UNIVERSITY OF AGRONOMIC SCIENCES AND VETERINARY MEDICINE OF BUCHAREST

FACULTY OF ANIMAL PRODUCTIONS ENGINEERING AND MANAGEMENT

Aproved,
Senate
Prof. PhD Dumitru DRĂGĂTOIU

Advised,
Rector
Prof. PhD Sorin Mihai CÎMPEANU

Fundamental field: Engineering of plant and animal
Field of study: Food engineering
Master's degree program: Siguranța și biosecuritatea produselor alimentare/ Food safety and biosecurity
Form of education: Full time
Duration – years (credits): 2 (120)

CURRICULUM PLANNING

Starting with the university year 2025/2026
For the period between 2025-2027

Dean,
Prof. PhD MĂRGINEAN Gheorghe Emil

Manager of the study programs,
Associate Prof. PhD POPA Dana Cătălina

I. THE MISSION OF THE STUDY PROGRAM FOOD SAFETY AND BIOSECURITY

The MA study program for Food safety and biosecurity aims to ensure deeper knowledge and complementary training to BA graduates who are interested in today's concepts, practices and solutions in this field, as well as in developing their research capabilities.

The mission of the MA study programs in the field of food products engineering is developed according to the mission of the faculties and the university and it is presented in detail in the strategic and operational plan of the faculties.

The purpose of MA study programs is to train specialists in the field of food engineering, capabile of controlling and analysing the quality of raw materials, of the technological process and of finite food products obtained through the processing of raw materials of animal and vegetal origin.

By implementing these MA study programs we aim to increase the applied research activity in specialized laboratories, to know the newest state of the art technologies of obtaining and controlling food products, so that our graduates are trained to know and manage some production and quality control activities in specialized units.

The MA study program for Food safety and biosecurity, created according to European standards, ensures the understanding of the scientific principles which serve as fundaments for the biosecurity of food products, guaranteeing serious training in the field of quality management for the control of food products, in order to ensure the safety of the consumer.

II. THE OBJECTIVES OF THE STUDY PROGRAM FOOD SAFETY AND BIOSECURITY

General objectives

- the alignment of educational strategies, university curricula, skills developed and correlated with labor market requirements to similar national and international programs;
- developing and diversifying the educational offer in order to increase the quality of the educational process;
- continuous improvement and development as well as the alignment of curricula and acquired competences with those of higher education institutions at both national and international level;
- training of specialists in the field of Food Engineering;
- promoting the fundamental and applicative scientific research activities, the orientation towards the needs of society and connecting with the European trends in the field;
- extending international cooperation relations in the field of higher education, as well as in the field of university scientific research;
- modernizing and developing the material and financial base of the faculties;
- preserving and increasing the scientific and cultural-educational prestige of the faculties.

Specific objectives

- ensuring adequate skills in the food industry together with good adaptability to current realities;
- deepening some fundamental notions regarding the quality, the food chain, the technical and managerial principles throughout the food chain;
- understanding the scientific principles on which bio-security of food products is based;
- assessing, estimating and substantiating the importance of controlling the quality of food products in order to ensure safe food;
- a synthetic approach to some interdisciplinary aspects necessary for quality management, including food control to ensure food safety and security;
- knowledge of quality assurance requirements by applying ISO, HACCP standards, good practices in agricultural production, processing or laboratory activity;
- acquiring methods for determining consumer preferences to adapt organic food products, halal and kosher to consumer requirements;
- deepening the notion of marketing applied to food, retail systems, consumer protection;
- understanding the responsibility of the industry regarding its involvement in the health of consumers by providing safe, nutritionally, energetically and biologically balanced food;
- providing a broad and holistic perspective on methods of analysis and research in the food industry, applicable to quality assurance and food biosecurity;
- providing a thorough training in the field of legislation, governmental economic strategies on raw materials and food security; exploring and critically assessing food law within European regulations.

III. Learning outcomes

Level CNC	Knowledge	Skills	Responsibility and autonomy
7	The student/graduate understands and defines the basic principles of quality in the food industry	The student/graduate identifies analysis and control methods for the expertise of agri-food products	The student/graduate correctly manages the control points on the production flow
	The student/graduate knows the conceptual framework of process succession, traceability and its importance in food quality and safety systems.	The student/graduate applies the procedures that allow the tracking and location of the ingredient/food product throughout the production, processing and distribution chain. Selects the technological operations, their sequence and the technological parameters necessary for food production.	The student/graduate designs and implements a traceability system across the entire supply chain or a specific segment
	The student/graduate knows the legislation in the food industry	The student/graduate objectively evaluates the development and implementation of the marketing strategy. Optimally uses communication strategies and procedures with sales and purchasing partners.	The student/graduate complies with the rules of ethics and professional conduct.

IV. SKILLS ACQUIRED BY GRADUATES

Professional skills

- conducts scientific research;
- approves engineering projects;
- performs quality control on food processing;
- carry out food risk analysis;
- plan engineering activities;
- applies the HACCP method (risk analysis and critical control points);
- applies Good Manufacturing Practices (GMP).

Transversal skills:

- makes precise use of equipment, tools or equipment technological;
- identify problems;
- organizes information, objects, and resources;
- think creatively.

IV. FINALISING THE MA DEGREE PROGRAM FOOD SAFETY AND BIOSECURITY

The conditions for taking the final exam and defending the dissertation thesis are presented in the Methodology for organizing the exams for graduating studies in higher education, approved by the University Senate. According to it, in order to take the final exam, it is mandatory to receive passing grades at all disciplines foreseen in the curriculum.

NAQ positions: **214518** - EXPERT ENGINEER FOOD INDUSTRY

214535 - RESEARCH ASSISTANT IN FOOD QUALITY CONTROL

Faculty of Animal Productions Engineering And Management
Field of study: Food engineering
Master's degree program: Food safety and biosecurity
Form of education: Full time
Duration years 2 / Study Year I

RECTOR,
Prof. PhD Sorin Mihai CÎMPEANU

CURRICULUM PLANNING
Academic year: 2025-2026

No	Course title	Discipline code	Semester 1							Semester 2							Total of hours		Total of credits
			14 weeks				IS	EF	CR	14 weeks				IS	EF	CR	T	IS	
			C	PA	S	P				C	PA	S	P						
	Mandatory disciplines																		
1	Public health and food safety	Z791DOA01	2	2	-	-	144	E	8	-	-	-	-	-	-	-	56	144	8
2	Advanced applications of food safety systems principles	Z791DOS01	2	2	-	-	144	E	8	-	-	-	-	-	-	-	56	144	8
3	Advanced chemical, microbiological and toxicological control and analysis of food	Z791DOS02	2	2	-	-	144	E	8	-	-	-	-	-	-	-	56	144	8
4	Additional products used in technological processes in the food industry	Z791DOS02	-	-	-	-	-	-	-	2	1	-	-	133	E	7	42	133	7
5	Biosecurity producing raw materials of vegetable origin	Z791DOA03	-	-	-	-	-	-	-	2	2	-	-	144	E	8	56	144	8
6	Biosecurity producing raw materials of animal origin	Z791DOA04	-	-	-	-	-	-	-	2	2	-	-	144	E	8	56	144	8
	Optionales disciplines		1	1	-	-	122	C	6	2	1	-	-	133	C	7	70	255	13
	Total		**7**	**7**	**-**	**-**	**554**	**3E/1C**	**30**	**8**	**6**	**-**	**-**	**554**	**3E/1C**	**30**	**392**	**1108**	**60**
7	Economic strategies in food safety	Z791DAS01	1	1	-	-	122	C	6	-	-	-	-	-	-	-	28	122	6
8	Food safety policy and global food system	Z791DAS02	1	1	-	-	122	C	6	-	-	-	-	-	-	-	28	122	6
9	Risk assessment for food	Z791DAA01	-	-	-	-	-	-	-	2	1	-	-	133	C	7	42	133	7
10	Biorisk analysis in food	Z791DAA02	-	-	-	-	-	-	-	2	1	-	-	133	C	7	42	133	7
	Total of study year		**7**	**7**	**-**	**-**	**554**	**3E/1C**	**30**	**8**	**6**	**-**	**-**	**554**	**3E/1C**	**30**	**392**	**1108**	**60**

Notes: C – no. course hours; S – no. seminar hours; PA – no. practical assignments hours; P – no. project hours; IS – individual study; CR – credits; EF – evaluation form: E – exam, C – colloquy; T – no. teaching hours; Discipline code: FS – specialization abbreviation/ no. order subject / course category: S – of synthesis, A – of further studying / 1-4 – semester.

DEAN,
Prof.PhD. MĂRGINEAN Gheorghe Emil

Faculty of Animal Productions Engineering And Management
Field of study: Food engineering
Master's degree program: Food safety and biosecurity
Form of education: Full time
Duration years 2 / Study Year II

RECTOR,
Prof. PhD Sorin Mihai CÎMPEANU

CURRICULUM PLANNING
Academic year: 2026-2027

No	Course title	Discipline code	Semester 1							Semester 2							Total of hours		Total of credits
			14 weeks				IS	EF	CR	14 weeks				IS	EF	CR	D	SI	
			C	PA	S	P				C	PA	S	P						
	Mandatory disciplines																		
1	Quality assurance and food safety for products of vegetable origin	Z792DOA01	2	3	-	-	180	E	10	-	-	-	-	-	-	-	70	180	10
2	Quality assurance and food safety for products of animal origin	Z792DOA02	2	3	-	-	180	E	10	-	-	-	-	-	-	-	70	180	10
3	Good manufacturing practices (GMP) in food processing	Z792DOS01	2	2	-	-	194	E	10	-	-	-	-	-	-	-	56	194	10
4	Academic ethic and integrity	Z792DOS02	-	-	-	-	-	-	-	1	-	-	-	111	E	5	14	111	5
5	Scientific research activity	Z792DOS03	-	-	-	-	-	-	-	-	3	-	-	133	C	7	42	133	7
6	Practical activity	Z792DOS04	-	-	-	-	-	-	-	-	7	-	-	152	C	10	98	152	10
7	Elaboration of the dissertation	Z792DOS05	-	-	-	-	-	-	-	-	5	-	-	130	C	8	70	130	8
Total of study year			**6**	**8**	**-**	**-**	**554**	**3E**	**30**	**1**	**15**	**-**	**-**	**526**	**1E/3C**	**30**	**420**	**1080**	**60**
Dissertation exam		Z792DOS06	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**E**	**10**	**-**	**-**	**-**

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Prof.univ.PhD. MĂRGINEAN Gheorghe Emil

STRUCTURE OF THE UNIVERSITY YEAR (WEEKLY)

Year	Teaching activities		Exam sessions			Practice	Holidays		
	1st sem.	2nd sem.	Winter	Summer	Reexaminations		Winter	Spring	Summer
I	14	14	3	3	1	-	4	1	13
II	14	14	3	1	1	14	4	1	-

NUMBER OF HOURS AND RATIO C/S. P.A

Study year/sem.	Total number of hours/week	Type of training				Ratio C/S. P.A
		C	S	A	P	
1st sem.	14	7	-	7	-	1/1
2nd sem.	14	8	-	6	-	1.33/1
Media an I	**14**	**7.5**	**-**	**6.5**	**-**	**1.15/1**
3rd sem.	14	6	-	8	-	1/1,33
4th sem.	16	1	-	15	-	1/15
Average grade for the 2nd year	**15**	**3,5**	**-**	**11,5**	**-**	**1/3,28**

DISTRIBUTION OF ECTS POINTS AND EVALUATION TYPES

Study year/sem.	Number of credits	Evaluation form		
		E	C	P
I.1	30	24	6	-
I.2	30	23	7	-
Total 1st year	**60**	**47**	**13**	**-**
II.3	30	30	-	-
II.4	30	5	25	-
General TOTAL number	**120**	**82**	**38**	**-**

PRACTICE AND WRITING THE DISSERTATION PAPER

Year	Number of weeks	ECTS points for practice periods and writing of the dissertation paper	% from the total number of weeks
I	-	-	**-**
II	14	18	**50.00**
Total	**14**	**18**	**25.00**

General evaluation I

Disciplines	No. of actual hours		Total		No. of ECTS point		Total	
	1st year	2nd year	hours	%	1st year	2nd year	ECTS points	%
Mandatory	322	420	**742**	**91.38**	47	60	**107**	**89.17**
Optional	70	-	**70**	**8.62**	13	-	**13**	**10.83**
Total	**392**	**420**	**812**	**100**	**60**	**60**	**120**	**100**

General evaluation II

Hours per discipline categories

Disciplines	No. of actual hours				Total	
	1st sem.	2nd sem.	3rd sem.	4th sem.	hours	%
Synthsis (DS)	140	-	56	224	**420**	**51,72**
Deepening (DA)	56	196	140	-	**392**	**48,28**
TOTAL	**196**	**196**	**196**	**224**	**812**	**100**

ECTS points per discipline categories

Disciplines	No. of actual hours				Total	
	1st sem.	2nd sem.	3rd sem.	4th sem.	hours	%
Synthsis (DS)	22	-	10	30	**62**	**51,67**
Deepening (DA)	8	30	20	-	**58**	**48,33**
TOTAL	**30**	**30**	**30**	**30**	**120**	**100**

Table CONTAINING THE INDICATORS ON ORGANIZING THE MASTERS DEGREE PROGRAM FOOD SAFETY AND BIOSECURITY

No.	INDICATOR	DESCRIPTION
1.	Type of the masters degree program (professional/research/teaching)	Professional
2.	Duration of the masters degree program	2 years – 4 sem.
3.	Minimum number of mandatory ECTS points	120 ECTS
4.	Duration of a semester	14 weeks
5.	Minimum number of weekly classes (full time in semesters 1-3)	14,00 hours
6.	Minimum number of teaching classes (full time and part time activities) from the curricula for the entire length of the study program	812 hours
7.	Number of disciplines in a semester (for semesters 1-3)	min. 3 – max 4
8.	Number of ECTS point for a certain discipline	min. 5 – max. 10
9.	Minimum time of professional practice	98 hours/14 weeks
10.	Number of practice ours for the dissertation	70 hours/5 weeks
11.	Number of suplementary ECTS point awarded for the dissertation	10 ECTS
12.	Ratio between the number of class hours and the number of applications for full time disciplines	1,04
13.	Percentage of the number of exams in the total number of final evaluations	66.67%
14.	Number of weeks for the exam sessions in each semester	3 weeks
15.	Number of weeks for reexaminations	2 weeks
16.	Maximum number of students in each series	50
17.	Maximum number of students in a group	33
18.	The ratio between the number of students and the number of teachers teaching the program	

*These account also for practice periods and writing the dissertation