UNIVERSITATEA DE ŞTIINŢE AGRICOLE ŞI MEDICINĂ VETERINARĂ CLUJ-NAPOCA
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No._____of _____ **USAMV Form 0701030102**

SUBJECT OUTLINE

1. Information on the programme

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine 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	Technology of meat and meat products 1							
2.2. Course coordinator				Associate Professor eng. Sălăgean Claudiu-Dan				
2.3. Seminar/ laboratory/ project coordinator				Associate Professor eng. Sălăgean Claudiu-Dan				
2.4. Year of study	III	2.5. Semester	V	2.6. Type of evaluation	Summative	2.7. Discipline status	Content[2]	DS
							Compulsoriness[3]	DI

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	4	out of which: 3.2. lecture	2	3.3. seminar / laboratory / project	2
3.4.Total number of hours in the curriculum	56	Out of which: 3.5.lecture	28	3.6. seminar / laboratory	28

Distribution of time allotted	hours
3.4.1. Study based on book, textbook, bibliography and notes	20
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	5
3.4.4. Tutorial	4
3.4.5. Examinations	5
3.4.6. Other activities	0

3.7. Total hours of individual study	44
3.8. Total hours per semester	100
3.9. Number of credits[4]	4

4. Prerequisites (if applicable)

4.1. curriculum-related	Food biochemistry, Food industry operations, Food machinery, Transfer phenomena, Food microbiology
4.2. skills-related	General knowledge of food engineering

5. Conditions (if applicable)

5.1. for the lecture	The course is interactive, students can ask questions regarding the content of the exposure. Academic discipline enforce time start and end of the course. We do not allow any other activities during the lecture, mobile phones are closed.
5.2. for the seminar/ laboratory/ project	Practical work supervisor is compulsory at laboratory, every student will develop an individual activity based on material and laboratory materials provided, based on the procedure described in the practical work advisor. Academic discipline is imposed for the duration of works.

6. Specific acquired competences

Professional competences	C2.1. Description and use of basic concepts, theories and methods in the field of processes and operation of meat industry installations C2.3. Application of basic engineering principles and methods for solving technological problems in the meat industry C3.3. Monitoring and control of technological processes in the meat industry, identification of abnormal situations and proposing solutions
Transversal competences	CT1: Applying strategies of perseverance, rigor, efficiency and responsibility at 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 professional ethics in food.

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

7.1. Overall course objective	Development of general practical skills Acquisition of basic knowledge on the technology of slaughtering animals and processing the resulting meat
7.2. Specific objectives	Acquisition of knowledge on the supply of animals and their transport to slaughter units Acquiring knowledge on the technology of animal processing in slaughterhouses Notions regarding the preservation of meat by cold Acquisition of knowledge on meat cutting, deboning and selection operations Notions regarding the implementation of the HACCP system for animal slaughter Understanding the role and importance of meat technology in relation to other disciplines and correlating knowledge from disciplines aimed at general specialized training

8. Content

8.1. LECTURE **Number of hours – 28**	Teaching methods	Notes 1 lecture = 2 hours
Animals supply and transport	Lecture, heuristic conversation, explanation	1 lecture
Slaughterhouse animal processing technology Preparing animals for slaughter. Suppression of animal life (stunning and bleeding of animals) Initial processing of animals (skinning, scalding, depilation, scalding, ash scraping and finishing). Carcass processing (evisceration, splitting, grooming, sanitary-veterinary examination, marking and weighing of meat). Analysis of critical points in the slaughter of animals in order to prepare the HACCP plan Technology of birds slaughtering	Lecture, heuristic conversation, explanation	7 lectures
Cold preservation of meat General considerations. The presence of microorganisms in meat. Meat refrigeration processes. Meat freezing	Lecture, heuristic conversation, explanation	3 lectures
Cutting, deboning and choosing meat Beef slicing Slicing pork Slicing mutton. Cutting of by-products (beef head, pig head, slag),	Lecture, heuristic conversation, explanation	3 lectures

choice of organs		

8.2. PRACTICAL WORK **Number of hours – 28**	Theoretical presentation of practical works	1 lab work (2 hours / work)
Slaughter technology of cattle	Demonstration, observation, conversation	1 lab work
Slaughter technology of pig	Demonstration, observation, conversation	1 lab work
Slaughter technology of sheep	Demonstration, observation, conversation	1 lab work
Slaughter technology of poultry	Demonstration, observation, conversation	1 lab work
Technological calculations for animal slaughter	Exercise	3 lab works
Use of cold in the meat industry. Technological calculations	Exercise	1 lab work
Cutting, deboning and choosing of beef	Demonstration, observation, conversation	2 lab works
Cutting, deboning and choosing of pig	Demonstration, observation, conversation	2 lab works
Cutting, deboning and choosing of sheep.	Demonstration, observation, conversation	1 lab work
Organs cutting		
Verification of the knowledge (throughout the semester)	Template tests /oral	1 lab work

Compulsory bibliography:

1. Banu, C. ş. a., 1997, 2003, Procesarea industrială a cărnii, Ed. Tehnică, Bucureşti
2. Ionescu, Aurelia, 1995, Tehnici şi procedee de conservare a peştelui, Ed. Hypatya, Galaţi
3. Ţibulcă, D. şi Sălăgean, D., 2001, Tehnologia semiconservelor şi conservelor din carne şi peşte, Ed. George Coşbuc, Bistriţa
4. Sălăgean, C. D., Ţibulcă, D., 2009, Tehnologia semiconservelor şi conservelor din carne şi peşte, Editura Risoprint, Cluj-Napoca

Optional bibliography:

1. Banu, C., 1998 şi 1999, Manualul inginerului de industrie alimentară, vol.I, II, Editura Tehnică, Bucureşti
2. Bărzoi, D., şi Apostu, S., 2002, Microbiologia produselor alimentare, Ed. Risoprint, Cluj-Napoca
3. Bogatu, D. ş. a., 1980, Piscicultură, E.D.P., Bucureşti
4. Georgescu, Gh., Banu, C., ş.a., 2000, Tratat de producerea, procesarea şi valorificarea cărnii, Editura Ceres, Bucureşti
5. Laslo, C. şi colab., 2008, Controlul calităţii şi igiena produselor alimentare de origine animală, Editura Risoprint, Cluj-Napoca
6. Sălăgean, C. D., 2011, Tehnologia şi controlul calităţii pe fluxul tehnologic de fabricaţie a produselor din carne, Editura Risoprint, Cluj-Napoca
7. ***, 1997, Institutul Român de Standardizare, Culegere de standarde române comentate (conserve de carne), Bucureşti

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 content of the discipline is in accordance with the requests of specific national professional associations

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Lecture	Logical and correct application of the acquired notions	Oral exam	60%
10.5. Seminar/Laboratory	Applying knowledge of animal slaughter and carcass processing technology	Colloquium	40%
10.6. Minimum performance standards			

Understanding, describing and interpreting the basic notions in the technology of animal slaughter and carcass processing (animal slaughter schemes with the specification of technological parameters);
Ability to apply the knowledge gained by solving at least 50% of theoretical topics;
Calculation of quantities of meat and by-products resulting from the slaughter of animals;
Calculation of declines and storage capacity in cold spaces (when preserving meat in the cold);
The final grade is the weighted average of the exam and the colloquium on practical work and must be equal to or greater than 5 (five).

[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 25-30 de hours of study (didactical and individual study).

Filled in on
06.09.2021

Course coordinator
Associate Professor dr. eng. Dan Sălăgean

Laboratory work/seminar coordinator
Associate Professor dr eng. Dan Sălăgean

Subject coordinator
Associate Professor dr. eng. Dan Sălăgean

Approved by the
Department on
22.09.2021

Head of the Department
Professor dr. Sevastiţa Muste

Approved by the Faculty
Council on
28.09.2021

Dean
Professor dr. Elena Mudura