



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali		
ACADEMIC YEAR	2016/2017		
BACHELOR'S DEGREE (BSC)	AGRICULTURAL ENGINEERING		
SUBJECT	ANIMAL PRODUCTIONS		
TYPE OF EDUCATIONAL ACTIVITY	C		
AMBIT	10689-Attività formative affini o integrative		
CODE	12476		
SCIENTIFIC SECTOR(S)	AGR/19		
HEAD PROFESSOR(S)	ALABISO MARCO	Ricercatore	Univ. di PALERMO
OTHER PROFESSOR(S)			
CREDITS	8		
INDIVIDUAL STUDY (Hrs)	136		
COURSE ACTIVITY (Hrs)	64		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	3		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	ALABISO MARCO Tuesday 11:00 13:00 Dipartimento di Scienze Agrarie, Ambientali e Forestali SAAF, Università di Palermo, Viale delle Scienze, Edificio 4 - ingresso G, ufficio 4 G PT 71 Friday 09:00 11:00 Dipartimento di Scienze Agrarie, Ambientali e Forestali SAAF, Università di Palermo Viale delle Scienze, Edificio 4 - ingresso G, ufficio 4 G PT 71		

DOCENTE: Prof. MARCO ALABISO

PREREQUISITES	Knowledge of biochemistry and crop science are required
LEARNING OUTCOMES	<p>1. Knowledge and understanding Acquisition of knowledge aimed at the technical and organizational management of livestock farms, and understanding the physiological processes on the basis of animal productions, and evaluating the products of animal origin through the examination of the main characteristics that contribute to define their quality.</p> <p>2. Applying knowledge and understanding To have the ability to identify and modulate, in livestock farms, the technical and managerial elements that, while respecting animal welfare and environmental sustainability, could contribute to develop efficient production processes and obtain products of high quality standards by which to meet the needs of final consumers and the processing industry.</p> <p>3. Making judgements to have the ability to assess the implications and the production results connected to technical and managerial interventions implemented in livestock farms.</p> <p>4. Communications to have the ability to expose, either orally or through the writing of a paper, arguments focusing on techniques and management applicable in livestock productions systems, and to discuss, also with a non-expert audience, about the importance of the introductions of solutions and innovations with positive reflections on animal welfare, products quality and environment.</p> <p>5. Lifelong learning skills To have with some autonomy the ability to use the specific Language of these topics, update the knowledge by examining the technical and scientific publications related to the livestock sector, and to be able to undertake further advanced studies.</p>
ASSESSMENT METHODS	The Learning evaluation is based on a single oral exam, and is expressed on a 18-30-point scale. The exam consists of a colloquy in which the student have to answer to a minimum of three questions designed to ascertain the knowledge and understanding of the topics, the interpretative ability and the adequacy in the oral exposition. The full possession of these requirements is evaluated with the highest mark (30 with distinction), while the lack of an acceptable understanding of the topics results in an insufficient scoring.
EDUCATIONAL OBJECTIVES	Teaching is proposed to provide knowledge on management systems and farming techniques, traditional and innovative, the main ruminant species (cattle, sheep and goats), equine and asinine. It is explored the role that housing structures, systems and technical and organizational decisions have on the production efficiency of farms. They are also considered, even regarding the current regulations, the reflections of the types of management and housing on animal welfare and on the quality of the products.
TEACHING METHODS	Frontal lessons, classroom exercises corporate technical visits
SUGGESTED BIBLIOGRAPHY	<p>G. Bittante, I. Andrighetto, M. Ramanzin, Tecniche di produzione animale, LIVIANA Editore</p> <p>P.G. Monetti, Allevamento dei bovini e dei suini, GIRALDI Editore</p> <p>G. Succi, Zootecnia speciale, Editrice CLESAV.</p> <p>G. Succi, I. Hoffmann, La vacca da latte, Editrice CITTA' STUDI.</p> <p>D. Balasini, Zootecnica Speciale, EDAGRICOLE.</p> <p>Thomas DGM, ANIMAL HUSBANDRY (third edition, 1983). Bailliere Tindall, London. (excluding pigs)</p> <p>Foley, R. C., Bath, D. L., Dickinson, F. N., & Tucker, H. A. (1972). Dairy cattle: principles, practices, problems, profits.</p>

SYLLABUS

Hrs	Frontal teaching
2	Introduction to the course. General description of dairy and meat sectors in Italy.
7	DAIRY CATTLE. Dairy farming systems. Dairy specialized breeds (Holstein Friesian, Brown, Pezzata Rossa Italiana) and activity of their breeders association with particular reference to genetic improvement programs. Sicilian autochthonous breeds: Modicana and Cinisara.
7	Milk: definition, synthesis and secretion mechanisms. The lactation curve. Factors affecting milk production. Manual and mechanical milking. Milk composition and variation factors. Quality milk traits milk (nutritional, organoleptic, chemical-physical, technological and healthy). Health standards for milk and structures for production, storage and processing according to current legislation.
2	Reproduction: puberty, time of fertilization, oestrus detection. Artificial insemination, oestrus synchronization, embryo transfer. Pregnancy diagnosis. Calving.
4	Calf rearing: care at birth, colostral phase, systems for milk feeding, milk replacers, housing and equipment, weaning. Veal calves. European regulations for calves protection. Heifer rearing: early first calving, feeding, housing.

SYLLABUS

Hrs	Frontal teaching
6	Dairy cows: feeding in dry and milking phase, feeding management, unifeed, automatic feeding station; tie and loose housing and related milking systems. The cows welfare of the cows: regulation, structural requirements, evaluation of comfort
6	BEEF CATTLE. Categories of beef cattle. Precocity of development in relation to genetic type. Main Italian (Piemontese, Marchigiana, Chianina, Romagnola, Maremmana and Podolica) and foreign breeds (Charolaise and Limousine). Cross-breeding. Transport and slaughter. Qualitative characteristics of the carcass and meat. Rearing of beef cows, light and heavy calves. Housing. Stressors and welfare assessment. Organic farming.
10	SHEEP and GOATS. Dairy and meat sectors. Farming systems. Grazing techniques. Main Italian breeds. Genetic improvement. Reproduction: seasonality, oestrus synchronization, artificial insemination. Suckling and weaning of lambs. Milk production. Mechanical milking. Feeding of dairy sheep and goats. Meat production. Carcass classification. Housing.
6	EQUINE and ASININE. Organization of Italian and Sicilian equestrian trade. Main breeds raised in Italy and their aptitude. breed associations, Stud Books, genetic improvement. Systems and livestock facilities. Choice of breeding. Reproduction: stud farms, natural mating, artificial insemination, gestation, birth. Breastfeeding and weaning the foal. milk and meat production. digestive physiology. nutritional and food needs. INRA system UFCv for rationing.
Hrs	Practice
14	Classroom exercises and corporate technical visits. N.B. all lessons are accompanied by visual aids