

Academic subject: Physical and Sensory assessment of Livestock Production			
Degree Class: LM-86		Degree Course: Safety and Health of Food of Animal Origin	
		Academic Year: 2020/2021	
		Kind of class: mandatory	Year: I
			Period: I semester
			ECTS: 5 divided into ECTS lessons: 4 ECTS exe/lab/tutor: 1
Time management, hours, in-class study hours, out-of-class study hours lesson:40 exe/lab/tutor: 25 in-class study: 0 out-of-class study: 60			
Language: Italian		Compulsory Attendance: no	
Subject Teacher: Pasquale De Palo		Tel: +39 0804679919 e-mail: pasquale.depalo@uniba.it	Office: Department of Veterinary Medicine Room 35 Floor II
Office days and hours: Tuesday 4p.m. —6 p.m. Thursday 11a.m. —2 p.m. Recommended planning meeting by mail			
Prerequisites: The student must have a good knowledge on organic chemistry, principles of general physics and statistics. To this end, a self-assessment test will be provided at the beginning of the course which will serve to indicate to students which areas deserve to be explored for greater effectiveness of the course.			
Educational objectives: The course aims to provide the student with a general and particular view of the qualitative patterns related to sensory properties of livestock food. Particularly, the student will acquire knowledge, skills and abilities on most suitable techniques for sensory assessment, the ability in data interpretation, know-how to organize consumer and panel tests, develop actions to improve food from rheological-sensorial point of view.			
Expected learning outcomes (according to Dublin Descriptors)		<p>Knowledge and understanding: The student needs to acquire knowledge related to sensory, physiology and psychology of consumers, laboratory and human-based techniques to measure sensory patterns, as well as the factors affecting rheological-sensory parameter.</p> <p>Applying knowledge and understanding: The student must be able to choose the best tool for evaluating a sensory pattern, on the basis of the type of food matrix and the objectives to be pursued.</p> <p>Making judgements: provide the knowledge bases necessary to allow the student to propose and make decisions aimed at characterizing and improving sensory profile in food of animal origin</p> <p>Communication: know the scientific technical terminology of the sector necessary to communicate the topics covered by the subject</p> <p>Lifelong learning skills: receive the knowledge bases to be able to deepen the issues covered by the subject</p>	
<p>Course program: Definition and Aims of teaching in the context of the Degree Course.</p> <ul style="list-style-type: none"> - Notes on the physiology of the sense organs and the relationship between human perception and instrumental evaluation. - The marbling grading; - Color: myoglobin biochemistry, factors affecting color, Hornsey method, instrumental colorimetry, Image Analysis 			

- Texture in meat and cheese: Warner Blatzer Share Force and Texture profile analysis (tenderness, juiciness, cohesiveness, chewability, adhesiveness, gumminess)
- The chemistry and biochemistry of volatile organic compounds in meat: effect of: 1) the type of cooking; 2) the quality of the matrix 3) analytical laboratory techniques;
- The water fractions in fresh meat and the effects on rheology: Water Holding Capacity, post thawing losses, cooking losses, drip losses.
- Chemistry and biochemistry of volatile fractions in milk: animal and technological factors capable of affecting it; analytical laboratory techniques;
- Milk: clotting properties, color, aroma, taste.
- Panel and Consumer Test: Recruitment, selection and training of panelists. Analytical and affective tests. Qualitative discriminative tests: pairwise, triangular, duo-trio comparison, two out of five. Sorting test. The measurement scales. Descriptive tests: profile analysis (FPM) and descriptive quantitative analysis (QDA).
- Exercises aimed at acquiring the main laboratory and sensory analysis techniques, using local livestock productions

Teaching methods: The subject will be based on 40h of traditional lectures, enriched by innovative activities: self-assessment of learning, co-teaching lessons with foreign visiting professors, flipped classroom, elaboration of works in groups. Moreover, 25 hours of training will be carried out in laboratory to acquire skills and competences on food textural, sensory evaluation.

Auxiliary teaching: Computer equipment and software

Assessment methods:

The exam is conducted with no more than three questions, relating to case studies, any problems that an agri-food company may pose. The overall assessment will take in account the candidate's ability to use the knowledge and skills acquired to solve the problems posed. The vote of the course of Physical and Chemical quality of Food will be the arithmetic mean between the present subject assessment and the one of Food Chemistry.

Bibliography: Material provided by the teacher both during the course and available at the end of the course at his office.