No._____of _____ **USAMV form–CN-0701040111**

SUBJECT OUTLINE

1. Information on the programme

1.1. Higher education institution	**University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca**
1.2. Faculty	**Food Science and Technology**
1.3. Department	**Food Engineering**
1.4. Field of study	**Food Engineering**
1.5. Education level[1)]	**Bachelor**
1.6. Specialization/ Study programme	**Technology of Agricultural Products Processing**
1.7. Form of education	**Full time**

2. Information on the discipline

2.1. Name of the discipline	**Quality control of animal origin products 4**							
2.2. Course coordinator				**Prof. Dr. habil. Cristina Anamaria Semeniuc**				
2.3. ~~Seminar~~/ laboratory/ ~~project~~ coordinator				**Asist. Dr. Maria-Ioana Socaciu**				
2.4. Year of study	**IV**	2.5. Semester	**VIII**	2.6. Type of evaluation	**continue**	2.7. Discipline status	Content[2]	**DS**
							Compulsorine ss[3]	**DI**

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	4	out of which: 3.2. lecture	2	3.3. ~~seminar~~/ laboratory/ ~~project~~	2
3.4. Total number of hours in the curriculum	56	out of which: 3.5. lecture	28	3.6. ~~seminar~~/ laboratory/ ~~project~~	28
Distribution of the time allotted					ore
3.4.1. Study based on book, textbook, bibliography, and notes					10
3.4.2. Additional documentation in the library, specialized electronic platforms, and field					16
3.4.3. Preparing ~~seminars~~/ laboratories/ ~~projects~~, ~~subjects~~, ~~reports~~, ~~portfolios~~, and ~~essays~~					10
3.4.4. Tutorials					8
3.4.5. Examinations					-
3.4.6. Other activities					-
3.7. Total hours of individual study	44				
3.8. Total hours per semester	100				
3.9. Number of credits[4]	4				

4. Prerequisites (if applicable)

4.1. curriculum-related	Basic notions of food chemistry and biochemistry as well as food microbiology
4.2. skills-related	The student must have the necessary knowledge for proper handling of chemical reagents, glassware, utensils, and laboratory equipment

5. Conditions (if applicable)

5.1. for the lecture	Classroom, equipped with: blackboard, video projector, and computer In the case of carrying out online didactic activities, the teaching methods will be adapted
5.2. for the ~~seminar~~/ laboratory/ ~~project~~	Laboratory equipped with laboratory equipment, glassware, utensils, and reagents In the case of carrying out online didactic activities, the teaching methods will be adapted

6. Specific competences acquired

Professional competences	C5.1. Identification of specialized terminology relating to quality and standards of animal origin products C1.4. Assessing the qualitative characteristics of raw materials and end-products of animal origin
Transversal competences	CT1. Responsible execution of laboratory tests; analytical and critical thinking in interpreting results

7. Course objectives (based on the list of competences acquired)

7.1. Overall course objective	Knowledge of organoleptic, physicochemical, and microbiological criteria for assessing the quality of animal origin products
7.2. Specific objectives	Learning some methods of physicochemical analysis of food products Acquiring the ability for analysis and interpretation of test results Evaluation of food products quality based on test results

8. Contents

8.1. LECTURE	Teaching methods	Notes
Quality criteria for raw meat and meat products	Participatory lecture, debate, exemplification	1.5 lectures
Factors influencing meat quality Criteria and methods for assessing meat quality		1.5 lectures
Chemical composition of raw materials of animal origin and its role in determining the quality of food products		1.5 lectures
Beef meat		1 lecture
Pork, sheep, and goat meat		1 lecture
Poultry meat Quality control of eggs		1.5 lectures
Quality control of canned and semi-preserved meat		1.5 lectures
Quality control of animal fats		1.5 lectures
Quality control of fish and aquatic products		1.5 lectures
Quality control of honey and other bee products		1.5 lectures

8.2. PRACTICAL WORK	Teaching methods	Notes
Labour protection Presentation of practical work	Presentation, explanation, demonstration, case study	1 laboratory work
Determination of moisture in meat and meat products Determination of total fat content in meat and meat products		1 laboratory work
Determination of protein content in meat and meat products Determination of total ash in meat and meat products		1 laboratory work
Measurement of pH in meat and meat products Identification of hydrogen sulphide in meat and meat products Determination of the oxidative state of fat (Kreis reaction) in meat, meat products, and animal fats Determination of sodium chloride content in meat and meat products		1 laboratory work
Determination of easily hydrolyzable nitrogen in meat and meat products		1 laboratory work

Identification of ammonia in meat and meat products with Nessler reagent		
Determination of the net mass of semi-preserved and canned fish Determination of the proportion of components in semi-preserved and canned fish Determination of total acidity in semi-preserved and canned fish		1 laboratory work
Determination of acids soluble in water, from roe		1 laboratory work
Determination of water and volatile substances content in animal fats Determination of insoluble impurities content in animal fats		1 laboratory work
Determination of peroxide index in animal fat		1 laboratory work
Determination of acid value and acidity in animal fat		1 laboratory work
Egg candling analysis Appreciation of egg freshness in water and salted water Determination of yolk index in egg yolk Measurement of pH in egg		1 laboratory work
Determination of moisture in honey. Oven-drying method Determination of ash in honey Determination of acidity in honey Determination of water insoluble matter in honey		1 laboratory work
Identification of hydroxymethylfurfural (HMF) in honey by Fiehe reaction Identification of industrial glucose in honey by reaction with alcohol Identification of cereal flour and starch in honey by reaction with iodine Identification of gelatin and glue in honey by reaction with tannin Determination of electrical conductivity in honey Determination of pollen grain content in honey Determination of sugar micro crystals in honey		1 laboratory work
Test of verifying knowledge	-	1 laboratory work
Compulsory bibliography: 1. Course support 2. Semeniuc, C.A., Pop, C.R., Socaciu, M.I. (2019). Controlul şi expertiza produselor animaliere (Carne, produse din carne şi miere)-Îndrumător de lucrări practice. Ed. Mega, Cluj-Napoca.		
Optional bibliography: 1. Semeniuc, C.A., Socaciu, M.I., Vodnar, D.C. (2020). Evaluarea calităţii peştelui şi produselor pescăreşti. Ed. Mega, Cluj-Napoca.		

9. Corroborating the course content with the expectations of the epistemic community representatives, of the professional associations and of the relevant stakeholders in the corresponding field

In outlining the course content and practical work were considered recommendations of food industry employers.

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Lecture	Logical, correct, and coherent application of acquired notions	**Continuous assessment**	75%
10.5. ~~Seminar~~/ Laboratory	Ability to perform tests in a physicochemical testing laboratory Ability to analyse and interpret test results	**Test of verifying knowledge**	25%

10.6. Minimum performance standards
Execution of a laboratory test Elaboration of a test report

[1] Level of study- to be chosen one of the following - Bachelor/Post graduate/Doctoral

[2] Course regime (content) – for bachelor level it will be chosen one of the following - **DF** (fundamental subject), **DD** (subject in the domain), **DS** (specific subject), **DC** (complementary subject).

[3] Course regime (compulsory level) - to be chosen one of the following - **DI** (compulsory subject), **DO** (optional subject), **DFac** (facultative subject)

[4] One ECTS is equivalent with 25 hours of study (didactical and individual study).

Filled in on
06.09.2021

Course coordinator
Prof. Dr. habil. Cristina Anamaria Semeniuc

Laboratory work/ ~~seminars~~ coordinator
Asist. Dr. Maria-Ioana Socaciu

Course coordinator
Prof. Dr. habil. Cristina Anamaria Semeniuc

Approved by the Department on
22.09.2021

Head of the Department
Prof. Dr. Sevastița Muste

Approved by the Faculty Council on

28.09.2021

Dean
Prof. Dr. habil. Elena Mudura