Code of subject	M_WE_SEM7 HGM
Field of study	Veterinary medicine
Name of the training module including the Polish name	Milk hygiene
	Higiena mleka
Language of instruction	English
Type of the training module	obligatory
Level of the training module	Master level
Form of studies	Stationary
Location in the programme (year)	IV
Location in the programme (semester)	7
Number of ECTS credits with a division into contact/noncontact	3 (2/1)
Name and surname of the person in charge	Waldemar Paszkiewicz, Assoc. Prof.
Unit offering the subject	Department of Food Hygiene of Animal Origin
Aim of the module	The aim of the module is to familiarize students with the sanitary-veterinary requirements and technological aspects of collection and processing of milk in order to prepare them to perform their duties related to the official control over milk processing.
Learning outcomes	Konwledge:
	K1: Knowledge of legal acts regulating the principles of sanitary-veterinary supervision of milk collection and processing
	K2: Knowledge of hygienic requirements, technological processes and procedures of HACCP system in milk processing
	K3: Knowledge of the methods of laboratory analysis of milk and milk products in the range essential for appropriate realization of sanitary-veterinary supervision
	Skills:
	S1: Student indicate and interprets the appropriate regulations of food law in performing sanitary and veterinary supervision of milk processing to ensure protection of public health.
	S2: Student selects and applies appropriate methods and techniques for testing milk and dairy products.
	S3: Student correctly describes and evaluates sanitary conditions at each stage of milk collection and processing.
	Social competences:
	C1: Student is aware of the responsibility for the consumer safety in the aspect of the conducted supervision.
Preliminary and additional requirements	Passing all modules from semesters I-VI

Contents of the training module – a compact description of approx. 100 words.	The classes of the module "Milk hygiene" include: a) the competence of the official veterinarian in sanitary-veterinary supervision of milk production and processing on the basis of existing legal regulations , b) technological processes in milk processing, c) the HACCP system in dairy production, and d) methods for milk and milk products testing The lectures include: a) the most important legal regulations of food law regarding official veterinarian supervision, b) the processes of mammogenesis and lactogenesis, c) organoleptic and physico-chemical characteristics, and nutritional value of raw milk, d) raw milk microflora and the lactic fermentation process, and e) methods of extending the shelf life of milk and dairy products.
Recommended and obligatory reading list	1. Griffiths M.W.: Improving the safety and quality of milk. Volume 1 and 2; CRC Press Inc., 2010. 2. Nollet L. M. L., Toldrá F. (ed.): Handbook of dairy foods analysis. CRC Press : Taylor & Francis Group, 2010 3. Tamime A. (ed.): Structure of dairy products. Blackwell Publishing, 2007 4. Selected legislation available on websites: wetgiw.gov.pl, isap.sejm.gov.pl, www.eur-lex.europa.eu 5. Selected ISO standards
The intended forms/activities/ teaching methods	lectures, laboratory classes, study visit in a diary plant

Methods of verification and documentation forms of the achieved learning outcomes	K1 and K3 - 2 written mid-term tests and final written exam. K2 - 2 written mid-term tests, final written exam and study visit in a dairy plant. S1 and S3 - 2 written mid-term tests and final written exam and completion the practical part of the laboratory classes. S2 - 2 written mid-term tests, final written exam and completion the practical part of the laboratory classes. C1 and C2 - 2 written mid-term tests and final written exam. During the course, two written mid-term tests are scheduled: - The condition to take the test is passing in an oral form any absences in laboratory classes before the test. - two additional terms for students who failed the first term of the final written exam are available. - mid-term tests include open questions and/or single-choice questions. - the evaluation criteria indicated in the Faculty Book of Education Quality are used to assess the student's mid-term written tests. The module ends with a final written exam. The final exam includes single choice questions: - the condition to take the test is passing two mid-term written tests and passing in an oral form any absences in laboratory classes before the final exam. - the evaluation criteria indicated in the Faculty Book of Education Quality are used to assess the student's final exam. - two additional terms in single-choice questions form are available for students who failed the first term of the final exam. The rules for completing the course are presented to students during first meeting (classes). Forms of documenting the results are achieved in: teacher logbooks, written mid-term test protocols, final written test protocol.

<table>
<tr><td>Balance of ECTS credits</td><td>
<table>
<tr><td>Type of classes</td><td>Number of contact hours</td><td>ECTS</td></tr>
<tr><td>Lectures
Classes
Consultation
Final exam +
Mid-term tests
SUM (contact hours)</td><td>15
30
3

2
50</td><td>0,6
1,2
0,12

0,08
2</td></tr>
<tr><td></td><td>Number of non-contact hours</td><td></td></tr>
<tr><td>Student’s self-education for the mid-term tests
Student’s self-education for the classes
Student’s self-education for the final exam
Sum (non-contact hours)</td><td>5

4

16

25</td><td>0,2

0,16

0,64

1</td></tr>
<tr><td>Sum:</td><td>75</td><td>3</td></tr>
</table>
</td></tr>
<tr><td>Number of contact hours</td><td>a) participation in lectures – 15x 1 = 15 hours
b) participation in laboratory classes – 15 x2 = 30 hours
c) consultation – 3 x 1 = 3 hours
d) participation in mid-term tests and final written test- 2x 0,5+1 = 2 hour
Sum: 50 hours which correspond to 2 ECTS</td></tr>
<tr><td>Relationship between subject learning outcomes and veterinary studies learning outcomes</td><td>K1 – B.W21. ++
K2- B.W18. ++
K3 – B.W17. ++
S1 – B.U18. ++
S2 – B.U18. ++, B.U22 ++ i, B.U23. ++
S3 - B.U22 ++ , B.U23. ++
C1 – K1) ++</td></tr>
<tr><td>Impact of selected compounds to final grade</td><td>mid-term tests 1 – 5%
mid-term tests 2 - 5%
final exam – 90%
Sum: 100%</td></tr>
</table>