UNIVERSITATEA DE ŞTIINŢE AGRICOLE ŞI MEDICINĂ VETERINARĂ CLUJ-NAPOCA
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No._____of _____ **USAMV–CN-0704020206**

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	Faculty of Food Science and Technology
1.3. Department	Food Engineering
1.4. Field of study	Food Engineering
1.5.Education level	Master
1.6.Specialization/ Study programme	Food Quality Management
1.7. Form of education	Full time

2. Information on the discipline

2.1. Name of the discipline	Product Design							
2.2. Course coordinator				Assoc. Prof. PhD. Teodora Emilia Coldea				
2.3. Seminar/ laboratory/ project coordinator				Assoc. Prof. PhD. Teodora Emilia Coldea				
2.4. Year of study	II	2.5. Semester	**III**	2.6. Type of evaluation	Summative	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					20
3.4.4.Tutorials					10
3.4.5.Examinations					2
3.4.6. Other activities					
3.7. Total hours of individual study	72				
3.8. Total hours per semester	100				
3.9. Number of credits[4]	4				

4. Prerequisites (is applicable)

4.1. curriculum-related	Food science and technology
4.2. skills-related	Bachelor diploma or equivalent Certificate of language competence (english)

5. Conditions (if applicable)

5.1. for the lecture	- Academic books from references - Course presentation in pptx - Logistic support: internet, videoproiector, smart table
5.2. for the seminar/ laboratory/ project	Seminar room equipped with projector; Food technologies pilot plants Safety and secure rules for laboratory/ pilot plants must be respected. The access is not allowed without safety equipment.

6. Specific competences acquired

Professional competences	C2. Apply regulations related to the manufacture of food and beverages. C5. Track food trends.
Transversal competences	CT2. Think innovatively.

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

7.1. Overall course objective	Product Design course provides knowledge's and skills in researching, designing, reviewing, planning, making, testing and evaluating of food products.
7.2. Specific objectives	▪ Advanced knowledge of the food product design ▪ Ability to development new product ▪ Ability to provide quality assurance of food chain

8. Content

8.1.COURSE **Number of hours – 14**	Methods of teaching	Observations
1. Introduction in food product design	Lectures	1 lecture (1 hours)
2.The design process	Lectures	1 lecture (1 hours)
3 Steps in product design and process development	Lectures	1 lecture (1 hours)
4 Product testing	Lectures	2 lectures (2 hour)
5 Product formulation	Lectures	2 lectures (2 hours)
6 Packaging development	Lectures	2 lectures (2 hours)
7 Process development	Lectures	1 lecture (2 hours)
8 Building the marketing	Lectures	1 lecture (1 hours)
9 Product and process specifications and marketing strategy	Lectures	1 lecture (2 hours)

8.2.PRACTICAL WORK **Number of hours – 14**		
1. Quality Function Deployment – a method for developing a design quality product.	Seminars	2 seminar (4 hours)
2. Application of a quality function deployment technique to design and develop food products	Seminars, Case study.	5 seminars (10 hours)

Compulsory bibliography:

1. Course notes.
2. Anita R. Linnemann, Catharina G.P.H. Schroën and Martinus A.J.S. van Boekel, 2011. Food product design. An integrated approach. Wageninger Academic Publishers. ISBN: 978-90-8686-173-6.
3. Jacqueline H. Beckley (Editor), Leslie J. Herzog (Editor), M. Michele Foley (Editor), 2017. Accelerating New Food Product Design and Development, Second Edition, Wiley ISBN: 978-1-119-14932-3
4. Akao, Y., ed. (1990). Quality Function Deployment, Productivity Press, Cambridge MA. Becker Associates Inc, http://www.becker-associates.com/thehouse.HTM and http://www.becker-associates.com/qfdwhatis.htm
5. Hauser, J. R. and D. Clausing (1988). "The House of Quality," The Harvard Business Review, May-June, No. 3, pp. 63-73
6. Lowe, A.J. & Ridgway, K. Quality Function Deployment, University of Sheffield, http://www.shef.ac.uk/~ibberson/qfd.html, 2001
7. Quality function deployment: A literature review.
8. Codex Alimentarius Standards (http://www.codexalimentarius.org/standards/en/)
9. European Union: European Food Safety Authority (http://www.efsa.europa.eu/)
10. Food and agriculture Organisation (http://www.fao.org/home/en/)
11. Institut of Food Science and Technology (http://www.ifst.org)

Optional bibliography:

1. Luning P.A., W.J.Marcelis, W.M.F.Jongen, Food Quality management, a techno-managerial approach, Wageningen Pres, 2002
2. *** ISO 9001:2008 Quality management systems – Requirements
3. *** ISO 22000:2005 Food safety management systems - Requirements for any organization in the food chain

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

Course curriculum meets the requirements for a qualified preparation by the high degree of applicability (eg product design for different areas of the food industry) and topical content (compliance with legal regulations, compliance with the latest standards in the field)

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Course	Students can either design and make one product or different food products	Continously (E)	Admitted / rejected
10.5. Seminar/Laboratory	Apply the principles of Quality Function Deployment to product and process design	Poster presentation	100%
10.6.Minimal standard of performance Course: Minimal standards: Admitted ; Seminars: Development and defense of the poster. When only developed and not defenced the poster, student will receive grade 5. Minimal standard: grade 5			

[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 06.09.2024

Course coordinator
Assoc. Prof. PhD. Teodora Emilia Coldea

Laboratory work/seminar coordinator
Assoc. Prof. PhD. Teodora Emilia Coldea

Subject coordinator
Prof. PhD. Elena Mudura

Approved by the
Department on
12.09.2024

Head of the Department
Assoc. Prof. PhD. Simona Man

Approved by the Faculty
Council on
27.09.2024

Dean
Prof. PhD. Elena Mudura