DISCIPLINE SHEET

1. Data about program

1.1 Academic institution	1.1 Institution of higher education	**UNIVERSITY OF ORADEA**
1.2 Faculty	1.2 Faculty	**FACULTY OF ENVIRONMENTAL PROTECTION**
1.3 Department	1.3 Department	**FOOD ENGINEERING**
1.4 Field of study	1.4 Field of study	**FOOD ENGINEERING**
1.5 Cycle of study	1.5 Cycle studies	**BACHELOR**
1.6 Study programme/Qualification	1.6 Curriculum/Qualifications	**TPPA/ ENGINEER**

2. Data about the disciplines

2.1 Name of discipline			**MILK TECHNOLOGY AND DERIVATIVE PRODUCTS I**				
2.2 Course holder			Lecturer HÎLMA ELENA				
2.3 Laboratory holder			Lecturer HÎLMA ELENA				
2.4 Year of study	IV	2.5 Semester	VII	2.6 Type of evaluation	Ex	2.7 Regime of discipline	Ob

Ob – Compulsory; As – associated; Op – Optional.

Total estimate time (hours per semester of didactic activities)

3.1 Number of hours per week	4	from which:2 course	2	3.3 laboratory	2
3.4 Total hours in the curriculum	56	din care: 28 course	28	3.6 laboratory	28
Time allotment					hours
Study assisted by manual, course support, bibliography and notes					7
Additional documentation in the library/ on specialised electronic platforms and in the field					7
Preparation of seminars/laboratories/ topics/reports, portfolios and essays					8
Tutorship					5
Examinations					5
Additional documentation in the library/ on specialised electronic platforms and in the field					8

3.7 Total hours of individual study	40
3.9 Total hours per semester	96
3.10 Number of credits	4

4. Precondiţii (acolo unde este cazul)

4.1 curriculum	Milk processing technology, Food industry machinery, Inorganic chemistry and Organic chemistry, Biochemistry, Microbiology.
4.2 competences	Knowledge of milk components, component transformations, milk, knowledge of food industry machinery

5. Prerequisites (where appropriate)

5.1. related to course	• Students will not be present at lectures, seminars/laboratories with mobile phones. It also will not be tolerated during phone calls, nor leaving by the students of the course with a view to taking over personal telephone calls.
5.2. related to seminar/laboratory/ project	• The term teaching seminar work shall be established by agreement with the holder of the students. Will not be accepting applications for deferment thereof on grounds other than objective grounds.

6. Specific competences acquired	
Professional competences	• C1 Analysis, interpretation, supervision and coordination of specific issues regarding the processing of food raw materials; • C3 Analyzing the technical solutions necessary to improve the quality of food products and to reduce specific consumption as well as the elaboration, monitoring and implementation of new technical projects; • C5 Cooperation with responsible institutions in the field of food quality and safety • C6 Providing consulting, counseling and performing new activities.

7. Objectives of discipline (coming from the specific competences acquired)

7.1 General objective	• Students' knowledge of raw materials, their composition • The microbiological composition of the raw material • The nutritional and biological quality of milk and the main raw materials used in the manufacture of dairy products.
7.2 Specific objectives	Accumulation of knowledge to • processing in optimal conditions of milk; • economic efficiency in the processing of raw materials, materials and auxiliary materials, justification of raw materials and materials, • operation of specific equipment, • storage of finished products

8. Content *

8.1 Course	**Methods of teaching**	**No. of hours/Remarks**
1. Milk-producing animals	Interactive lecture with video projector	2
2. Milk raw material, general information	Interactive lecture with video projector	2
3. Cow's milk, organoleptic characteristics	Interactive lecture with video projector	2
4. Cow's milk, physico-chemical characteristics	Interactive lecture with video projector	2
5. Cow's milk, chemical composition, structure of milk	Interactive lecture with video projector	2
6. Milk proteins	Interactive lecture with video projector	2
7. The fatty substance in the composition of milk	Interactive lecture with video projector	2
8. Lactose	Interactive lecture with video projector	2
9. Vitamins and enzymes in milk composition	Interactive lecture with video projector	2
10. Microbiological composition of milk, lactic bacteria	Interactive lecture with video projector	2
11. Microorganisms contaminating milk	Interactive lecture with video projector	2
12. Milk defects and falsifications	Interactive lecture with video projector	2
13. Variation of milk characteristics depending on certain factors, sheep's milk	Interactive lecture with video projector	2
14. Buffalo and goat milk	Interactive lecture with video projector	2

8.2. Laboratory		
1. Specific rules for the protection of labour.	Demonstration, analysis, and exposure	2
2.Collection, storage, preservation, preparation of average analysis samples	Demonstration, analysis, and exposure	
3. Organoleptic analyzes of milk. Determination of acidity	Demonstration, analysis, and exposure	2
4. Determination of fat percentage, density and degree of impurity	Demonstration, analysis, and exposure	2
5. Determination of total dry matter and proteins	Demonstration, analysis, and exposure	2
6. Physico-chemical analyzes in electronic system	Demonstration, analysis, and exposure	2
7. Raw milk monitoring	Demonstration, analysis, and exposure	2
8. Determination of milk falsifications	Demonstration, analysis, and exposure	2
9. Detection of milk inhibitors	Demonstration, analysis, and exposure	2
10. Determination of conservative from milk	Demonstration, analysis, and exposure	2
11. Microbiological analysis, determination of mastitis milk, reductase test	Demonstration, analysis, and exposure	2
12. Determination of the total number of mesophilic aerobic germs	Demonstration, analysis, and exposure	2
13 Determination of coliform bacteria and escherichia coli.	Demonstration, analysis, and exposure	2
14 Determination of yeast and mold.	Demonstration, analysis, and exposure	2

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9. Corroboration of discipline content with the expectations of the epistemic community, professional associations and representative employers from the field corresponding to the study programme

The study provides specialists for milk processing units, for distributors of equipment and additives in the dairy industry

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the final grade
10.4 Course	for note 5– knowledge of material 50% for note 10 – knowledge of material 100%	Summative assessment-sample exam-written or oral	80%
10.5 Seminar	-	-	-
10.6 Laboratory	Test with 5 questions at the end of the laboratory works	Continuous evaluation in the laboratory; knowledge verification laboratory	10% 10%
10.7 Project	-	-	-
10.8 Minimum standard of performance			
• Elaboration of a project or process specific food industry equipment, using concepts, theories and methods in the field • The development of a technological project • Preparation of a technical study by the efficient use of resources and sources of relevant and current documentation (including internet, databases, online courses.			

Date of completion 1.10.2020

Signature of course holder
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Date of approval in the department

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