COURSE: EVALUATION OF ANIMAL PRODUCTS			
ACADEMIC YEAR :2019/2020			
TYPE OF EDUCATIONAL ACTIVITY: Characteristic			
TEACHER: Annamaria Perna			
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Language: Italian			

ECTS: 6(5 lessons and 1 tutorials/practice)	n. of hours: 56(40+16) (lessons and tutorials/practice)	Campus: Potenza/Matera Dept./School: School of agriculture, forestry, food and environmental sciences Program: L.M. Food Sciences and Technology	Semester: II

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

Content and knowledge The course will provide the knowledge related to: the nutritional, technological and organoleptic quality of the meat, milk, honey and eggs in order to identify appropriate analytical parameters for the characterization of the products in relation to their destination; the elements characterizing the production systems of animal products and the factors that affect the "quality".

- **knowledge and understanding** Knowledge of the composition and structural organization of raw materials of animal origin. Knowledge of processing technologies and conservation of animal products. Knowledge and understanding the role of the molecules present in animal products (compositional, nutritional/ nutraceuticals and technological importance). Knowledge of methods for Traceability and Certification of Animal Products.

- **Applying knowledge and understanding**: Ability to analyze the factors that influence the quality of the product. Ability to know the different qualitative parameters of livestock products and factors that can modify them. To understand the main processing problems of dairy and meat industry.

- **Making judgements**: Ability to identify the technologies to be applied according to product characteristics in order to optimize product quality. Ability to interpret the relationship between composition and transformation of product. Ability to assess the suitability and convenience of the animal product in relation to their destination.

- **communication skills** Ability to interact and communicate with food business and technical operators in the evaluation of animal products in relation to their destination.

- **learning skill**: Ability to access data sources and to interpret and summarize the data on the evaluation of animal product. Ability to interpret data on microbiological quality, chemical-physical and nutraceutical characterization of animal products using technical and scientific literature.

PRE-REQUIREMENTS

To understand the material presented in this course the following knowledges and skills are needed: elements of mathematics and statistics; inorganic and organic chemistry; Biochemistry; Food chemistry; Animal productions; Food processing technologies.

SYLLABUS

The group is divided in 6 teaching blocks:

 Block 1. (8h, lectures)
Milk composition; Elements of milk secretion and ejection; Lactogenesis; chemical – physical indices of milk; Milk characteristics of different species.

Block 2. (8h, lectures)
Factors affecting milk quantity and quality. Bioactive components; strategies to increase the bioactive components of dairy products.

Block 3. (8h, lectures)
meat structure and composition; muscle transformation into meat, meat constituents, factors that influence the meat quality.

Block 4. (8h, lectures)
Growth and precocity, genetic types of meat; feeding; climatic factors; management; qualitative characteristics of meat intended to processing. chemical composition and nutritional value of fish flesh. Factors influencing the post-mortem phenomena and product quality. The quality of bivalve molluscs and crustaceans and their nutritional value. Nutritional differences compared to land meat. Bioactive components of meat products.

Block 5. (8h, lectures)
chemical-physical characteristics of the eggs;egg structure; nutritional and functional properties; factors that influence the egg quality. Composition of honey; chemical-physical characteristics; nutritional , technological and organoleptic quality of honey and hive products and factors influencing the product. Labeling and marketing of honey. Bioactive components of eggs and honey;

Block 6. (16 h, Practical activity)
Chemical analyses: pH, chemical composition of meat , milk, egg and honey products; Physical analyses: colour, water holding capacity, texture. Analytical data acquisition and critical assessment of laboratory analyses results.

TEACHING METHODS

The course consist of 40 hours of lectures and 16 h of laboratory work and technical visits to livestock farms and processing factories.

EVALUATION METHODS

The knowledge acquired by the students will be assessed through the continuous interaction between students and through a critical review of the topics covered.
The oral examination to verify the reasoning skills and linkage between the knowledge gained and covers all the topics covered during the course.

TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL

ALAIS C., – Scienza del latte. –Tecniche nuove, Milano, 1984

BETTINI T.M., - Elementi di Scienza delle produzioni animali, Edagricole, Bologna, 1987.

LAWRIE R.A., –Scienza della carne. – Edagricole;

GRAU R.,– Carne e prodotti carnei.- Ed agricole

STADELMAN W.J., COTTERILL O.J., - Egg science and technology, Food Product, Press Ed. Binghampton NY USA 1990.

The teacher provides the students the material of analysis of some topics covered

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INTERACTION WITH STUDENTS

At beginning of the course the lecturer will explain to students the pre-requirements needed, the educational goals, the expected learning outcomes, the course syllabus (structure/organization), the evaluation methods and the reference textbooks. Subsequently the students who will attend assiduously the course are asked for their surname, name, telephone number, registration number and E-mail.

EVALUATION COMMITTEE

Prof. Annamaria Perna (president), Prof. Emilio Gambacorta (member), Prof. Pierangelo Freschi (replacement member)

SEMINARS BY EXTERNAL EXPERTS   YES x   NO □