

**SUBJECT OUTLINE****1. Information on the programme**

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine Cluj Napoca
1.2. Faculty	Food Science and Technology
1.3. Department	Food products Engineering
1.4. Field of study	Food products Engineering
1.5. Cycle of study <sup>1</sup>	Master
1.6. Specialization/ Study programme	Food Processing and Quality Control Systems
1.7. Form of education	Full time

**2. Information on the discipline**

2.1. Name of the discipline	Modern principles of Food processing 2							
2.2. Course coordinator	.Prof. Phd. Adriana Paucean							
2.3. Seminar/ laboratory/ project coordinator	Assoc. prof. Phd. Simona Man							
2.4. Year of study	II	2.5. Semester	I	2.6. Type of evaluation	sumative	2.7. Discipline status	Content <sup>2</sup>	DS
							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	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	28
Distribution of the time allotted					hours
3.4.1. Study based on book, textbook, bibliography and notes					50
3.4.2. Additional documentation in the library, specialized electronic platforms and field					20
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					30
3.4.4. Tutorials					10
3.4.5. Examinations					4
3.4.6. Other activities					5
3.7. Total hours of individual study	119				
3.8. Total hours per semester	175				
3.9. Number of credits <sup>4</sup>	7				

**4. Prerequisites (is applicable)**

4.1. curriculum-related	Food chemistry and biochemistry
4.2. skills-related	Quality of raw materials used in gastronomy Basic culinary techniques and hand tools

**5. Conditions (if applicable)**

5.1. for the lecture	Projector, presentation. In the case of the didactic activity carried out online, the teaching methods are adapted
5.2. for the seminar/ laboratory/ project	Laboratory . In the case of the didactic activity carried out online, the teaching methods are adapted

## 6. Specific competences acquired

Professional competences	C1.1 identification of the principles and methods of elaboration of the technical specifications for processes and products in the food industry C1.2 Explanation and interpretation of methods for evaluating the quality of agri-food products C2.4 Use of evaluation criteria and methods for optimizing agri-food processes
Transversal competences	CT1 Realization of complex, interdisciplinary, individual projects

## 7. Course objectives (based on the list of competences acquired)

7.1. Overall course objective	To acquire the knowledge regarding the advanced processing technologies in the milling-bakery and vegetable-fruit industry
7.2. Specific objectives	To understand the biochemistry of advanced fermentation processes To be able to interpret and analyze a technological flow To know the modern methods of analysis in the milling-bakery industry

## 8. Content

<b>8.1. LECTURE</b> <b>Number of hours – 28</b>  Biologically active compounds from plant products classifications, structures and health benefits Cereals, fruits and vegetables as functional and protective foods Modern trends to increase the nutritional value of bakery products Functional foods from cereals, vegetables and fruits. Specific technologies for obtaining functional foods from cereals, vegetables and fruits Germinated cereal technology. Functional food based on germs Modern grinding technologies and their influence on the bioactive potential and quality of cereals The scientific basis of biotechnological processes in bakery technology Modern technologies for the manufacture of bread and bakery products; automated production lines Modern technologies for the manufacture of flour products (pasta, biscuits, pastries); automated production lines	Teaching methods  Lecture, explanation, heuristic conversation	Notes  1 lectures 2 lectures 2 lectures  1 lectures  1 lectures  1 lectures  2 lectures 2 lectures 2 lectures
<b>8.2. PRACTICAL WORK</b> <b>Number of hours – 28</b> Modern analytical methods used in evaluating the quality of flours and bakery products Obtaining bakery products with increased nutritional value Dough preparation methods using bacterial starter cultures and preferences. Types of acid doughs Obtaining bakery products based on premixes Understanding Product Data Sheets Used in Industry. Development of product standards Case studies	Explanation, heuristic conversation, case study	2 practical laboratories  2 practical laboratories 2 practical laboratories 1 practical laboratory 2 practical laboratory 4 practical laboratories

Verification of knowledge. Supporting papers		1 practical laboratory
<p><i>Compulsory bibliography:</i></p> <ol style="list-style-type: none"> <li>1. Paucean Adriana, 2011, <i>Principii de baza in tehnica culinara</i>, Ed. Risoprint Cluj-Napoca</li> <li>2. Parjol, Gabriela si altii, <i>Tehnologie culinara, manual</i>, Ed. Didactica si Pedagogica, 1997, Bucuresti</li> <li>3. Berechet, Gabriela, 2006, <i>Manualul practic al bucatarului</i>, ed. Centrul National de Invatamant Turistic, Bucuresti</li> </ol> <p><i>Facultative bibliography</i></p> <ol style="list-style-type: none"> <li>1. Florea, C, Belous, M, 2004, <i>Organizarea evenimentelor si banquetingului in structuri de primire</i>, ed. Centrul National de Invatamant Turistic, Bucuresti</li> <li>2. Segal, Rodica si altii, <i>Valoarea nutritiva a produselor agroalimentare</i>, Ed. Ceres, 1983, Bucuresti</li> <li>3. Vizireanu, C., Istrati, D., 2006, <i>Elemente de gastronomie si gastrotehnie</i>, Editura Fundației universitare "Dunărea de Jos", Galați.</li> <li>4. *** Hotarare de Guvern privind aprobarea normelor de igiena a produselor alimentare, MO 866/2002</li> </ol>		

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

Course content is consistent with national professional associations specific applications

**10. Assessment**

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
<b>10.4. Lecture</b>	Correct and coherent application of the knowledge acquired in the course	examination	30%
<b>10.5. Seminar/Laboratory</b>	Assessment of practical knowledge and interpretation of results, degree of involvement, presence	test	70%
<b>10.6. Minimum performance standards</b>			
Mastering scientific information transmitted through lectures and practical work at an acceptable level			
Getting the pass mark at the end of testing the laboratory work is the condition of graduation			

<sup>1</sup> Level of study- to be chosen one of the following - Bachelor/Post graduate/Doctoral

<sup>2</sup> Course regime (content) – for bachelor level it will be chosen one of the following - **DF** (fundamental subject), **DD** (subject in the domain), **DS** (specific subject), **DC** (complementary subject).

<sup>3</sup> Course regime (compulsory level) - to be chosen one of the following - **DI** (compulsory subject), **DO** (optional subject), **DFac** (facultative subject)

<sup>4</sup> One ECTS is equivalent with 25-30 de hours of study (didactical and individual study).

Course coordinator  
Prof. Phd. Adriana Paucean



Laboratory work/seminar coordinator  
Assoc. prof. Phd. Simona Man

Filled in on  
8.09.2021

Subject coordinator  
Prof. Phd. Adriana Paucean




Approved by the  
department on  
**22.09.2021**

Head of the Department  
Prof. Phd Sevastita Muste



Approved by the Faculty  
Council on  
**28.09.2021**

Dean  
Prof. Phd. Elena Mudura

