COURSE OF STUDY AGRICULTURAL SCIENCES AND TECHNOLOGIES
ACADEMIC YEAR *2023-2024*
ACADEMIC SUBJECT *Technologies of Animal Husbandry (module of the integrated course: Animal Husbandries)*

General information	
Year of the course	*3rd*
Academic calendar (starting and ending date)	*1st semester (25/09/2023 – 19/01/2024)*
Credits (CFU/ETCS):	6
SSD	*AGR 19*
Language	*Italian*
Mode of attendance	Not mandatory

Professor/ Lecturer	
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Department and address	Department of Soil, Plant and Food Sciences, 2nd floor - Study No. 19
Virtual room	Code Teams for tutoring activities: jwis081
Office Hours	From Monday to Thursday, h 15:00 – 17:00 by appointment

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
150	*40*	*14*	*96*
CFU/ETCS			
6	*5*	*1*	

Learning Objectives	The Course is aimed at supplying basic knowledge about technologies of animal husbandry and quality of the productions in the different animal species of zootechnic interest. It will deal with the aspects concerning breeding systems and technologies as for the main productive livestock, especially referring to the quality characteristics of productions and the main factors affecting them. Furthermore, it will give an outline of organic productions, animal welfare, food safety and traceability of animal productions.
Course prerequisites	Knowledge of anatomy, physiology, morphology, genetics and genetic improvement of livestock.

Teaching strategies	Lectures will be provided mainly trough frontal teaching and will be given with the support of PC assisted tools (PowerPoint, Adobe Acrobat, etc.), in depth video showing and technical visits to livestock farms.
Expected learning outcomes in terms of	
Knowledge and understanding on:	Knowledge of livestock breeding techniques and improvement of their quantitative and qualitative productivity.
Applying knowledge and understanding on:	○ Ability to apply breeding technologies in accordance with animal welfare and environment safeguard.

	○ Ability to evaluate the qualitative characteristics of animal products. ○ Ability to identify and apply integrated breeding technologies addressed to the quantitative and qualitative improvement of animal productions
Soft skills	• *Making informed judgments and choices* ○ Ability to analyse different production systems. ○ Ability to design, manage and verify breeding technologies addressed to the quantitative and qualitative improvement of the productions, in accordance with animal welfare and environmental safeguard. • *Communicating knowledge and understanding* ○ Ability to communicate effectively within a workgroup. ○ Ability to communicate effectively with operators and technicians of the production chains, as well as with managers of public and / or private bodies. • *Capacities to continue learning* ○ Ability to deepen and update the knowledge of specific and related sectors, following a multidisciplinary approach.
Syllabus	
Content knowledge	o Sustainability of animal production systems in the context of climate changeo Production and consumption of animal products from the different species, in Italy and EU. o Morphological and functional characteristics of the main breeds used for milk (in cattle, sheep, goat and buffalo species) and meat (in cattle, sheep, goat, buffalo and pig species). o Reproductive parameters of the main species. Notes on reproductive technologies and biotechnologies. o Breeding technology for milk and meat production in the main species. Milk and meat quality parameters and their influencing factors. o Systems and technology of poultry breeding for meat and egg productions. Quality of eggs. o Notes on organic animal productions and animal welfare. o Notes on quality management systems, certification, traceability and food safety in animal productions.
Texts and readings	- Notes of the lectures handed out during the course. - D. BALASINI – Zootecnica. Basi Tecnico-Scientifiche. Calderini Edagricole. Volumi: Bovini e Bufali, Suini, Avi- Cunicoli, Ovi-Caprini. - Cerolini S., Marzoni M., Romboli I., Schiavone A., Zaniboni L. - Avicoltura e Coniglicoltura. Le Point Veterinaire, Milano.
Notes, additional materials	- G. Aguggini, V. Beghelli, L.F. Giulio. Fisiologia degli Animali Domestici con Elementi di Etologia. UTET. - G. Bittante, I. Andrighetto, M. Ramanzin. Tecniche di Produzione Animale. Ed. Liviana. - E. Baldelli. La Zootecnia Bioecologica. Edagricole. - G.M. Tantillo. La produzione igienica della carne. Edagricole. - N. Montemurro. Igiene zootecnica. Come favorire la salute e il benessere degli animali in allevamento. Edagricole.
Repository	The teaching material of the course will be available on platform Teams.

Assessment	
Assessment methods	For students enrolled in the academic year in which teaching is carried out, there is a mid-term exam consisting in an oral test. The outcome of this test, if with a positive vote, contributes to the evaluation of

	the final exam and is valid for one academic year. Students who fail the first mid-term exam must attend the general exam. The exam consists of an oral test related to the subjects on the syllabus covered during the theoretical and theoretical/practical lessons in classroom and production farms, as stated in the Academic Regulation of the Agricultural Science and Technology Degree Program and its relative study plan (Attachment A).

Assessment criteria	• *Knowledge and understanding*
	  ○ Knowledge of livestock breeding techniques and improvement of their quantitative and qualitative productivity.
	• *Applying knowledge and understanding*
	  ○ Ability to apply breeding technologies in accordance with animal welfare and environment safeguard.
	  ○ Ability to evaluate the qualitative characteristics of animal products.
	  ○ Ability to identify and apply integrated breeding technologies addressed to the quantitative and qualitative improvement of animal productions.
	• *Autonomy of judgment*
	  ○ Ability to analyse different production systems.
	  ○ Ability to design, manage and verify breeding technologies addressed to the quantitative and qualitative improvement of the productions, in accordance with animal welfare and environmental safeguard.
	• *Communicating knowledge and understanding*
	  ○ Ability to communicate effectively within a workgroup.
	• *Communication skills*
	  ○ Ability to communicate effectively with operators and technicians of the production chains, as well as with managers of public and / or private bodies.
	• *Capacities to continue learning*
	  ○ Ability to deepen and update the knowledge of specific and related sectors, following a multidisciplinary approach.

Final exam and grading criteria	The student competence evaluation is based on predefined criteria, as detailed in Attachment A of the Academic Regulation of the Agricultural Science and Technology Degree Course (expressed through the European Describers of the educational qualification). Final grade for students taking both mid-term and final exam is determined by the arithmetic average of the two grades.
Further information	