No._____of _____ **USAMV form 0701030113**

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 Engineering
1.4. Field of study	Food Engineering
1.5.Education level	Bachelor
1.6.Specialization/ Study programme	Technology of agricultural products processing
1.7. Form of education	Full time

2. Information on the discipline

2.1. Name of the discipline	HYGIENE IN FOOD COMPANIES							
2.2. Course coordinator	**Associate professor PhD. Dorin ŢIBULCĂ**							
2.3. Seminar/ laboratory/ project coordinator	**Lecturer PhD. Melinda FOGARASI**							
2.4. Year of study	III	2.5. Semester	VI	2.6. Type of evaluation	continuous	2.7. Discipline status	Content[2]	DD
							Compulsoriness [3]	DI

3. Total estimated time (teaching hours per semester) **28 hours**

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					18
3.4.2. Additional documentation in the library, specialized electronic platforms and field					10
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					9
3.4.4.Tutorials					3
3.4.5.Examinations					7
3.4.6. Other activities					0
3.7. Total hours of individual study	47				
3.8. Total hours per semester	75				
3.9. Number of credits[4]	3				

4. Prerequisites (is applicable)

4.1. curriculum-related	Food biochemistry, Food microbiology, Food technology
4.2. skills-related	Identify, describe and use appropriately the specific terms related to food science and food safety. General knowledge of food engineering, communication in Romanian, digital skills

5. Conditions (if applicable)

5.1. for the lecture	The course is interactive, students can ask questions about the content of the presentation. Academic discipline requires compliance with the start and end of the course. Classroom equipped with PC unit, video projector, projection screen, blackboard. No other activities are tolerated during the lecture, mobile phones are switched off. Attendance required at the course: minimum 50%. In the case of carrying out didactic activities online, the teaching methods will be

	adapted.
5.2. for the seminar/ laboratory/ project	For practical work, it is mandatory to consult the practical guide. Each student will participate in the practical work. Academic discipline is required throughout the work. The outfit must be appropriate (white robe, cap, disposable cover dispensers, gloves). Pilot station equipped with PC unit, video projector, projection screen, blackboard, equipment, machinery, utensils, raw materials, auxiliaries, materials. Visits to food industry units Presence required: 100% (absences must be recovered). In the case of carrying out didactic activities online, the teaching methods will be adapted.

6. Specific competences acquired

Professional competences	**C1.1.** Description and use of basic concepts, theories and methods in the hygiene of agri-food companies regarding the role of hygiene and sanitation during food processing **C1.3.** Application of basic principles and methods in the hygiene of agri-food companies to solve engineering and technological problems, including those related to food safety **C5.1.** Identification of specialized terminology regarding the quality, standards and hygiene of food products in order to collaborate and cooperate with the responsible institutions in the field of food quality and safety **C5.2.** Identify institutional responsibilities related to food safety and consumer protection **C5.5.** Creating multi-institutional teams designed to find and implement solutions to specific food quality and safety problems **C6.3.** Establishing specific problems and risks related to the extension activity
Transversal competences	**CT1** Applying strategies of perseverance, rigor, efficiency and responsibility in work, punctuality and taking responsibility for the results of personal activity, creativity, common sense, analytical and critical thinking, problem solving, etc., based on the principles, norms and values of the code of professional ethics in the food field.

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

7.1. Overall course objective	Documentation and awareness of those who will work in the field of food industry, the need to apply hygiene measures, since the design of enterprises
7.2. Specific objectives	Acquiring the theoretical and practical notions of the discipline Training in the handling of laboratory utensils and equipment in order to perform sanitation, air control and hygiene tests Knowledge and application of hygiene norms specific to food industry units Professional development by engaging in investigations regarding the observance of hygiene norms on the quality of the finished product Involvement of students in scientific activities and innovative research Developing the ability to integrate, communicate and work in a team Developing the team's coordinating spirit Development of organizational capacity in carrying out activities

8. Content

8.1. LECTURE **Number of hours – 14**	Teaching methods	Notes
Cap. I Hygiene of cutting points, slaughterhouses, refrigerators and meat factories 1. Hygiene control before the start of the production process. 2. Hygiene during the technological process. 3. Sanitizing the unit at the end of the production program. 4. Hygiene of the working personnel in the meat processing units.	Lecture, heuristic conversation, explanation	3 hours

5. Hygiene rules when handling meat and meat products. 6. Hygiene rules for the transport of meat and meat products. 7. Hygiene rules for the functioning of social groups (locker rooms, toilets, dining rooms) 8. Sanitation in meat processing units		
Cap. II Hygiene rules for the location and operation of milk processing units 1. Rules regarding the location, construction and equipment 2. Sanitation in milk processing units 3. Sanitation and disinfection of social and health groups 4. Sanitation and disinfection of production and storage spaces 5. Sanitation and disinfection of milk and dairy products 6. Sanitation and disinfection of installations and equipment	Lecture, heuristic conversation, explanation	4 hours
Cap. III Sanitation in milling and bakery units 1. Mechanical cleaning 2. Washing 3. Disinfection 4. Rinsing 5. Drying 6. Cleaning and sanitation control 7. Hygiene of machinery, equipment and utensils 8. Sanitation and disinfection of production and storage spaces 9. Hygiene of social-sanitary spaces	Lecture, heuristic conversation, explanation	4 hours
Cap. IV Disinfection, disinsection, rodent control (DDD) in the food industry 1. Disinfection. 2. Disinsection (insect control). 3. Pest control (rodent control). 4. Labor protection measures in D.D.D. 5. Economic damage caused by rodents	Lecture, heuristic conversation, explanation	3 hours

8.2. PRACTICAL WORK **Number of hours – 14**	Theoretical presentation of practical works	1 lab work (2 hours/ work)
Labor protection rules for food sectors. National and European food hygiene legislation.	instructing	1 hour
Hygiene norms imposed by the legislation on the location, construction and equipment of meat industrialization units.	Practical demonstration, observation, conversation, field visit	2 hours
Hygiene standards for milk collection, transport and processing units. Decontamination of mechanical milking installations and milk collection and transport vessels (visit to food industry units).	Practical demonstration, observation, conversation, field visit	2 hours
Hygiene standards in milling and bakery units. Utensils and materials used to carry out these operations (visit to food industry units).	Practical demonstration, observation, conversation, field visit	2 hours
Hygiene standards specific to the canned vegetable and fruit industry.	Practical demonstration, observation, conversation, field visit	2 hours
Hygiene norms specific to public and collective food units (location and construction of public food units, endowment with equipment). Norms for the operation of public and collective catering units. Cleaning and washing in public and collective catering establishments.	Practical demonstration, observation, conversation, field visit	2 hours

Staff hygiene (visit).		
Means for washing and disinfection. Control of washing and disinfection solutions in food industry units (laboratory). Washing solution recipes. Recipes for disinfection solutions.	Practical demonstration, observation, conversation, field visit	2 hours
Checking practical knowledge - survey		1 hour

Compulsory bibliography:

1. Melinda Fogarasi, Dorin Ţibulcă, 2020, Lucrări practice de igiena societăţilor agroalimentare, Editura Mega, Cluj-Napoca.
2. Ştefca Gheorghe, 2013, Igiena unităţilor de industrie alimentară Ed. a 5-a, rev. şi adăugită, Editura Risoprint, Cluj-Napoca
3. Ştefca Gheorghe, Adriana Paula David, 2009, Igienizarea unităţilor de industrie alimentară, Editura Risoprint, Cluj-Napoca
4. Ştefca Gheorghe, Cristina Hegeduş, 2008, Ghid practic de igienă, Editura Risoprint, Cluj-Napoca.

Optional bibliography:

1.Apostu S., Mihaela Anca Rotar, 2002, Lucrări practice de microbiologie alimentară, Editura Risoprint, Cluj-Napoca.
2. Stănescu V., Savu C., 1993, Controlul de laborator al produselor de origine animală A.M..B.U.S.A.F.M.V. Bucureşti
3. Ştefca Gheorghe, Macovescu S., 2006, Igiena depozitării produselor alimentare de origine animală şi sisteme frigorifice, Editura Risoprint, Cluj-Napoca.
4. Ştefca Gheorghe, Mocuţa N., Anamaria Pop, 2012, Strategii de management privind calitatea alimentelor, Editura Risoprint, Cluj-Napoca.
5. Ştefca Gheorghe, Tuţă Ghe., 2007, Managementul alimentar – teorie şi practică, Editura Risoprint, Cluj-Napoca.
6. Ştefca Gheorghe, Laslo C., 2007, Praticum de igienă alimentară, Editura Risoprint, Cluj-Napoca.
7. Decun N., 1995, Sanitaţie veterinară, Editura Helicon, Timişoara
8. Decun N., Stoita M.,1999, Legiaslaţie pentru managementul calităţii produselor de origine animală, Editura Mirton, Timişoara

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

The training requirements for a competent specialist are met by the high degree of applicability and topicality of the content of the discipline (familiarization with the needs of the food industry units on hygiene is done directly through scheduled visits to the units).

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Lecture	Assimilation of knowledge and its logical, correct and coherent application	Continuous assessment	70%
10.5. Seminar/Laboratory	Knowledge of how to sanitize and assess the state of hygiene within the food industry units	Colloquium (written)	30%
10.6. Minimum performance standards			
Mastery of scientific information transmitted through lectures and seminars at an acceptable level (minimum 50%). Drafting materials for institutions responsible for the hygiene of food units			

[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
09.09.2021

Course coordinator
Associate Professor PhD. Dorin Tibulcă

Laboratory work/seminar coordinator
Lecturer PhD. Melinda Fogarasi

Subject coordinator
Associate Professor PhD. Dorin Tibulcă

Approved by the
Department on
22.09.2021

Head of the Department
Prof. PhD. Sevastita Muste

Approved by the Faculty
Council on
28.09.2021

Dean
Prof. PhD. Elena Mudura