

Course name: Milk Hygiene

COURSE NAME (capital letters)

ECTS	3
Course status	obligatory
Course final assesement/evaluation of outcomes	exam
Prerequisites	microbiology, physiology

Main field of study:

field of study name (capital letters)

Profile of study	practical
The code of studies (education level)	SI/SM (bachelor/master)
Semester of studies	winter
Language of instruction	English

Course offered by:

Name of faculty offering the course	University Center of Veterinary Medicine
Name of department offering the course	University Center of Veterinary Medicine
Course coordinator	Krystian Popławski, DVM Phd

Learning outcomes of the course:

Symbol of outcome	Description of learning outcome	Reference to	
		main field of study outcomes	discipline
KNOWLEDGE – student knows and/or understands:			
HML_W1	the rules of production, storing and transporting milk, laboratory tests and estimating milk and milk products	B_W20	RW
		B_W17	RW
HML_W2	the principles of sanitary and veterinary supervision over the production, transport and processing milk and dairy products and knows the procedures related to HACCP	B_W18	RW
SKILLS – student is able to:			
HML_U1	supervise dairy farms and milk production entities, implement procedures related to HACCP, perform standard laboratory tests as well as analyze and interpret the results of laboratory tests	B_U22	RW
		B_U23	RW
HML_U2	use the available professional literature to improve skills	C_U2	RW
SOCIAL COMPETENCE- student is ready to:			
PPP_K1	participate in the performance of veterinary inspection tasks related to the assessment and management of risks related to milk and dairy production in accordance with GHP/GMP and HACCP principles	O_K1	RW
PPP_K2	cooperate with animal holders in upholding animal health and welfare standards and food safety standards in relation to milk and dairy production.	O_K2	RW

Teaching contents:

Lectures **15** **hours**

Topics of the lectures	<p>Mammary gland anatomy, lactation physiology, udder defects, lactation disorders. Mastitis: etiology, pathogenesis, diagnosis and treatment, somatic cells (SCC) and bacteria in milk.</p> <p>Veterinary procedures and diseases of dairy cows in the perinatal period</p> <p>Basic metabolic diseases of dairy cows: etiology and pathogenesis diagnosis along with treatment.</p> <p>Hygiene of raw milk and dairy products. Adulteration, contamination of milk.</p> <p>Microbiological criteria of the raw milk.</p> <p>Basics of the HACCP system. GHP/GMP and HACCP at the milk collection point and in processing plant, including washing and disinfection of dairy equipment.</p> <p>Principles of veterinary control on dairy farm, in milk processing establishment.</p>
------------------------	---

Accomplished learning outcomes	<i>symbols of learning outcomes for lectures</i>
--------------------------------	--

Verification methods, rules and criteria of outcome assessment	<i>together with participation in the final assesement (in %)</i>
--	---

Classes **15** **hours**

Topics of the classes	<p>Knowledge of dairy farming (a visit on dairy farms)</p> <p>Milk diseases; expertise and their prevention</p> <p>Chemical composition of fresh and UHT milk</p> <p>Milk identification techniques methods</p> <p>Identification of chemical milk composition (protein, fat, lactose, pH) with a laboratory techniques methods</p> <p>Hygiene and quality in milk production</p> <p>Laboratory techniques for assessing the quality and hygienic parameters of milk</p>
-----------------------	--

Accomplished learning outcomes	<i>symbol of learning outcomes for the classes</i>
--------------------------------	--

Verification methods, rules and criteria of outcome assessment	<i>together with participation in the final assesement (in %) : pass the subject included practical laboratory classes and lecture classes during winter semester (the first and</i>
--	--

Seminars **0** **hours**

Topics of the seminars	
------------------------	--

Accomplished learning outcomes	<i>symbol of learning outcomesof the seminars</i>
--------------------------------	---

Verification methods, rules and criteria of outcome assessment	<i>together with participation in the final assesement (in %)</i>
--	---

References:

Basic	<i>Veterinary Inspection Act, contained in the Journal Laws of 2006 No. 17, item 127.</i>
-------	---

Supplementary	Regulation (EU) 2017/625 on official controls, Regulation (EC) No 178/2002-food law, Regulation (EC) No 852/2004 on the hygiene of foodstuffs, Regulation (EC) No 853/2004 laying down specific hygiene rules for food of animal origin, Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs, Commission Notice on the implementation of food safety management... Document 52016XC0730(01) O. J., C 278/1, EN/ISO norms: ISO 21528-1 – Enterobacteriaceae; ISO 16649- 1 or 2-E.coli; EN/ISO 6888-1 or 2 - Coagulase-positive staphylococci; Resources provided by the lecturer e.g. MSD Veterinary manual, production –related metabolic disorders in animals.
---------------	--

Structure of learning outcomes:

Discipline: # (provide appropriate symbol) Veterinary medicine	3	ECTS**
Discipline: # (provide appropriate symbol - if the course relates to more than one academic discipline)	...	ECTS**

Structure of student activities:

Contact hours	32	hours	1,2	ECTS**
including:				
lectures	15	hours		
classes and seminars	15	hours		
consultations	0	hours		
participation in research	0	hours		
mandatory traineeships	0	hours		
participation in examinations	2	hours		
e-learning	0	hours	...	ECTS**
student own work	16	hours	0,6	ECTS**

Syllabus valid from the academic year 2021/2022

* where 10 hours of classes = 1 ECTC (in case of 15 h → 2 ECTS)

** stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes

academic discipline code: RZ - animal science and fishery, PB - biological sciences, etc.