No._____of _____ **USAMV form–CN-0701040102**

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 Agro-Food 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 2**							
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	**VII**	2.6. Type of evaluation	**Summative**	2.7. Discipline status	Content[2]	**DS**
							Compulsoriness[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 and application of the quality assurance principles 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 control of raw milk and commercial milk	Participatory lecture, debate, exemplification	6 lectures
Quality control of fermented milks		1 lecture
Quality control of cream		1 lecture
Quality control of butter		1 lecture
Quality control of dairy powders		1 lecture
Quality control of ice cream		1 lecture
Quality control of cheeses		2 lectures
Recapitulation	-	1 lecture

8.2. PRACTICAL WORK	Teaching methods	Notes
Labour protection Presentation of practical work	Presentation, explanation, demonstration, case study	1 laboratory work
Assessment of milk integrity • Determination of relative density • Determination of fat content • Determination of dry matter content • Determination of protein content • Determination of ash content		2 laboratory works
Assessment of milk hygienic quality • Determination of milk impurification degree (lactocentrifugation, lactosedimentation, and lactofiltration) • Determination of milk freshness degree (titration method, method with ethyl alcohol, pH measurement, alizarin test, bromothymol blue test) • Determination of milk microbiological quality class (reductase test - method with methylene blue and method with resazurine)		2 laboratory works
Control of milk pasteurization • Aldehidrase test • Dupouy reaction		1 laboratory work

Assessment of fermented milks quality • Determination of fat content • Determination of acidity		1 laboratory work
Assessment of cream quality • Determination of fat content • Determination of acidity • Control of cream pasteurization - method with benzidine		1 laboratory work
Assessment of butter quality • Determination of fat content • Determination of acidity • Kreis reaction • Determination of sodium chloride content		1 laboratory work
Assessment of dairy powders quality • Determination of dry matter content • Determination of fat content • Determination of acidity • Determination of insolubility index • Determination of scorched particle content		2 laboratory works
Assessment of ice cream quality • Determination of fat content • Determination of acidity		1 laboratory work
Assessment of cheeses quality • Determination of fat content • Determination of acidity • Determination of sodium chloride content		1 laboratory work
Test of verifying knowledge		1 laboratory work
Compulsory bibliography: 1. Course support 2. Guș C., Semeniuc C.A. (2010). Stabilirea calității laptelui și a produselor lactate, Ed.a II-a. Ed. Risoprint, Cluj-Napoca.		
Optional bibliography: 1. Guș C. (2007). Laptele și derivatele sale. Ed. Risoprint, 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	**Exam**	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	**Course coordinator**	**Laboratory work/ ~~seminars~~ coordinator**
06.09.2021	Assoc. Prof. Dr. habil. Cristina Anamaria Semeniuc	Eng. Dr. Maria-Ioana Socaciu

Course coordinator
Assoc. Prof. Dr. habil. Cristina Anamaria Semeniuc

Approved by the Department on	**Head of the Department**
22.09.2021	Prof. Dr. Sevastița Muste
Approved by the Faculty Council on	**Dean**
28.09.2021	Prof. Dr. habil. Elena Mudura