



UNIVERSIDADE DE LISBOA
Faculdade de Medicina Veterinária

Microbiology

Curricular Year: 2nd

Duration: 1st Semester

Credits: 8 ECTS

Teachers: Luís Tavares (CCP e R); Eva Cunha; Frederico Aires da Silva; Manuela Oliveira; Ricardo Bexiga; Solange Gil.

Contact Hours: 99H Total.

33H Lectures; 18H Theoretical-practical; 42H Practical and laboratory teaching; 6H Seminar.

Learning objectives:

Students should be able to: recognize different types of microorganisms; describe aspects of the ecobiology of bacteria, fungi, and viruses; recognize the importance of commensal microbiota; describe the importance of bacteria, fungi, and viruses in pathological and technological processes; identify and select appropriate control strategies for different types of microorganisms; develop skills in handling laboratory instruments and substrates or samples containing bacteria, fungi, or viruses; describe and perform laboratory techniques for diagnosing bacterial, fungal, and viral infections, including propagation, isolation, and identification of different types of microorganisms.

Program contents:

Theoretical: Introduction (History of Microbiology; Taxonomy); Bacteriology (Structure, function; Nutrition, growth; Ecology; Genetics; Pathogenesis of Bacterial Disease; Genera with veterinary importance); Mycology (Taxonomy; General characteristics of fungi; Types of fungal disease; Diagnostic methods; Genera with veterinary importance); Virology (Structure and morphology of viruses; Biological cycle and infection; Families with veterinary importance; Pathogenesis of Viral Infections; Prions, Viral vectors in gene therapy).

Practical: Microbiological control; Macro and microscopic observation of bacteria; Culture media; Veterinary clinical bacteriology; Strict anaerobic bacteria; Food Microbiology; Specific techniques in mycology; Propagation and isolation of viruses; ECP; Titration of a viral suspension and a hemagglutinating virus.

Seminars: Sample collection; Molecular Diagnosis; Biofilms; Biovigilance; Cell culture.

Bibliography:

- Prescott's Microbiology. Joanne Willey, Linda Sherwood, Chris Woolverton. 12^a edição 2022 (ISBN-978-1-260-21188-7).
- Clinical Veterinary Microbiology E-Book; 2^a Edição (2013) Bryan Markey; Finola Leonard; Marie Archambault; Ann Cullinane; Dores Maguire; Publisher: Mosby Ltd. (UK); ISBN: 9780723432371, 0723432376; ISBN: 9780723432371, 0723432376; eText ISBN: 9780702055881, 0702055883eText ISBN: 9780702055881, 0702055883
- Fenner's Veterinary Virology (5d Edition). N. James MacLachlan, Edward J Dubovi (Editor), Elsevier 2017. (ISBN - ISBN: 978-0-12-800946-8).



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Assessment:

Assessment of the curricular unit will be carried out through a continuous assessment system. The assessment of the theoretical component will be accomplished through two written tests composed of short-answer questions (multiple choice, true or false), one covering the topics of Bacteriology and Mycology (30%) and the other focusing on Virology (20%), as well as the completion and presentation of a group report (20%). The practical component will be evaluated throughout the practical classes through individual execution records (attendance sheet / mini tests / logbook) (30%).

To pass the course, students must obtain a grade higher than 9.5 in each of the evaluation components.

If a student does not achieve the minimum required grade in one of the components mentioned above, they may choose to undergo assessment through a non-continuous assessment system. In this case, the theoretical component will be assessed through a final written exam with short-answer questions (multiple choice, true or false), covering the entire theoretical content (50%), and the completion and presentation of a group report (20%). The practical component will be assessed through an oral practical exam covering the entire practical content (30%).