COURSE: EVALUATION OF ANIMAL PRODUCTS

ACADEMIC YEAR :2016/2017

TYPE OF EDUCATIONAL ACTIVITY: Characteristic

TEACHER: Annamaria Perna

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Language: Italian

ECTS: 9(8 lessons and 1 tutorials/practice)	n. of hours: 80 (64+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

To 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".

 The main provided knowledges are:

milk chemical-physical characteristics and variation factors; meat structure and composition; muscle transformation into meat, meat constituents, factors that influence the quality; eggs composition, nutritional and functional properties, influence of rearing factors; honey composition and quality of honey; production chain: safety assessment, nutritional quality, technological, organoleptic; traceability of animal products; nutraceutical properties of animal products; methods for the definition of the quality characteristics of the products.

At the end of the course students will be able to:

• know the quality parameters of livestock products and the factors able to modify them;

• learn about the techniques and processes for the management of product quality;

• identify the technological conditions to be applied depending of product characteristics in order to optimize the quality of finished products;

• interpret the relationship between composition and process of the product;

• assess the suitability and convenience of the animal product in relation to commercial destination.

PRE-REQUIREMENTS
Food chemistry knowledge is required

SYLLABUS

The group is divided in 9 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.

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.

Block 5. (8h, lectures)
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.

Block 6. (8h, lectures)
chemical-physical characteristics of the eggs. elements on the anatomy of female reproductive system; Physiology of egg formation; egg structure; nutritional and functional properties; factors that influence the egg quality

Block 7. (8h, lectures)
composition of honey; chemical-physical characteristics; nutritional , technological and organoleptic quality of honey and hive products. Factors influencing the composition and honey quality. Labeling and marketing of honey.

Block 8. (8h, lectures)
nutraceutical properties of animal products; bioactive components; strategies to increase the bioactive components of an animal product; the production chain and traceability of animal products

Block 9. (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 64 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

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.

EXAMINATION SESSIONS (FORECAST)[1]
18/07/2017, 15/09/2017, 13/10/2017, 10/11/2017, 14/12/2017, 18/01/2018, 15/02/2018, 16/03/2018, 13/04/2018, 11/05/2018, 15/06/2018, 13/07/2018.

SEMINARS BY EXTERNAL EXPERTS   YES x   NO □

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[1] Subject to possible changes: check the web site of the Teacher or the Department/School for updates.