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 II Project**				
2.2 Course holder			Lecturer HÎLMA ELENA				
2.3 Laboratory holder			Lecturer HÎLMA ELENA				
2.4 Year of study	IV	2.5 Semester	VIII	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	1	from which:2 course	-	3.3 project	1
3.4 Total hours in the curriculum	14	din care: 28 course	-	3.6 project	14

Time allotment	hours
Study assisted by manual, course support, bibliography and notes	0
Additional documentation in the library/ on specialised electronic platforms and in the field	1
Preparation of seminars/laboratories/ topics/reports, portfolios and essays	1
Tutorship	3
Examinations	5
Additional documentation in the library/ on specialised electronic platforms and in the field	0

3.7 Total hours of individual study	10
3.9 Total hours per semester	24
3.10 Number of credits	1

4. Precondiţii (acolo unde este cazul)

4.1 curriculum	Biochemistry, Food industry machinery, Milk processing technology
4.2 competences	Knowledge of milk components, knowledge of machinery in the food industry

5. Prerequisites (where appropriate)

5.1. related to course	
5.2. related to seminar/laboratory/ project	• Specific milk processing equipment for practical applications

6. Specific competences acquired	
Professional competences	• Knowledge of raw milk • Directing milk in production based on organoleptic, physico-chemical and microbiological qualities • The parameters of the technological process and their influence on the finished products • Technological calculations, justification of raw materials and materials • Machines. Component parts, operating principle • Organoleptic, physico-chemical and microbiological characteristics of the finished products
Transversal competence	• Knowledge for managing the production and laboratory departments in milk processing units • Quality control of milk and dairy products

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

7.1 General objective	• Knowledge by students of raw materials, technological process, principle of operation of equipment • Technological calculations, consumption norms, justification of the raw material. • Quality of finished products, quality certification.
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**
8.2. PROJECT		
1. Choosing the location of the production unit	Demonstration, analysis, and exposure	1
2. Production organization.Qualitative reception of raw milk	Demonstration, analysis, and exposure	1
3. Quantitative reception of milk, directing milk in production	Demonstration, analysis, and exposure	1
4. Normalization of milk for drinking milk	Demonstration, analysis, and exposure	1
5. Normalization of milk for acidic dairy products	Demonstration, analysis, and exposure	1
6. Normalization of milk for the manufacture of cheese, milk powder	Demonstration, analysis, and exposure	1
7. Cream justification, butter making	Demonstration, analysis, and exposure	1
8. Daily manufacturing report	Demonstration, analysis, and exposure	1
9. Choice of laboratory equipment	Demonstration, analysis, and exposure	1
10. Choice of machines for receiving and pasteurizing milk	Demonstration, analysis, and exposure	1
11. Choice of equipment for the manufacture of fresh dairy products	Demonstration, analysis, and exposure	1
12. Choice of equipment for making cheeses, milk powder	Demonstration, analysis, and exposure	1
13 Choice of butter manufacturing equipment	Demonstration, analysis, and exposure	1
14 Staff selection, organizational char	Demonstration, analysis, and exposure	1

Bibliography
1. Borda D. 2007. Tehnologii în industria laptelui-Aplicaţii ale presiunii înalte, Editura Academica Galaţi. 2, Chintescu G. Îndrumător pentru tehnologia brânzeturilor. pag.10-13. Editura tehnică Bucureşti..
3. Costin, G. M., Caşulschi, T., Pop, D. M., Stanciu, S., Paraschiv, D. 2007. Produse lactate funcţionale. Ed. Academica, Galaţi.
4. Costin, G. M., Florea, T., Popa, C., Rotaru, G., Segal, R., Bahrim, G., Botez, E., Turtoi, M., Stanciu, S., Turtoi, G. 2003. Ştiinţa şi ingineria brânzeturilor. pag. 29-214, 458-564, Ed. Academica, Galaţi.
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6. Costin G.M., Lungulescu Gr.. 1985. Valorificarea subproduselor din industria laptelui. pag.11-22. Editura Tehnică, Bucureşti.
7. Georgescu Gh. 2005. Cartea producătorului şi procesatorului de lapte. pag. 13-140; 254-276; 324-40. Editura Ceres, Bucureşti.
8. Hîlma Elena, 2012, Control de calitate în tehnologia de prelucrare a laptelui, Editura Universităţii din Oradea.
9. Rotaru G. 2003. Sisteme de asigurare a calităţii,în Ştiinţa şi ingineria fabricării brânzeturilor. Editura Academica, Galaţi
10. Rotaru G., Moraru C. 1997. Industrua alimentară. H.A.C.C.P. Calitate. Analiza riscurilor. Punctele critice de control. Ed. Academica, Galaţi.

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			
10.5 Seminar	-	-	-
10.6 Project	for note 5– knowledge of material 50% for note 10 – knowledge of material 100%	Continuous evaluation in the laboratory; knowledge verification laboratory	50% 50%
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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Signature of laboratory holder
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Date of approval in the department

Signature of the Head of Department
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