

General information	
Academic subject	<b>ANIMAL NUTRITION</b> (integrated exam of ANIMAL PRODUCTION II)
Degree course	Animal Science
Academic Year	2022/2023 – II year
European Credit Transfer and Accumulation System (ECTS)	5+1
Language	Italian
Academic calendar (starting and ending date)	II semester
Attendance	

Professor/ Lecturer	
Name and Surname	Vincenzo Tufarelli
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Department and address	Campus of Veterinary Medicine, S.P. 62 to Casamassima km 3, 70010 Valenzano (Ba)
Virtual headquarters	Microsoft Teams
Tutoring (time and day)	Monday and Wednesday 2.30- 3.30 pm According to an appointment requested by e-mail. Tutoring can be done using e-learning platforms.

Syllabus	
<b>Learning Objectives</b>	Nutritional evaluation of animal feeds. Rationing of the main livestock species: cattle, sheep, goat, pig, horse, poultry, rabbit and pets.
<b>Course prerequisites</b>	Exam: Principles of Physiology and Endocrinology of Domestic Animals. Basic knowledge of biochemistry, animal anatomy and physiology.
<b>Contents</b>	Chemical composition of feeds of zootechnical interest: carbohydrates, lipids, nitrogenous substances, minerals and vitamins. Evaluation feeds quality. Digestion, absorption, and metabolism in ruminant and non-ruminant species. Nutritional value: digestibility, systems of expression of the energy and protein value in the different species. Animal feeds: green and preserved fodder (hay, haylage, silage), cereals and their by-products, oilseeds and by-products. Residues from the food/feed industry, mineral and vitamin supplements, natural additives. Nutritional requirements and rationing factors of animals in maintenance, gestation, growth and production (meat, milk, eggs). Rationing of livestock species: cattle, sheep, goat, pig, horse, rabbit, poultry and pets. Feed technology: principles of legislation on feed preparation and innovative technological treatments of animal feeds.
<b>Books and bibliography</b>	M. Antongiovanni, A. Buccioni, M. Mele. <i>Nutrizione e Alimentazione degli Animali in Produzione Zootechnica</i> . Edagricole-New Business Media. B. Ronchi, G. Savoini, M. Trabalza Marinucci. <i>Manuale di Nutrizione dei Ruminanti da Latte</i> . EdiSES Università. Z. Davies. <i>Introduzione alla Nutrizione Equina</i> . Edizione italiana a cura di Marcello Hinxman-Allegri e Giuseppe Iardella. Raffaello Cortina Editore.

	G. Biagi, B. Chiofalo, M.I. Cutrignelli, A. De Angelis, E. Fusi, G. Meineri, L. Prola, R. Ricci, M. Sandri. <i>Nutrizione e Alimentazione del Cane e del Gatto</i> . Edagricole-New Business Media. Scientific papers.
<b>Additional materials</b>	Lessons distributed during the course integrate the reference bibliography.

<b>Work schedule</b>			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
<b>Hours</b>			
<b>150</b>	<b>50</b>	<b>25</b>	<b>75</b>
<b>ECTS</b>			
<b>6</b>	<b>5</b>	<b>1</b>	
<b>Teaching strategy</b>			
The course contents will be treated with the support of Microsoft PowerPoint presentations in the classroom.			
<b>Expected learning outcomes</b>			
<b>Knowledge and understanding on:</b>	<ul style="list-style-type: none"> <li>○ Knowledge of the field and laboratory techniques for the nutritional evaluation of feeds of zootechnical interest.</li> </ul>		
<b>Applying knowledge and understanding on:</b>	<ul style="list-style-type: none"> <li>○ The student must be able to relate the quantitative and qualitative characteristics of the animal production to the characteristics of the diet supplied.</li> </ul>		
<b>Soft skills</b>	<ul style="list-style-type: none"> <li>• <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> <li>○ Ability to independently judge data related to zootechnical issues or to represent and solve problems inherent to animal feeding.</li> </ul> </li> <li>• <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ Rationing of livestock and companion animals: cattle, sheep and goat, pig, horse, poultry, rabbit and pets.</li> </ul> </li> <li>• <i>Capacities to continue learning</i> <ul style="list-style-type: none"> <li>○ Ability to maintain, develop and expand the knowledge acquired.</li> </ul> </li> </ul>		

<b>Assessment and feedback</b>	
Methods of assessment	Oral or written exam on topics as for program. The student must demonstrate the skills acquired during the course, the knowledge of the principles of animal nutrition; the student will have to demonstrate mastery of technical language and the relationship between animal nutrition and quality of livestock production.
Evaluation criteria	<ul style="list-style-type: none"> <li>• <i>Knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ Knowledge of the field and laboratory techniques for the nutritional evaluation of feeds of zootechnical interest.</li> </ul> </li> <li>• <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ The student must be able to relate the quantitative and qualitative characteristics of the animal production to the characteristics of the diet supplied.</li> </ul> </li> <li>• <i>Autonomy of judgment</i> <ul style="list-style-type: none"> <li>○ The student will have to demonstrate that he is able to make his own judgments, including through the autonomous processing and application of the knowledge and skills acquired.</li> </ul> </li> <li>• <i>Communicating knowledge and understanding</i></li> </ul>



	<ul style="list-style-type: none"><li>○ Rationing of livestock and companion animals: cattle, sheep and goat, pig, horse, poultry, rabbit and pets.</li><li>● <i>Communication skills</i><ul style="list-style-type: none"><li>○ The student must have property of language and expository clarity, also in using of specific scientific and technical terminology.</li></ul></li><li>● <i>Capacities to continue learning</i><ul style="list-style-type: none"><li>○ Ability to maintain, develop and expand the knowledge acquired.</li></ul></li></ul>
Criteria for assessment and attribution of the final mark	The final grade is in thirtieths. The exam is passed when the grade is greater than or equal to 18/30. The evaluation acquired in this exam, to that of Rabbit, Poultry Science and Aquaculture, will contribute to the final evaluation of the integrated examination of Animal Production II.
<b>Additional information</b>	
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