SZKOŁA GŁÓWNA GOSPODARSTWA WIEJSKIEGO

Safety of food of animal origin (1)

Educational subject description sheet

Basic information

Field of study Veterinary Medicine	**Didactic cycle** 2023/24
Speciality -	**Subject code** WETFVMS_D.580K.01738.23
Organizational unit Faculty of Veterinary Medicine	**Lecture languages** english
Study level long-cycle	**Mandatory** Obligatory subjects
Study form full-time studies	**Block** Major subjects
Education profile General academic	**Disciplines** Veterinary medicine

Coordinator	Agnieszka Jackowska-Tracz
Teacher	Agnieszka Jackowska-Tracz, Joanna Zarzyńska, Anna Didkowska, Katarzyna Filip-Hutsch

Period Semester 8	**Examination** Pass with grade **Activities and hours** Lecture: 30 Laboratory exercises: 26 Field exercises: 6 Seminar exercises: 13	**Number of ECTS points** 4

Goals

Code	Goal
C1	The education aims to prepare students to work as official veterinarians or private veterinarians cooperating with processing plants in the field of hygiene and safety of food of animal origin, i.e. fresh meat elements, cold meats, co-products and animal fats, as well as to work in all governmental and non-governmental organizations dealing with food safety.

Entry requirements

Administrative requirements:

- Medical certificate for sanitary and epidemiological purposes.

Meat hygiene 2, Pathomorphology 3

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	the flow diagrams and hazards occurring in cutting plants and meat processing plants	B.W18	Written credit
W2	legal provisions relating to cutting plants and meat processing plants	B.W21	Written credit
W3	knows the categories of animal by-products and the rules for its management	B.W15	Written credit
W4	the principles of HACCP system	B.W18	Written credit
W5	the methods of food preservation	B.W20	Written credit
Skills – Student can:			
U1	verify the implementation of prerequisites and procedures based on HACCP principles	B.U22	Assessment of activity during classes
U2	carry out the sensory analysis and organoleptic assesment of food samples	B.U18	Assessment of activity during classes
Social competences – Student is ready to:			
K1	work in an interdisciplinary team	KS.9	Assessment of activity during classes
K2	carry out his/her work in an ethical and socially responsible manner	KS.2	Assessment of activity during classes
K3	deepen knowledge and its critical analysis	KS.8	Presentation

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	PRPs and procedures based on HACCP principles. Facilitation/flexibility of the implementation of HACCP principles in certain food businesses. Zoonotic agents and food-borne outbreaks - food safety epidemiology. Non-bacterial microbiological hazards in food of animal origin. Endogenous postmortem changes in meat. Acidification of food of animal origin. Use of antagonistic microflora and chemical preservatives in food technology. Salting and curing of meat. Meat drying. Meat smoking. The theoretical basis for using high temperature in food preservation. Fundamentals of low-temperature food preservation.	W4, W5	Lecture
2.	Sensory analysis - sensory acuity of students. Sensory analysis of processed meat products. Laboratory examination of sausages - organoleptic and microbiological study. Microbiological criteria (work with the regulation). Breakdown of carcasses. Primal cuts for wholesale. Meat, slaughter co-products and by-products. Production of processed meats: freshly processed meat products, cured meat cuts (raw and cooked), raw-cooked meat products, precooked-cooked meat products, raw-fermented sausages, production of melted fat, and fat rancidity. HACCP plan: prerequisite programs (PRPs); preliminary activities; hazard analysis; semi-quantitative risk evaluation procedure; determination of control points (oPRP, CCP). Organoleptic and chemical examination of melted animal fats.	W1, W2, W3, U1, U2, K2	Laboratory exercises
3.	Seminar exercises: The seminar topics are in addition to the laboratory exercise topics. An up-to-date list of seminar topics is given at the beginning of the semester. Sources include current EFSA scientific reports and opinions, legal acts, European Commission notices, etc.	K3	Seminar exercises
4.	Specifics of the work of the official veterinarian; Verification of procedures based on HACCP principles; Official cooperation with the quality department.	K1	Field exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture, Problem lecture
Laboratory exercises	Discussion, Brainstorm, Problem solving, Teamwork, Interpreting the results, Laboratory (experiment), learning by experiment
Field exercises	Case study
Seminar exercises	Analysis of source materials

Activities	Examination method	Percentage
Lecture	Written credit	35%

Activities	Examination method	Percentage
Laboratory exercises	Written credit	35%
Field exercises	Assessment of activity during classes	10%
Seminar exercises	Presentation	20%

Activities	Credit conditions
Lecture	The lecture content is complementary to the content presented in the exercises. A written test (colloquium) also includes lecture content.
Laboratory exercises	• Practical learning outcomes of laboratory exercises are verified based on the teacher's evaluation of the worksheets (for credit) during the activities. The assessment considers the criterion of form and the content, emphasising interpreting the results obtained. A passing grade is a basis for obtaining credit in the Register (Diary) of Day One Skills. • Theoretical content is verified through the: 1. Tests (max. 75 points): 3 colloquia covering theoretical learning content from three consecutive parts of the completed exercises and parallel lectures; pass mark: 60%; where applicable, the average of the two attempts is the final result. 2. Seminar (max. 20 points): the student must develop a selected topic from the topics prepared by academic teachers. The points are awarded by the teacher who takes the following into account: clarity of the presentation form, accuracy of the selection of additional source materials, the accuracy of the selection of the 5 test questions presented at the beginning and end of the seminar, formulation and defence of opinions, interaction with the group. 3. Activity in the field classes (max. 5 points) In the study, the student can earn a total of max. 100 points with different weighting: Max. final grade= (75x0.7)+(20x0.2)+(5x0.1) No different assessment methods are anticipated. In case of unforeseen, unusual circumstances, mandatory remote teaching and remote assessment methods might be adopted.
Field exercises	Attendance at field exercises, active participation.
Seminar exercises	Assessment elements (20 points): - content and form of presentation (5 pts. content + 5 pts. form) - questions (5 x 2 points = 10 points) Requirements: Time: 10-15 minutes Clear slides - maximum eight lines per slide Don't paste whole sentences on slides - develop an outline and discuss details Start the presentation with 5 test questions (four answers a, b, c, d without showing the correct answer) - do not use closed questions with yes/no answers, and do not create questions about the meaning of abbreviations. Weighting: 50% content of prepared questions + 50% content of the presented material. After the presentation, show the questions again, and let students verify their answers. The teacher considers whether the student has used other sources of independently found information in the assessment. The source given is the minimum required; additional reliable sources are welcome.

Literature

Obligatory

1. Commission Regulation (EC) No 2073/2005 of 15 November 2005 on microbiological criteria for foodstuffs (the current state of the law)
2. Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation) (the current state of the law)
3. Commission Notice on the implementation of food safety management systems covering Good Hygiene Practices and procedures based on the HACCP principles, including the facilitation/flexibility of the implementation in certain food businesses 2022/C 355/01 (the current state of the law)
4. Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific hygiene rules for food of animal origin (the current state of the law)
5. FAO: MEAT PROCESSING TECHNOLOGY FOR SMALL- TO MEDIUMSCALE PRODUCERS http://www.fao.org/3/a-ai407e.pdf

Optional

1. Warriss P. D.: MEAT SCIENCE An Introductory Text. © CAB International 2000.
2. Hui Y.H.et all Handbook of meat and meat processing, CRC Press 2012
3. Bibek Ray & Arun Bhunia: Fundamental food microbiology. Fourth Edition. CRC Press 2007
4. Doyle M.P. et all Food Microbiology. Fundamentals and Frontiers ASM Press 2001
5. Arvanitoyannis I.S. HACCP and ISO 22000 Appilications to Foods of Animal Origin, Wiley-Blackwell 2009

Calculation of ECTS points

Activity form	**Activity hours***
Lecture	30
Laboratory exercises	26
Field exercises	6
Seminar exercises	13
Self-study on the content covered in class	30
Preparation of a multimedia presentation	5
Student workload	**Hours** 110
Number of ECTS points	**ECTS** 4

* hour means 45 minutes

Effects

Code	Content
KS.2	Absolwent jest gotów do prezentowania postawy zgodnej z zasadami etycznymi i podejmowania działań w oparciu o kodeks etyki w praktyce zawodowej oraz do wykazywania tolerancji dla postaw i zachowań wynikających z odmiennych uwarunkowań społecznych i kulturowych
KS.8	Absolwent jest gotów do pogłębiania wiedzy i doskonalenia umiejętności
KS.9	Absolwent jest gotów do komunikowania się ze współpracownikami i dzielenia się wiedzą
B.U18	Absolwent potrafi ocenić jakość produktów pochodzenia zwierzęcego
B.U22	Absolwent potrafi oszacować ryzyko wystąpienia zagrożeń chemicznych i biologicznych w żywności pochodzenia zwierzęcego
B.W15	Absolwent zna i rozumie sposoby zagospodarowywania i utylizacji produktów ubocznych i odpadów związanych z produkcją zwierzęcą
B.W18	Absolwent zna i rozumie systemy kontroli zgodne z procedurami HACCP (Hazard Analysis and Critical Control Points) - Systemu Analizy Zagrożeń i Krytycznych Punktów Kontroli
B.W20	Absolwent zna i rozumie warunki higieny i technologii produkcji zwierzęcej
B.W21	Absolwent zna i rozumie zasady prawa żywnościowego