

**ACADEMIC YEAR 2023/2024**

<b>General information</b>	
Academic subject	<b>FOOD BORNE ZOOSES AND EPIDEMIOLOGY</b>
Degree course	Safety and Health of Food of Animal Origin
Academic Year	2023/2024 – I year
European Credit Transfer and Accumulation System (ECTS)	7 + 1E
Scientific sector	VET/05
Language	Italian
Academic calendar (starting and ending date)	Second semester (27 February 2023 – 16 June 2023)
Attendance	not mandatory

<b>Professor</b>	
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Virtual headquarters	Teams code: d6yu8n9 - Attività tutoria: zoonosi ed epidemiologia - LM86
Tutoring (time and day)	Tuesday from 14.00 to 16:00; Wednesday from 14:30 to 16:30 In presence or in remotely, upon appointment.
<b>Professor of Epidemiology</b>	
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Virtual headquarters	Teams code: d6yu8n9 - Attività tutoria: zoonosi ed epidemiologia - LM86
Tutoring (time and day)	Tuesday from 14.00 to 16:00; Wednesday from 14:30 to 16:30 In presence or in remotely, by appointment

**Additional materials**

<b>Syllabus</b>	
<b>Learning Objectives</b>	Knowledge of the main zoonoses sustained by viral, bacterial and unconventional agents. Acquisition of the principles and methods of both basic and applied epidemiology to infectious diseases of farm animals, with particular attention to those provided for by the Veterinary Police Regulations and zoonoses. General notions of prevention, control and eradication of infectious diseases of animals with particular reference to prophylaxis measures aimed at promoting human health
<b>Course prerequisites</b>	The student must have basic knowledge of biology and general microbiology.
<b>Contents</b>	<b>Foodborne zoonoses</b> Introduction to the course: training objectives and teaching methodologies. General: historical notes, definitions. The One Health Theory. Legislative bases. Health agencies and organizations. Zoonoses sustained by viral agents: calicivirus, rotavirus, astrovirus, picornavirus, viral hepatitis, emerging viruses. Zoonoses sustained by bacterial agents: tuberculosis, brucellosis, listeriosis, salmonellosis, campylobacteriosis, anthrax, coxiellosis, infections with verocytotoxic Escherichia coli, vibriosis, yersiniosis. Zoonoses sustained by unconventional agents: TSE. European legislation on animal health (EU Regulation 2016/429) <b>Epidemiology</b>



	Introduction to the course: training objectives and teaching methodologies. The concepts of population, frequency, distribution and determinants of health and disease in an epidemiological study. Frequency measurements. Sporadic endemic and epidemic diseases. Course and transmission of infectious diseases. Basic reproduction number and herd immunity. Impact of livestock diseases on human health, the agri-food economy and the environment. Prophylactic measures of infectious diseases. Setting up an epidemiological study.
<b>Books and bibliography</b>	<p><b>Foodborne zoonoses</b> Farina -Scatozza "Trattato di Malattie Infettive degli Animali Domestici", 2006 UTET Sito Web CDC (inglese) <a href="http://www.cdc.gov/DiseasesConditions/">http://www.cdc.gov/DiseasesConditions/</a> Epicentro, il portale dell'epidemiologia per la sanità pubblica (italiano) <a href="http://www.epicentro.iss.it/default.asp">http://www.epicentro.iss.it/default.asp</a> Eur-lex: <a href="https://eur-lex.europa.eu/legal-content/IT/TXT/HTML/?uri=LEGISSUM:3005_2">https://eur-lex.europa.eu/legal-content/IT/TXT/HTML/?uri=LEGISSUM:3005_2</a> Materiale didattico utilizzato nel corso delle lezioni frontali (powerpoint)</p> <p><b>Epidemiology</b> M. Thrusfield (2007), Veterinary epidemiology, Blackwell Science Ltd, Oxford, III edition (inglese). Bottarelli, Ostanello. Epidemiologia, 2011, edizioni Edagricole. Appunti di epidemiologia veterinaria, a cura del Prof. E. Bottarelli (Università di Medicina Veterinaria di Parma). (<a href="http://www.unipr.it/~bottarel/epi/">http://www.unipr.it/~bottarel/epi/</a>) Office international des Epizooties <a href="http://www.oie.int/">http://www.oie.int/</a> (inglese, francese, spagnolo) Materiale didattico utilizzato nel corso delle lezioni frontali (powerpoint e materiali illustrativi)</p>
<b>Additional materials</b>	

<b>Work schedule</b>			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
<b>Hours</b>			
<b>200</b>	<b>56</b>	<b>20</b>	<b>124</b>
<b>ECTS</b>			
<b>8</b>	<b>7</b>	<b>1</b>	
<b>Teaching strategy</b>	<p>The course will be based on 56 hours of classic, but also innovative frontal lessons with moments of self-assessment of learning, co-teaching lessons with foreign visiting professors, flipped classrooms, elaboration of works in groups. In addition, 20 hours of laboratory training will be carried out to acquire skills and competences on the diagnosis and study of infectious diseases. Lectures take place in the classroom with the help of multimedia devices such as PCs, projectors, internet connections that allow viewing of PowerPoint files and educational videos / films. The PowerPoint slides will, from time to time, be made available to students in pdf format. Practical activities include laboratory exercises that take place at the facilities of the Infectious Diseases section. Students are divided into groups of 2-5 people and are followed individually, in the execution of the laboratory tests covered by the exercise, by the subject's owners and collaborators. Considering the average number of students enrolled in the course, this didactic need will require the replication of the hours of exercises in shifts.</p>		
<b>Expected learning outcomes</b>			

<b>Knowledge and understanding on:</b>	<ul style="list-style-type: none"> <li>○ Learn about foodborne zoonotic diseases</li> <li>○ Know how infectious diseases are transmitted and controlled</li> <li>○ Knowledge of the health system and regulatory bases</li> </ul>
<b>Applying knowledge and understanding on:</b>	<ul style="list-style-type: none"> <li>○ Understanding the risks of transmission of zoonotic diseases in different foods</li> <li>○ Knowing and being able to identify and properly apply methods to reduce the zoonotic risk in food</li> <li>○ Understanding and ability to extract relevant information from texts, news and alerts</li> </ul>
<b>Soft skills</b>	<ul style="list-style-type: none"> <li>• <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> <li>○ Ability to analyse the operational criticalities of a process</li> <li>○ Ability to independently investigate topics of professional interest</li> <li>○ Ability to critically use notions and data</li> <li>○ Ability to propose solutions in problematic situations</li> </ul> </li> <li>• <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ Ability to adopt different linguistic registers, including the technical-scientific one, to adequately communicate experimental results</li> <li>○ Ability to work in a team, adopting adequate communication and interaction strategies</li> </ul> </li> <li>• <i>Capacities to continue learning</i> <ul style="list-style-type: none"> <li>○ Ability to understand and critically evaluate the scientific literature</li> </ul> </li> </ul>

<b>Assessment and feedback</b>	
Methods of assessment	<p>Verification of the results achieved will be conducted:</p> <ul style="list-style-type: none"> <li>- during the course, through flip teaching sessions in which the student's autonomy of judgment and his ability to exploit previously learned concepts will be assessed.</li> <li>- at the end of the course, through the final exam which will ascertain the knowledge and understanding of the topics covered by means of questions aimed at ascertaining the ability to communicate and apply the knowledge acquired during the lessons.</li> </ul>
Evaluation criteria	<ul style="list-style-type: none"> <li>• <i>Knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ Ability to express the acquired knowledge in an organic and in-depth way</li> </ul> </li> <li>• <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> <li>○ Ability to make links between different disciplines and provide appropriate examples</li> </ul> </li> <li>• <i>Autonomy of judgment</i> <ul style="list-style-type: none"> <li>○ Ability to analyse, synthesize and evaluate</li> </ul> </li> <li>• <i>Communication skills</i> <ul style="list-style-type: none"> <li>○ Capacity and clarity of presentation</li> <li>○ Expressive appropriateness, with particular reference to specialist terminology</li> </ul> </li> <li>• <i>Capacities to continue learning</i> <ul style="list-style-type: none"> <li>○ Ability to rework knowledge and transfer it to new and different situations</li> </ul> </li> </ul>
Criteria for assessment and attribution of the final mark	<p>The evaluation system includes an oral exam on topics covered by the program. The final evaluation, expressed out of thirty, will be considered passed with a grade equal to or greater than 18 and will take into consideration not only the accuracy of the answer but also the communication skills, clarity of presentation, disciplinary competence and the level of detail</p>
<b>Additional information</b>	