



Nr. _____ din _____

Form code USAMV - 0704010106

SUBJECT OUTLINE

Information on the programme

1.1. Higher Education Institution	University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca
1.2. Faculty	Faculty of Food Science and Technology
1.3. Department	Food Science
1.4. Field of study	Food Engineering
1.5. Education level	Cycle 2. Master studies
1.6. Specialization/ Study Program	Food Quality Management
1.7. Teaching Form	Full time

2. Course Characteristics

2.1. Name of the course	Biological hazard assessment and control in food quality management							
2.2. Course leader	Assoc. Prof. PhD. Carmen Rodica Pop							
2.3. Coordinator of the laboratory/seminar activity	Assoc. Prof. PhD. Carmen Rodica Pop							
2.4. Year of study	I	2.5. Semester	II	2.6. Type of Evaluation	Summative	2.7. Course regime	Content ²	DS
							Level of compulsory ³	DI

3. Total estimated time (hours/semester for the teaching activities)

3.1. Number of hours / week – frequency form	3	of which care: 3.2. course	1	3.3. seminar/ laboratory/ project	2
3.4. Total hours in the curricula	42	Of which: 3.5. course	14	3.6. seminar/laboratory	28
Distribution of time					hours
3.4.1. Study based on handbook, notes, bibliography					20
3.4.2. Extra documentation in the library, on specific electronic platforms and on field					20
3.4.3. Prepare the seminars / laboratories / projects, theme, essays, reports, portfolios					26
3.4.4. Tutorial					22
3.4.5. Examination					20
3.4.6. Other activities					
3.7. Total hours of individual study	108				
3.8. Total hours per semester	150				
3.9. Number of ECTS ⁴	6				

4. Prerequisites (is applicable)

4.1. curriculum-related	Getting base of: Management systems, Biochemistry food, Food Chemistry, Food Microbiology,
4.2. skills-related	The student must have knowledge of leadership throughout the organization in a planned and systematic according to principles of quality management and creating a framework for continuous improvement of internal processes.

5. Conditions (where is the case)

5.1. for the lecture	Teaching manuals: EFSA's EU-FORA lectures on Microbiological risk assessment
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	<p>Lecture notes: pptx</p> <p>Course presentation in pptx format: course holder: Assoc. Prof. PhD. Carmen Rodica Pop.</p> <p>Logistic support: video projector, interactive whiteboard and PowerPoint presentations.</p> <p>Participation in a minimum of 50% of courses is a condition for participation in the exam.</p> <p>The course is interactive, the student can participate directly through questions and comments regarding the content exposure</p>
5.2.for the seminar / laboratory / project development	<p>Teaching manuals:</p> <p>Carmen R. Pop, Ancuta M. Rotar. Microbiologie generala, indrumator de lucrari practice; Editura Mega, Cluj- Napoca, 2017, ISBN 978-606-543-897-2</p> <p>Pop Carmen R., Rotar Ancuta M. Microbiologie speciala, MEGA, CLUJ-NAPOCA, ROMANIA, 2021, ISBN 978-606- 020-426-8</p> <p>Lecture notes: additional explanations, thematic discussions, debates.</p> <p>Place of laboratory: USAMV-ICAR, Microbiology Laboratory – room 25.</p> <p>Laboratory equipment: Photon microscope; UV lamp; Thermostat; gas connection; related facilities (autoclave, oven, specific utensils).</p> <p>Specific laboratory reagents/supplies: culture media, ethyl alcohol, dyes for making microscopic preparations, and slides.</p> <p>Participation in 100% laboratory/seminar work is a condition for the exam participation.</p> <p>Practical and project work conducted on related topics, in conjunction with the information from the course, encouraging independent thinking and self are students.</p> <p>Observe the academic discipline and learning outcomes are explained and discussed with the students in terms of their relevance for specific skills training, professional and transversal.</p>

6. Specific acquired competences

Professional competences	<p>C1. Conduct scientific research</p> <p>C3 Apply Good Manufacturing Practices (GMP)</p> <p>C6. Evaluate the quality standards</p>
Transversal competence	

7. Subject Objectives (as a result of the specific acquired competences)

7.1. Overall course objective	<p>Subject Discipline (DS) of advanced knowledge that enables the development of knowledge on food poisoning. Together with the other subjects in the curriculum, it ensures the implementation and formation of complex concepts regarding the main transmissible diseases through bacterial, viral, prion and parasitic etiological agents.</p> <p>Also, it provides advanced knowledge on the implementation of quality management systems and identifies potential risks.</p>
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7.2. Specific objectives	<p>Obtaining learning results that aim at the formation of skills and abilities that are based on the correlation of the information received with those acquired in other disciplines (e.g. Microbiology, Biotechnology, Meat and milk technology, etc.).</p> <p>Development of the documents specific by quality management standards in force.</p> <p>The course presents concepts, principles, methods and techniques of total quality management and potential risks biological</p>
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8. Content

Crt. No.	8.1. COURSE Number of hours – 14	Methods of teaching	Observations
		Lectures	1 lecture
1.	Microbiological risk assessment within the EU. Legislative framework and the role of authorities	Lectures, case studies, Open discussion	1 lecture (2 hours)
2.	Terminology. Microbiological hazard versus microbiological risk. Risk factors	Lectures, case studies, Open discussion	1 lecture (2 hours)
3.	The four steps of microbiological risk assessment: hazard identification, hazard characterization, exposure assessment and risk characterization.	Lectures, case studies, Open discussion	3 lectures (6 hours)
4.	Microbiological risk communication. Microbiological risk management	Lectures, case studies, Open discussion	2 lectures (4 hours)

Crt. No.	8.2. PRACTICAL WORK Number of hours – 28	Teaching Method: Case Study	Observations
1.	Microbiological hazard identification characterization	Case studies, simulation scenarios, group and individual work	6 hours
2.	Microbiological hazard characterization	Case studies, simulation scenarios, group and individual work	6 hours
3.	Microbiological exposure assessment	Case studies, simulation scenarios, group and individual work	4 hours
4.	Microbiological risk assessment	Case studies, simulation scenarios, group and individual work	6 hours
5.	Microbiological risk management and communication	Case studies, simulation scenarios, group and individual work	6 hours

Compulsory bibliography

1. Lecture notes – 2024, Assoc. Prof. PhD. Carmen Rodica Pop
2. EFSA's EU-FORA lectures on Microbiological risk assessment
3. Gabriella Caruso, Giorgia Caruso, Pasqualina Lagana, Antonino Santi Delia, Salvatore Parisi, Caterina Barone Melcame, Francesco Mazzù (2015); Microbial Toxins and Related Contamination in the Food Industry; Springer
4. Georgi Popov, Bruce K. Lyon, Bruce Hollcroft (2016), Risk Assessment: A Practical Guide to Assessing Operational Risks, John Wiley et Sons Inc.
5. Apostu S. (2009) Managementul calității totale, Editura Risoprint Cluj-Napoca

Optional bibliography

1. P.A. Luning, W.J. Marcelis, W.M.F. Jongen, (2008) – Managementul calității alimentelor o abordare tehnomanagerială
2. Biological Risk Engineering Handbook: Infection Control and Decontamination (2016); editors Martha J. Boss, Dennis W. Day;



3. Plant Defence: Biological Control (2011) editors Jean Michel Mérillon, Kishan Gopal Ramawat; Springer

9. Correlations between the subject against the expectations of the epistemic community representatives, of the professional associations and employers' representatives in the domain

The course has a similar content compared with other European universities courses and takes into account the level of preparation of students.
The course is important / fundamental for the development of working skills as future specialists in the graduated field.
Course curriculum meets the requirements for a qualified preparation by the high degree of applicability and topical content (compliance with legal regulations, compliance with the latest standards in the field). Achieving the teaching objective with interdisciplinary implications.

10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation methods	10.3. Percent of the final grade
10.4. Course	Evaluation the knowledge acquired	Oral examinations	40%
		Activity during lectures	10%
10.5. Seminar/Laboratory	Evaluation the knowledge acquired, evaluation the practical knowledge, degree of involvement and individual study	Oral presenting of an individual project	40%
		Activity during laboratory work	10%
10.6. Minimal standard of performance: Knowledge 50% of the information contained in the course. 100% attendance at practical work / seminars is mandatory. Attendance at 50% courses is a condition for entering the exam.			

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)¹

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. Carmen Rodica Pop

Laboratory work/seminar coordinator
Assoc. Prof. PhD. Carmen Rodica Pop

Subject coordinator
Professor PhD. Ancuta M. Rotar

Approved by the
Department on
12.09.2024

Head of the Department
Professor PhD. Ramona Suharoschi



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Approved by the Faculty
Council on
27.09.2024

Dean
Professor PhD. Elena Mudura