UNIVERSITY OF AGRONOMIC SCIENCES AND VETERINARY MEDICINE OF BUCHAREST

FACULTY OF ANIMAL PRODUCTIONS ENGINEERING AND MANAGEMENT

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)

Aproved,
Senate
Prof. PhD Dumitru DRĂGĂTOIU

Advised,
Rector
Prof. PhD Sorin Mihai CÎMPEANU

CURRICULUM PLANNING

Starting with the university year 2024/2025
For the period between 2024-2026

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. SKILLS ACQUIRED BY GRADUATES

General skills

The Food Safety and Biosecurity Masters degree program provides the framework for acquiring knowledge and assessing competencies related to the valorisation of engineering and technical and food-industry related skills, using techniques and technologies for controlling food products in order to ensure consumer safety and security, while the program also offers better and quicker insertion into the labor market.

Specific cognitive abilities

- An integrated use of the conceptual and methodological apparatus, in incompletely defined situations, in order to solve new theoretical and practical problems
- Using tangible and relevant criteria and evaluation methods, to formulate value judgments and to base constructive decisions
- The elaboration of professional and/or research projects, using an innovative variety of quantitative and qualitative methods

Professional skills

- Identifying and knowing the specific elements of food production
- Coordinating processes, using the food industry equipment and installations in order to protect food innocuity
- Identifiying and monitoring the natural and anthropic factors affecting food and food safety
- The knowledge and use of techniques and methods of food quality control
- Creating and implementing projects in compliance with specific ethics in the food industry
- Management in the food industry

Transversal skills

- Making decisions according to the values and ethical principles specific to the food industry, in terms of autonomy and professional independence
- Using interrelation techniques within a team; amplifying and enhancing the empathetic skills of interpersonal communication and assuming some specific tasks in the group activity in order to treat/solve individual/group conflicts, as well as optimal time management
- Self-assessment of the needs of continuous training in order to permanently adapt the professional skills to the dynamics of the labor market and the organizational environment; effective use of various pathways and learning techniques

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: Quality specialist; Research engineer in food quality control; Research assistant in food quality control; Researcher in food quality control; food industry engineer and consultant; Engineer adviser in the food industry; Manager; Expert in accessing European structural and cohesion funds; Teacher in high school, post-secondary and university education.

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: 2024-2025

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	FS01A1.0	2	2	-	-	144	E	8	-	-	-	-	-	-	-	56	144	8
2	Advanced applications of food safety systems principles	FS02S1.0	2	2	-	-	144	E	8	-	-	-	-	-	-	-	56	144	8
3	Advanced chemical, microbiological and toxicological control and analysis of food	FS03S1.0	2	2	-	-	144	E	8	-	-	-	-	-	-	-	56	144	8
4	Additional products used in technological processes in the food industry	FS04A0.2	-	-	-	-	-	-	-	2	1	-	-	133	E	7	42	133	7
5	Biosecurity producing raw materials of vegetable origin	FS05A0.2	-	-	-	-	-	-	-	2	2	-	-	144	E	8	56	144	8
6	Biosecurity producing raw materials of animal origin	FS06A0.2	-	-	-	-	-	-	-	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	FS07aS1.0	1	1	-	-	122	C	6	-	-	-	-	-	-	-	28	122	6
8	Food safety policy and global food system	FS07bS1.0	1	1	-	-	122	C	6	-	-	-	-	-	-	-	28	122	6
9	Risk assessment for food	FS08aA0.2	-	-	-	-	-	-	-	2	1	-	-	133	C	7	42	133	7
10	Biorisk analysis in food	FS08bA0.2	-	-	-	-	-	-	-	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: 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	D	SI	
			C	PA	S	P				C	PA	S	P						
	Mandatory disciplines																		
1	Quality assurance and food safety for products of vegetable origin	FS01A3.0	2	3	-	-	180	E	10	-	-	-	-	-	-	-	70	180	10
2	Quality assurance and food safety for products of animal origin	FS02A3.0	2	3	-	-	180	E	10	-	-	-	-	-	-	-	70	180	10
3	Good manufacturing practices (GMP) in food processing	FS03S3.0	2	2	-	-	194	E	10	-	-	-	-	-	-	-	56	194	10
4	Academic ethic and integrity	FS04S0.4	-	-	-	-	-	-	-	1	-	-	-	111	E	5	14	111	5
5	Scientific research activity	FS05S0.4	-	-	-	-	-	-	-	-	3	-	-	133	C	7	42	133	7
6	Practical activity	FS06S0.4	-	-	-	-	-	-	-	-	7	-	-	152	C	10	98	152	10
7	Elaboration of the dissertation	FS07S0.4	-	-	-	-	-	-	-	-	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			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**E**	**10**	**-**	**-**	**-**

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.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 points in a semester	30 ECTS
9.	Number of ECTS point for a certain discipline	min. 5 – max. 10
10.	Minimum time of professional practice	98 hours/14 weeks
11.	Number of practice ours for the dissertation	70 hours/5 weeks
12.	Number of suplementary ECTS point awarded for the dissertation	10 ECTS
13.	Ratio between the number of class hours and the number of applications for full time disciplines	1,04
14.	Percentage of the number of exams in the total number of final evaluations	66.67%
15.	Number of weeks for the exam sessions in each semester	3 weeks
16.	Number of weeks for reexaminations	2 weeks
17.	Maximum number of students in each series	50
18.	Maximum number of students in a group	33

*These account also for practice periods and writing the dissertation