DISCIPLINE SHEET

1. Data about the programme

1. Duta about the programme	
1.1 Superior educational institution	University of Oradea
1.2 Faculty	Environmental Protection
1.3 Department	Food products engineering
1.4 Domain of study	Food products engineering
1.5 Cycle of study	Master
1.6 Program of study/Qualification	Food safety and security /Engineer

2. Data about the discipline

2.1 Name of the discipline	Mo	dern	techniques of proces	sing in food	l industry	
2.2 Titular of the course	Ch	ief of	f works, doctor engine	eer URS M	ARIANA	
activities						
2.3 Titular of the	Ch	ief of	f works, doctor engine	eer URS M	ARIANA	
seminar/laboratory/project	ect					
activities						
2.4 Year of I 2.5 Seme	ster	Π	2.6 Type of	Ex	2.7 Discipline regime	Ob
study			evaluation			

Ob - obligatory/compulsory; As - associated; Op - optional.

3. Total estimated time(number of hours of didactical activities per semester)

3.1 Number of hours in a week	2	2	From which: 3.2	1	3.3	1
			course		seminar/laboratory/project	
3.4 Total of hours according to the	2	28	From which: 3.5	14	3.6	14
educational plan/curriculum			course		seminar/laboratory/project	
Distribution of the time fund						hou
						rs
Study from the book, course suppo	ort, bibli	iogı	raphy, notes			26
Extra documentation in the library	, on spe	cial	lised electronic platfo	orms a	and out on the fields	22
Preparation of seminars/laboratories, themes, reviews, portfolios and essays				18		
Tutoring					0	
Examinations					2	
Other activities					4	
3.7 Total number of hours of	72					
individual study						
3.9 Total number of hours per	100					
semester						
3.10 Number of credits	4					

4. Pre conditions (where it is necessary)

4.1 ofcurriculum	(Conditioning agents) General technologies in food industry
4.2 of competence	

5. Conditions(where it is necessary)

5.1. of course on going	• The students shall not attend the courses, seminars/laboratory classes with their mobile phones turned on. Telephone conversations during classes are not allowed, also. The students are not allowed to leave
	the room where the course is on going just because they want to talk on the phone, even if they have a personal problem.
	• The students will not be allowed to be late for courses, seminars, laboratories because if they are late that leads to the disturbance of the educational process.

5.2. of seminar/laboratory/project on	•	The dead line for delivering the seminars' worksheets is established
going		by the titular by mutual agreement with the students. The delivery of
		a worksheet can be postponed only on the basis of very objective
		reasons. If, by any circumstances the worksheet is delivered later
		than the previously established dead line, it shall be downgraded 1
		point for each day of delay.

6. Accumulated specific competences
C2.3. Application of principles and basic engineering methods to solve technological problems in
⁴ the agricultural and food related chain.
- ³ C3.5. Issue of projects related to technologies and products specific to the agricultural and food
a d industry
l j j

7. Discipline objectives (from the accumulated grid of specific competences)

7.1 general objective of the discipline	• The assimilation, in what the students are concerned, of
	the modern techniques of processing food products which are
	used, at a large scale, in many countries, and whose aim is to
	obtain best quality food products.
	• Surveying the changes that appear within the products
	during their processing and keeping them in the admitted
	limits of quality parameters.
7.2 Specific objectives	• After graduating a discipline the student must have
	the ability to understand the principles that lie at the basis of
	processing food products, the study of modern processing
	techniques used world wide, the study of the changes that
	take place during the whole technological process in order to
	obtain quality products, the analysis of the quality indexes of
	the raw material and of the finite product

8. Contents*

8.1 Course	Teaching methods	No. Hours /
		Observations
1.Techniques of separation through membranes.	Interactive lecture with	1
	video projection	
2.Concentration of the food products through reversed.	Interactive lecture with	1
osmosis.	video projection	
3.Concentration of fruit juice through ultrafiltration.	Interactive lecture with	1
	video projection	
4.Freezing of food products with cryogenic agents.	Interactive lecture with	1
	video projection	
5.Cryoconcentration.	Interactive lecture with	1
	video projection	
6.Lyophilization.	Interactive lecture with	1
	video projection	
7.Drying food products in a fluidized bed.	Interactive lecture with	1
	video projection	

9. Techniques of processing with microwaves. Interactive lecture with video projection 10. Thermoplastic extrusion. Interactive lecture with video projection 11. Processing through ohmic heating. Interactive lecture with video projection 12. Techniques of processing with the help of high pressures. Interactive lecture with video projection 13. Techniques of processing with ultrasounds. Interactive lecture with video projection 14. Techniques applied in order to obtain special types of Interactive lecture with video projection 1 8.2 Seminar Teaching methods No. of hours/Observations 9. Teckniques of the quality of raw materials. Practical demonstration Group work 1 2. Determination of dry matter content by oven drying. Practical demonstration Group work 1 3. Appreciation of the quality of rauned products Practical demonstration Group work 1 5. Analysis of the quality of regetables preserved by marinating Practical demonstration Group work 1 6. The study of the transformations suffered by the vegetal raw material at scalding. Practical demonstration Group work 1 7. Study of drying fruits and vegetables. Practical demonstration Group work 1 7. Determining the color of the tomato pasta specid by work 1 1	8. Products dried instantly.	Interactive lecture with 1
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3. Lucian Ioancea, Iosif Kathrein- Condiționarea și valorificarea superioară a materiilor prime vegetale în scopuri alimentare, Editura Ceres, București, 1988

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5. Petru Niculiță- Tehnica și tehnologia frigului în domenii agroalimentare, Editura Didactică și Pedagogică București, 1998

6. Liviu Chirigiu, Maria Viorica Bubulică, Lucrețiu Radu-Analiza chimică a alimentelor, Editura

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- I.Jianu, Delia Dumbravă, D.Dronca, T.Trască Principii şi tehnici de procesare şi conservare a produselor agroalimentare. Determinări. Calcule Tehnologice, Timişoara, 1997
- 9. Urs Mariana Tehnici moderne de procesare a produselor alimentare Suport de curs

* The content and the number of hours allocated to each course/seminar/laboratory/project shall be mentioned in detail for the period of the 14 weeks of each semester/term of the university year

9. Corroboration of the discipline contents with the expectations of the epistemic community representatives, professional associations and representative employers from the domain afferent to the programme.

- Students shall acquire necessary knowledge related to the principles and methods of conservation applied to the raw vegetal materials in the technological processes of producing food products
- Students shall acquire necessary skills to appreciate raw materials and to determine both qualitatively and quantitatively the obtained finite products

10. Evaluare

Type of activity	10.1 Evaluation criteria	10.2 Assessment	10.3 Share from the
		methods	final grade
10.4 Course	For grade 5 – knowing 50 % of the school matter For grade 6 – knowing 60% of the		80
	school matter		
	For grade 7 – knowing 70% of the school matter		
	For grade 8 – knowing 80% of the school matter		
	For grade 9 – knowing 90% of the school matter		
	For grade 10 – knowing 100% of		
	the school matter (the students shall		
	make proof of having read the		
10511	For and 5 the student ensurement		20
10.5 Laboratory	correctly to 50% of the questions		20
	For grade 6 – the student answers		
	correctly at 60% of the questions		
	For grade 7 – the student answers correctly at 70% of the questions		
	For grade 8 – the student answers correctly at 80% of the questions		
	For grade $9 -$ the student answers		
	correctly at 90% of the questions		
	For grade10 – the student answers correctly at 100% of the questions		
10.8 Minimum sta	andard of performance		
• • • • •	• • • • • • • •	1 1	

Issuing technical projects and technical processes including justification of the methods, procedures and operations applied

Date of completion Signature of the course titular**

Signature of the seminar/laboratory/project/ titular**

22.06.2023

Chief of works doctor engineer Urs Mariana

Chief of works doctor engineer

willes.

Date of approval in the department

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Signature of department manager

Chief of works doctor engineer Timar Adrian Vasile

Dean Signature,

University professor, doctor engineer Maerescu Cristina Maria