p><i>Communication skills</i></p> <ul style="list-style-type: none"> • Ability to describe processes and products showing knowledge of the specific technical-scientific language related to animal nutrition, feeding and husbandry. <p><i>Learning ability</i></p> <ul style="list-style-type: none"> • Ability to apply knowledge and skills in problem solving activities in order to solve new and complex theoretical-practical problems.