UNIVERSITATEA DE ŞTIINŢE AGRICOLE ŞI MEDICINĂ VETERINARĂ CLUJ-NAPOCA
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No._____of _____ USAMV 0704020102

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	Food Science and Technology
1.3. Department	Food Science
1.4. Field of study	Food Science
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	**Aplication of ISO 17025 in agri-food laboratories**							
2.2.Course coordinator				**Prof.PhD Maria Tofană** **Lecturer PhD Elena-Suzana Biris-Dorhoi**				
2.3.Seminar/ laboratory/ project coordinator				**Prof.PhD Maria Tofană** **Lecturer PhD Elena-Suzana Biris-Dorhoi**				
2.4. Year of study	II	2.5. Semester	**I**	2.6. Type of evaluation	continuous	2.7. Discipline status	Content[2]	DS
							Compulsoriness[3]	CD

3. Total estimated time (teaching hours per semester)

3.1. Hours per week –full time programm	**4**	out of which: 3.2.lect	**2**	3.3. seminar/ laboratory/ project	**2**
3.4. Total number of hours in the curricul	**56**	Out of which: 3.5.lec	**28**	3.6. seminar/laboratory	**28**
Distribution of the time allotted					**hours**
3.4.1. Study based on book, textbook, bibliography and notes					**35**
3.4.2. Additional documentation in the library, specialized electronic platforms and field					**12**
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					**33**
3.4.4. Tutorials					**34**
3.4.5. Examinations					**20**
3.4.6. Other activities					**50**
3.7. Total hours of individual study	**184**				
3.8. Total hours per semester	**240**				
3.9. Number of credits[4]	**8**				

4. Prerequisites (is applicable)

4.1. curriculum-related	Food chemistry, analytical chemistry, food control andsafety
4.2. skills-related	Identification, description and appropriate use of specific concepts of food science and food safety

5. Conditions(if applicable)

5.1.for the lecture	Projector, ppt presentation Internet connection for online presentation The course is interactive; students can ask questions regarding the content of lecture.Academic discipline requires compliance with the start and end of the course. We do not allow any other activities during the lecture; mobile phones will be turned off.

5.2 project	During practical works, each student will develop an individual activity with laboratory materials (made available in the book that describes the laboratory work). Academic discipline is imposed throughout the course of practical works.

6. Specific competences acquired

Professional competences	C3.1 Learning and deepening of the chemical, biochemical and microbiological composition of foods in correlation with hygiene C3.2 Use of knowledge regarding methods: experimental, expertise, sociological, statistical to assess the level of quality and safety of agro-food products C3.3 Use of modern food quality methods for food safety and quality assessment C3.4 Use of the most modern techniques, standards and evaluation and analysis criteria for food quality and safety, authenticity and traceability C3.5 Development, implementation and validation of new control methods for food quality and safety
Transversal competences	● Scientific research and education in agrifood sciences. ● Providing inputs and integrated services for food industry ● Applying strategies of perseverance, rigor, efficiency and responsibility at work, punctuality and accountability for the results of personal activities, creativity, commonsense, analytical and critical thinking, solving matters etc, by principles, norms and values of the professional ethics code in food area ● Applying networking techniques in a team; amplification and shaping of empathic capacities by interpersonal communication and the assumption of specific tasks in group activities with a view to conflict individual/groupre solution, as well as optimal management of time

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

7.1.Overall course objective	Rationalizing the necessity of implementing systems for quality assurance in agri-food laboratories
7.2. Specific objectives	Highlighting the importance of certified analysis methods; intra- and interlaboratories method valitadation; auditing in agro-food laboratories

8. Content

8.1.LECTURE **Number of hours – 28**	Teaching methods	Notes
International standards for agro-food laboratories.		2lectures
Management requirements of ISO 17025 for agro-food laboratories – e.g. management system, control of documents and records, corrective and preventive actions, complaints, non-conformities in analysis.	Lecture, heuristic conversation, debate, algorithmic, case study, directedobservation	3lectures
Technical requirements of ISO 17025 for agro-food laboratories – human resources, method validation, traceability, assurance of quality results.		3 lectures
Internal audit of the management system of laboratory	Lecture, heuristic conversation, debate, algorithmic, case study, directed observation	2 lectures
Evaluation and certification of agro-food laboratories		2 lectures
Correspondence between ISO 17025:2005 and ISO 9001: 2000		2 lectures

8.2. PRACTICAL WORK **Number of hours– 28**		
Case studies – ensuring control of documents and records, corrective and preventive actions, non-conformities in food analysis	Conversation, argumentation, debate	3 lectures
Case studies – intra- and interlaboratories method valitadation, traceability, assurance of quality results	Debate, algorithmic, case study, heuristic conversation	3 lectures
Case studies – internal audit	Learning by discovery, debate, case study, conversation, argumentation	2 lectures
Case study – example of a procedure of method validation		2 lectures
Case study – example of a procedure for corrective and preventive actions		2 lectures
Case study – example of a procedure for document control		1 lecture
Knowledge verification.		1 lecture

Compulsory bibliography:

1. Luning P.A., W.J. Marcelis, W.M.F.Jongen, Food Quality management, a techno managerial approach, Wageningen Pres, 2002
2. Early R., Guide to quality management systems for the food industry, 1995, Springer Science + Bussiness Media, LLC, New York

Optional bibliography:

1. FromanB. ..ManualulCalitatii., Ed. Tehnic_, Bucure_ti, 1998.
2. Multon J.L., La Qualite Des Produits Alimentaires, Technique & Documentation .Lavoisier, 1994
3. ASRO - ManagementulCalităţiişiasigurareaCalităţii .Colecţie de Standarde

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

Course content is congruent with the applications of professional national specific companies.
In order to identify ways of modernization and continuous improvement of teaching and course content with the current issues and practical problems, teachers attend the annual meeting of the Association of Food Industry Specialists in Romania, where they meet with specialists from the private sector of food industry and with teachers from other higher education institutions in the country. Meetings aimed identifying the needs and expectations of employers in the field and to coordinate the curricula with similar programs in other higher education institutions.

10. Assessment

Type of activity	10.1.Assessment criteria	10.2.Assessment methods	10.3.Percentage of the final grade
10.4. Lecture	Logic, correct and coherent application of the concept learned	Continuous assessment	70%
10.5. Seminar/Laboratory	Ability to appropriate interpret the result obtained from food safety and control studies/analyses	Continuous assessment	30%
10.6. Minimum performance standards			
.To explain the correct concepts and to be able to interpret results obtained from different analysis.			

[1] Education levels- choose of the three options: Bachelor/*Master/Ph.D.
[2] Discipline status (content)- for the undergraduate level, choose one of the options:-**FD** (fundamental discipline), **BD** (basic discipline), **CS** (specific disciplines-clinical sciences), **AP** (specific disciplines-animal production),**FH** (specific disciplines-food hygiene),**UO** (disciplines based on the university's options).
[3/] Discipline status (compulsoriness)- choose one of the options – **CD**(compulsory discipline) **OD** (optional discipline) **ED**(elective discipline).
[4] One credit is equivalent to 25-30 hours of study (teaching activities and individual study).
[5/] *Disciplines: AK- Advanced knowledge, CT- Complementary Training, S- Synthesis

Filled in on
08.09.2021

Course coordinator
Prof.PhD Maria Tofană
Lecturer PhD Elena-Suzana Biris-Dorhoi

Laboratory work/seminar coordinator
Prof.PhD Maria Tofană
Lecturer PhD Elena-Suzana Biris-Dorhoi

Subject coordinator

Approved by the
Department on 22.09.2021

Head of the Department
Prof. PhD Ramona Suharoschi

Approved by the Faculty
Council on 28.09.2021

Dean
Prof. PhD Elena Mudura