UNIVERSITATEA DE ŞTIINŢE AGRICOLE ŞI MEDICINĂ VETERINARĂ CLUJ-NAPOCA
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No._____of _____ **USAMV form 0708020210**

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 Engineering
1.4. Field of study	Food Engineering
1.5.Cycle of study[1]	Master
1.6.Specialization/ Study programme	Gastronomy, Nutrition and Dietetics (GNDA)
1.7. Form of education	IF

2. Information on the discipline

2.1. Name of the discipline	**DESIGN OF FUNCTIONAL AND DIETARY FOODS**							
2.2. Course coordinator	**Associate professor PhD. DorinŢibulcă**							
2.3. Seminar/ laboratory/ project coordinator	**Associate professor PhD. DorinŢibulcă**							
2.4. Year of study	**II**	2.5. Semester	**III**	2.6. Type of evaluation	continuos	2.7. Discipline status	Content[2]	DS
							Compulsoriness[3]	DO

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 book, textbook, bibliography and notes					20
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					11
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[4]	5				

4. Prerequisites (is applicable)

4.1. curriculum-related	Food biochemistry, Food chemistry, Principles of human nutrition, Functional foods, Food technologies, Food marketing
4.2. skills-related	Identification, description and proper use of specific terms for food science food safety, communication in Romanian, digital skills

5. Conditions (if applicable)

5.1. for the lecture	The course is interactive; students can ask questions regarding the content of the statement. Academic discipline requires compliance of starting time and end of the course.

	Room with PC unit, video projector, projection screen, blackboard, internet connection. Development of the topic proposed in the discipline sheet and interactive discussions based on the previously announced materials and bibliography, doubled by materials presented on the video projector. In the case of the didactic activity carried out online, the teaching methods will be adapted.
5.2. for the seminar/ laboratory/ project	Academic discipline is imposed throughout the activities. Room with PC unit, video projector, projection screen, blackboard, internet connection. Students prepare reports based on themes set in the laboratory. In the case of the didactic activity carried out online, the teaching methods will be adapted.

6. Specific competences acquired

Professional competences	C3.1 Identification and operation with the specific elements of technological, nutritional and dietary projects C3.3 Trans and interdisciplinary application of the methodology specific to the design of new products C4.1 Identify and use basic principles in the design of novel foods of appropriate quality to maintain human health C4.2 Processing of specialized knowledge in order to design new food products in accordance with concrete requirements from the social environment
Transversal competences	CT1 Realization of complex, interdisciplinary, individual projects

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

7.1. Overall course objective	Making documentation related to realization new product taking into account the requirements of functional and dietary foods
7.2. Specific objectives	Explanation and interpretation of theoretical and practical content of the discipline Knowledge of product and food process concepts, development strategies Knowledge of the stages of elaboration of a project, documentation of the bibliographic material Realization of a technological flow scheme specific to the food industry using computer applications Training creative skills of students Developing effective skills testing market and promote a new product in a particular market

8. Content

8.1. LECTURE **Number of hours – 14 hours**	**Teaching methods**	**Notes**
The importance and necessity of new products in the food industry. Functional foods. Types of Functional Foods. Dietary foods. Types of Dietary Foods	Lecture, explanation, conversation, debate	2 hours
Food styles according to health. Food and disease. Eating styles by age	Lecture, explanation, conversation, debate	1 hour

Design and promotion of new products. Idea generation. Evaluation of the concept. Product prototype development. Development of technological process and packaging. Pre-commercial. Testing on the market. Introducing product manufacturing. Marketing	Lecture, explanation, conversation, debate	4 hours
Brainstorming method	Lecture, explanation, conversation, debate	1 hour
Intellectual property. Brand, definition. purposes. Consumer information labeling	Lecture, explanation, conversation, debate	3 hours
The design of the questionnaire	Lecture, explanation, conversation, debate	2 hours
Stages of marketing	Lecture, explanation, conversation, debate	1 hour

8.2. PRACTICAL WORK- PROJECT – 14 hours	**Teaching methods**	**Notes**
Stages in the project	Self-study	Number of hours – 14

Compulsory bibliography:

1. Alexe Petru, Stoica M, 2016. Elemente de proiectare a produselor alimentare noi, Ed. Univ. Dunărea de Jos, Galaţi
2. Ţibulcă, D. şi Mirela Jimborean, Alimente funcţionale de origine animală, 2013, Ed. Risoprint, Cluj Napoca
3. Costin, G., Segal, R., Alimente funcţionale - Alimentele şi sănătatea - 1999, Editura Academică, Galaţi;
4. Costin, G. M., Rodica Segal, Alimente pentru nutriţie specială, 2001, Editura Academică, Galaţi;
5. Costin, G. M. şi colab., Produse lactate funcţionale, 2007, Ed. Academică, Galaţi;
6. Banu, C. (coordonator), Alimente funcţionale, suplimente alimentare şi plante medicinale, 2010, Ed. ASAB, Bucureşti.

Optional bibliography:

1. Mogoş, V.T., Alimentatia in boli de nutritie si metabolism, 1997, Editura Didactica si Pedagogică , Bucureşti
2. Mincu, I., Segal, B., Segal, R., Orientări actuale în nutriţie, 1989, Editura Medicală, Bucureşti;
3. Costin, G., M., Produse lactate funcţionale, 1988, buletin informativ pentru industria laptelui 3,117-133;
4. Costin, G., M., Tehnologia produselor destinate alimentaţiei copiilor, 1987, Editura Tehnică, Bucureşti;
5. Banu, C., Biotehnologii în industria alimentară, 2004, Editura Tehnică, Bucureşti;
6. Costin, G. M. şi colab., Produse lactate fermentate, 2005, Ed. Academică, Galaţi;
7. Banu, C., Vizireanu, C., Dorin, S., Sahleanu, E., Gavrilă, G., 2005, Alimente, alimentaţie, sănătate, Ed. AGIR, Bucureşti
8. Segal, B., Segal, Rodica 1991, Tehnologia produselor alimentare de protecţie, Ed. Ceres, Bucureşti
9. Segal, B., Cotrău, M., Segal, Rodica 1987, Factori de protecţie prezenţi în alimente, Ed. Junimea, Iaşi
10. Mincu I., Mogoş VT., 1997, Bazele practice ale nutriţiei omului bolnav, Ed. RAI, Bucureşti
11. Negrişan G., 2005, Tratat de nutriţie, Ed. Brumar, Timişoara
12. Vizireanu C., 2001, Stiluri alimentare, Ed. Fundaţiei universitare Dunărea de Jos, Galaţi

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

Discipline must provide the ability to support a permanent standard of creation in a compartment of research - development

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade

10.4. Lecture	Correct and logical application of the learned concepts	Questionnaire	40%
10.5. Project	Applying knowledge about obtaining functional foods and dietary foods by drawing up a project	Preparation and presentation of the project	60%
10.6. Minimum performance standards			
Elaboration of a specific project for obtaining functional and dietary products with applications on different case studies			

[1] Level of study- to be chosen one of the following - Bachelor/Post graduate/Doctoral
[2] 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).
[3] Course regime (compulsory level) - to be chosen one of the following - **DI** (compulsory subject), **DO** (optional subject), **DFac** (facultative subject)
[4] One ECTS is equivalent with 25 de hours of study (didactical and individual study).

Filled in on
09.09.2021

Course coordinator
Associate Professor PhD. Dorin Ţibulcă

Laboratory work/seminar coordinator
Associate Professor PhD. Dorin Ţibulcă

Subject coordinator
Associate Professor PhD. Dorin Ţibulcă

Approved by the Department on
22.09.2021

Head of the Department
Professor PhD. Sevastiţa Muste

Approved by the Faculty Council on
28.09.2021

Dean
Professor PhD. Elena Mudura