



No. _____ of _____

USAMV form–CN-0703040102

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	Food Engineering
1.7. Form of education	Full time

2. Information on the discipline

2. Information on the discipline								
2.1. Name of the discipline		Control and quality assurance in the food industry 2						
2.2. Course coordinator				Assoc. Prof. Dr. habil. Cristina Anamaria Semeniuc				
2.3. Seminar/ laboratory/ project coordinator				Eng. 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	SD
							Compulsoriness ³	CD

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, explanation, demonstration, case study	1 laboratory work
Presentation of practical work		2 laboratory works
Assessment of milk integrity <ul style="list-style-type: none"> Determination of relative density Determination of fat content Determination of dry matter content Determination of protein content Determination of ash content 		
Assessment of milk hygienic quality <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Aldehidrase test Dupouy reaction 		1 laboratory work
Assessment of fermented milks quality <ul style="list-style-type: none"> Determination of fat content 		1 laboratory work



<ul style="list-style-type: none"> Determination of acidity 		
Assessment of cream quality <ul style="list-style-type: none"> Determination of fat content Determination of acidity Control of cream pasteurization - method with benzidine 		1 laboratory work
Assessment of butter quality <ul style="list-style-type: none"> Determination of fat content Determination of acidity Kreis reaction Determination of sodium chloride content 		1 laboratory work
Assessment of dairy powders quality <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Determination of fat content Determination of acidity 		1 laboratory work
Assessment of cheeses quality <ul style="list-style-type: none"> Determination of fat content Determination of acidity Determination of sodium chloride content 		1 laboratory work
Test of verifying knowledge		1 laboratory work
<i>Compulsory bibliography:</i> <ol style="list-style-type: none"> Course support Guș C., Semeniciu C.A. (2010). Stabilirea calității laptelui și a produselor lactate, Ed.a II-a. Ed. Risoprint, Cluj-Napoca. 		
<i>Optional bibliography:</i> <ol style="list-style-type: none"> 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 Education levels-choose of the three options-Bachelor/ Master/ Ph.D.

² Discipline status (content)-or the undergraduate level, choose one of the options-**FD** (fundamental discipline), **BD** (basic discipline), **SD** (specific discipline-food engineering), **UO** (discipline based on the university's options).

³ Discipline status (compulsoriness)-choose one of the options-**CD** (compulsory discipline) **OD** (optional discipline) **ED** (elective discipline).

⁴ One credit is equivalent to 25-30 hours of study (teaching activities and individual study).

Filled in on
06.09.2021

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

Laboratory work/ seminars coordinator
Eng. Dr. Maria-Ioana Socaciu



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Course coordinator

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Prof. Dr. habil. Elena Mudura

Approved by the
Department on
22.09.2021

Approved by the Faculty
Council on
28.09.2021