



No. \_\_\_\_\_ of \_\_\_\_\_

USAMV form 109010106

## 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	Agriculture
1.3. Department	II Plant culture
1.4. Field of study	Agronomy
1.5. Cycle of study <sup>1</sup>	Master
1.6. Specialization/ Study programme	Management of natural and agrotouristic resources
1.7. Form of education	Full time

### 2. Information on the discipline

2.1. Discipline name		Processing of agricultural products						
2.2. Course coordinator				Phd. Lecturer Adriana Morea				
2.3. Seminar/ laboratory/ project coordinator				Phd. Lecturer Adriana Morea				
2.4. Year of study	I	2.5. Semester	I	2.6. Evaluation type	continuous	2.7. Discipline status	Content <sup>2</sup>	DD
							Compulsoriness <sup>3</sup>	DI

### 3. Total estimated time (teaching hours per semester)

3.1. Hours per week - full time programme	2	out of which: 3.2. lecture	1	3.3. seminar/ laboratory/ project	1
3.4. Total number of hours in the curriculum	28	out of which: 3.5. lecture	14	3.6. seminar/laboratory	14
Distribution of the time allotted					hours
3.4.1. Study based on books, textbooks, bibliography and notes					32
3.4.2. Additional documentation in the library, electronic platforms and field experiences					18
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					18
3.4.4. Tutorials					13
3.4.5. Examinations					16
3.4.6. Other activities					
3.7. Total hours of individual study	97				
3.8. Total hours per semester	125				
3.9. Number of credits <sup>4</sup>	5				

### 4. Prerequisites (if applicable)

4.1. curriculum-related	Phytotechny
4.2. skills-related	The student must have knowledge regarding the characteristics of the animal and vegetable products in order to use them

### 5. Conditions (if applicable)

5.1. for the course	The course is interactive, students can ask questions about the content of the exhibition. The university discipline requires the observance of the start and end time of the course. No other activities are tolerated during the lecture, mobile phones must be switched off
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5.2. for the seminar/ laboratory/ project	In practical works it is compulsory to consult the available laboratory materials, the existing specialized bibliography and each student will draw up a project regarding the establishment and functioning of an agrotourism pension. The academic discipline is required throughout the duration of the works.
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**Note: In the case of online teaching, the teaching methods are adapted to the online conditions and platforms used.**

## 6. Cumulated specific competences

Professional competences	To know the specific language for the discipline of Processing of products of plant origin To understand the technology of processing and capitalization of plant products To place the finished products within the parameters required by the official regulations in force. To know the basic principles in the reception of the products of plant origin and their use
Transversal competences	To demonstrate the ability to implement technologies for processing and capitalizing on plant products Be interested in the professional development in the field of processing of products of plant origin To participate in the research activities in production and the research laboratories of the discipline

## 7. Discipline objectives (based on the cumulated specific competences)

7.1. General objective	Presentation of plant food technologies on each technological branch
7.2. Specific objectives	To understand the technology of processing vegetable products. To know the factors that influence the quality of the products obtained from the processing of plant products.

## 8. Content

8.1. COURSE Number of hours -	Teaching methods	Observation
Number of hours - 14 Introduction, Purpose and importance of the discipline Theoretical bases of products of plant origin The technology of obtaining semi-preserves from vegetables and fruits The technology of obtaining canned sterilized vegetables and fruits The technology of obtaining concentrated products from vegetables and fruits Technology of obtaining beverages from vegetables and fruits (fruit and vegetable juices, unfermented, fermented and unstyled, fermented and distilled alcoholic drinks) The technology of obtaining the oil The technology of obtaining sugar The flour making technology	Lecture Lecture Lecture Lecture Lecture Lecture Lecture Lecture Lecture	1 lecture = 2 hours 2 lecture 2lecture 2 lecture 2 lecture 1 lecture 2 lecture 1 lecture

8.2. PRACTICAL WORKS Number of hours -	Teaching methods	Observation
Number of hours - 14 Obtaining samples of fresh and processed vegetables and fruits for different laboratory analyzes Determination of specific mass and dry matter, soluble in vegetables and fruits, raw materials Technological calculations on obtaining finished products from the processing of vegetables and fruits The technology of obtaining canned peas and beans Technology of obtaining jams and fruit jam The technology of obtaining fruit compotes Verification of knowledge	Theoretical presentation	2 lab work (2 hours/work) 2 lab work 2 lab work 2 lab work 2 lab work 2 lab work

*Compulsory bibliography:*

1. Banu, C. (coordonator) - *Biotehnologii în industria alimentară*, Editura Tehnică, București, 2000
2. Banu, C. (coordonator) - *Biotehnologii în industria alimentară*, Editura Tehnică, București, 2004
3. Jurcoane, Stefana (coordonator) - *Tratat de biotehnologie, volumul I*, Editura Tehnică, București, 2004  
Jurcoane,
4. Stefana (coordonator) - *Tratat de biotehnologie, volumul II*, Editura Tehnică, București, 2006

Optional bibliography:

1. Mencinicopschi, Gh., Kathrein, I. Teodoru, V. - *Biotehnologii în prelucrarea produselor agroalimentare*, Editura Ceres, București, 1987

2. Zarnea, G., Mencinicopschi, Gh., Brăgărea, St. - *Bioingineria preparatelor enzimactice*, Editura Tehnică, București, 1983

## 9. Corroborating the discipline content with the expectations of the epistemic community representatives, of the professional associations and of the relevant employers in the corresponding field

In order to update the knowledge in the field of technology of industrialization of animal and vegetable products, to identify ways of modernizing and continuously improving the teaching and the content of the courses with the most current topics and practical problems, the teachers participate in the scientific events organized in the country and abroad.

## 10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation type	10.3. Percentage of the final grade
<b>10.4. Course</b>	To have knowledge regarding the technologies used in the modern biotechnology industry in order to increase the efficiency of the technological processes in the food industry and to make better use of plant raw materials.	continuous	70%
<b>10.5. Seminar/Laboratory</b>		project	30%
<b>10.6. Minimum performance standards</b>			
Mastery of scientific information transmitted through lectures and practical papers at an acceptable level. Obtaining the passing grade for the ongoing checks is a condition of promotability..			

1 Cycle of studies - choose one of the three options: Bachelor/Master/Ph.D.

2 according to the educational plan

3 Discipline status (compulsoriness) - choose one of the options - **DI** (compulsory discipline) **DO** (optional discipline) **DFac** (facultative discipline).

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

Filled in on  
04.09.2019

Course coordinator  
Phd. Lecturer Adriana Morea

Laboratory work/seminar coordinator  
Phd. Lecturer Adriana Morea

Approved by the  
department on  
05.09.2019

Head of the Department  
Lecturer PhD. Cristina-Maria Moldovan