SUBJECT DESCRIPTION

1. Information on the study programme

1.1 The institution of higher education	**UNIVERSITY OF ORADEA**
1.2 Faculty	**FACULTY OF ENVIRONMENTAL PROTECTION**
1.3 Department	**ENGINEERING OF FOOD PRODUCTS**
1.4 Field of study	**CONTROL AND EXPERTISE OF FOOD PRODUCTS**
1.5 Cycle of study	**BACHELOR**
1.6 Program of study/Qualification	**CONTROL AND EXPERTISE OF FOOD PRODUCTS/ ENGINEER**

2. Information on the discipline

2.1 Name of discipline			**CONTROL AND EXPERTISE OF FOOD PRODUCTS OF ANIMAL ORIGIN**				
2.2 Course holder			Associate professor. dr. Purcărea Cornelia				
2.3 Seminar/Laboratory/Project holder			Associate professor dr. Purcărea Cornelia				
2.4 Year of study	**IV**	2.5 Semester	**VII**	2.6 Type of evaluation	**E**	2.7 Regimen of the subject	**C**

(C) Compulsory; (O) Optional; (E) Elective.

3. Total estimate time (hours per semester of didactic activities)

3.1 Number of hours per week	4	out of which: 3.2 course	2	out of which 3.3 seminar/laboratory/project	2
3.4 Total hours in the curriculum	56	out of which: 3.5 course	28	out of which 3.6 seminar/laboratory/project	28
Time allotment					hours
Study assisted by manual, course support, bibliography and notes					30
Additional documentation in the library/ on specialised electronic platforms and in the field					10
Preparation of seminars/laboratories/ topics/reports, portfolios and essays					10
Tutorship					4
Examinations					2
Other activities.....					-
3.7 Total hours of individual study	**56**				
3.9 Total hours per semester	**112**				
3.10 Number of credits	**4**				

4. Prerequisites (where appropriate)

4.1 curriculum	Notions of food biochemistry and analytical chemistry
4.2 competences	Knowledge in GeneralTechnology in Food Industry

5. Conditions (where appropriate)

5.1. related to course	Classroom 112 Faculty for Environmental Protection
5.2. related to seminar/laboratory/ project	Laboratory 009 Faculty for Environmental Protection

6. Specific competences acquired	
Professional competences	**C1. Operation of equipment in food production units.** ▪ **C1.4 .** Assessment of the characteristics, performance and limits of some technological processes and installations in the food industry **C3. Operation of monitoring and automation systems for the processes in food industry and for the food quality control and expertise laboratories** ▪ C3.2. Explanation and interpretation of basic concepts, methods and models based on monitoring and automation systems addressed to the processes in the food industry and to the food quality control and expertise laboratories. **C4 Quality control of food, raw and auxiliary materials** ▪ C4.4. Assessment of the characteristics, efficiency and limitations of some methods and equipment used in food analysis and quality control **C5. Expertise of food, raw and auxiliary materials.** ▪ C5.4. Assessment of the characteristics, performance and limitations of some methods and equipment used in food expertise

7. Objectives of discipline (coming from the specific competences acquired)

7.1.General objective	✓ provides students knowledge of the main factors influencing the quality of meat and meat products, fish, fishery products, eggs and poultry products the criteria and methods of assessing the quality of these products
7.12.Specific objectives	✓Know how to organize a food control laboratory ✓Obtaining skills for laboratory work ✓Knowing the control stages of meat and meat preparations, fish, fishery products, eggs and poultry products

8. Content*

8.1 Cours	Metode de predare	Nr. Ore / Observații
1. Quality of food products. Factors affecting meat quality care (nutritional, sensory, hygienic, technological). Chemical composition of meat 1	Presentation ppt	2
2. Chemical composition of meat 2. Falsification in the meat industry	Presentation ppt	2
3. Normal biochemical processes in meat after slaughtering Abnormal biochemical processes in meat after slaughtering	Presentation ppt	2
4. Criteria and methods for assessing meat quality. Classification of meat acording to the thermal condtion. Classification of fresh meat according to the state of freshness	Presentation ppt	2
5. Animal fat. quality of fat. Sensory, physical-chemical and microbiological characteristics. Impaired fat. Hydrolysis. Oxidation. Rancidity.	Presentation ppt	2.
6. Meat products. Definition and classification. Raw and auxiliary materials used in meat technology.	Presentation ppt	2.
7.Quality control of meat Sensory, physical-chemical and microbiological characteristics. Meat products defects	Presentation ppt	2.
8.Control of ready to eat meat products. Sensory, physical-chemical and microbiological characteristics	Presentation ppt	2.
9. Quality control of canned meat products. Sensory, physical-chemical and microbiological characteristics. Defects of canned meat product	Presentation ppt	2

10. Features of the chemical composition of fish meat. Preservation of fish.	Presentation ppt	2
11. Quality requirements for fish and fish. Organoleptic characteristics, physical-chemical, microbiological	Presentation ppt	2
12.Quality requirements for roe and other aquatic animals. Organoleptic characteristics, physical-chemical, microbiological.	Presentation ppt	2
13. Structure and composition of eggs	Presentation ppt	2
14. Methods of preserving eggs. Quality requirements for eggs and egg products. Organoleptic characteristics, physical-chemical, microbiological	Presentation ppt	2.

References

1.Laslo C. – Controlul calităţii cărnii şi a produselor din carne. Ed. ICPIAF, Cluj-Napoca 1997.
2.Popa G., Popescu N., -Ghid pentru controlul alimentelor de origine anmală, Ed. Ceres Bucureşti 1973.
3.Purcarea C. – Controlul şi analiza cărnii, produselor din carne, peşte şi produse piscicole, ouă şi produse avicole – 2012. Edit.Univ Oradea. ISSN electronic
4.Purcărea C. – Biochimie agroalimentară. Edit.Univ. Oradea, 2005.
5.Purcărea Cornelia- Transformări biochimice importante în produsele agroalimentare în timpul procesării şi depozitării, Ed. Universităţii Oradea, 238 pagini, ISBN 978-973-759-589-8, 2008.
6..Socaciu C. - Chimie alimentelor- Ed.Academic.Press, Cluj-Napoca, 2003.

8.2 Seminar	Metode de predare	Nr. Ore / Observaţii
8.3 Laboratory	Metode de predare	Nr. Ore / Observaţii
1. General laboratory safety rules and regulations in food control laboratories. Equipment. Reagent preparation	Signed the tabel for labor protection	2
2. Sampling and sample preparation	Aplication. experiments, ppt	2
3. Sensorial analysis of meat and meat products.	Aplication. experiments, ppt	2
4. Determination of chemical composition of meat and meat products. Water content, direct and indirect methods. Ash determination	Aplication. experiments, ppt	2
5.Protein determination. Kjeldhal methods.	Aplication. experiments, ppt	2
6.Fat determination. Soxhlet methods.	Aplication. experiments, ppt	2
7.The meat freshness determination. Eber, Nessler, H_2S reaction. Easily hydrolysable nitrogen determination	Aplication. experiments, ppt	2
8. Fat -Directly titratable acidity. Kreis reaction. Peroxid number.	Aplication. experiments, ppt	2
9.Salt determination – Mohr methods. Nitrites determination- Griess methods.	Aplication. experiments, ppt	2
10. Control of canned meat products.	Aplication. experiments, ppt	2
11. Organoleptic and physical-chemical control of fish and fish products and roe	Aplication. experiments, ppt	2
12. Quality control of eggs and eggs products	Aplication. experiments, ppt	2
13. Interpretation of results	Aplication. experiments, ppt	2
14. Laboratory exam.	Determination and calculation of some	2

	parameters	
8.4 Project	-	-

References

1.Popa G., Popescu N., -Ghid pentru controlul alimentelor de origine anmală, Ed. Ceres Bucureşti 1973.
2.Popescu N, Popa G, Stănescu V. –Determinări fizico-chimice de laborator pentru produsele alimentare de origine animală, Ed.Ceres, 1986.
3. Popescu N, Meica S. Noţiuni şi elemente practice de chimie analitică sanitar veterinară, Ed.Diacon Coresi, Buc. 1993.
4.Purcarea C. – Controlul şi analiza cărnii, produselor din carne, peşte şi produse piscicole, ouă şi produse avicole. Lucrari practice – uz intern. 2012.
5.Purcărea C. -Biochimie alimentară practică, Ed.Univ.Oradea,2003.

* The content, respectively the number of hours allocated to each course / seminar / laboratory / project will be detailed during the 14 weeks of each semester of the academic year.

9. Corroboration of discipline content with the expectations of the epistemic community, professional associations and representative employers from the field corresponding to the study programme

- Provide specialists for food control in accredited laboratories and on flow sheet

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the final grade
10.4 Cours	For grade 5 – knowledge of the material 50% For grade 10 – – knowledge of the material in 100% (the student presented the evidence of stidied references)	Continuous evaluation Support a course chapter. Summative Evaluation - Final exam - written or oral	10% 60%
10.5 Laboratory	Test with 5 questions at the end of every laboratory activity	Continuous assessment Final evaluation Case Study - Establishing analyzes to control the quality of a meat product, fish, eggs. Determining a parameter. Calculation, Interpretation of results	10% 20%
10.6. Minimum standard of performance Performing analysis and quality control, and surveying of food, using the concepts, theories, methods and legislation.			

Date of completion 01.02.2019.

Signature of course holder**
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Signature of seminar laboratory/project holder **
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Date of approval in the department
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Signature of the Head of Department
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