

MICROBIOLOGY 2

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| Study program | Veterinary Medicine |
| Year of study | II |
| Semester | I |
| Regime of discipline | DOB |
| Category of discipline | Dsf |
| Number of lectures hours per week | 2 |
| Number of seminar/laboratory/project hours per week | 2 |
| Total number of hours according to the curriculum: lectures/seminars/laboratory/project | 28 hours of course/ 28 hours of laboratory |
| Number of transferable credits | 5 |

SPECIFIC SKILLS

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| Professional Competence | <p>C1 Acquiring knowledge on taxonomy and nomenclature of fungi. Specification of appropriate techniques of sampling, the isolation examination of the morphological aspects and identification of most important fungi species that are implicated in animal pathology</p> <p>Acquiring knowledge about the structure and functions of fungi and on normal and pathological ecology concepts. Understanding how growth, development and reproduction of fungi.</p> <p>C2 Classification and description of the main genera and species of fungi involved in animal pathology</p> <p>C3 Apply gained knowledge to perform the main sampling, isolation, culturing and examination techniques to identify the main genera and species of fungi</p> <p>C4 Skillfully uses the laboratory equipment for mycological laboratory diagnosis.</p> <p>C5 Correlate and interpret the results for a good diagnostic mycological</p> <p>C6 Acquiring knowledge of the role of fungi in feed and food contamination</p> |
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LEARNING OUTCOMES

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| Knowledge | Accumulation of knowledge about fungi, their direct and indirect role in pathology, knowledge of the macroscopic and microscopic characters of fungal and yeast species |
| Skills | Developing manual skills for isolating and cultivating microscopic fungi as well as examining them to identify species. |
| Responsibility and autonomy | Responsibility for working safely, respecting sterility conditions in handling mycological samples, autonomy in completing the necessary steps for isolating and identifying fungal species |

COURSE OBJECTIVES

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| General objective of the course | The overall goal of discipline is to form the professional and transversal competences of graduate studies program, closely aligned with the objectives of the curriculum, to ensure the development of knowledge in mycology that is related with other biomedical sciences. |
| Specific objectives | <p>The study of the fungi role and importance, taxonomic classification of the fungi, of the requirements of fungi isolation and culturing and identification criteria</p> <p>The study of ecological, morphological and structural characteristic of the fungi species that have important role in animal's diseases.</p> |

COURSE CONTENT

| LECTURES | Number of hours |
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| Topic no 1 The fungi role and importance The negative and beneficial effect of fungi | 2 |
| Topic no 2 General characteristic of the fungi. Taxonomic classification. | 2 |
| Topic no 3 The ecological and physiological characteristics of the fungi | 2 |
| Topic no 4 The spores and fungi reproduction | 2 |
| Topic no 5 The action ways of fungi on animals' health | 2 |
| Topic no 6 Genus <i>Absidia</i> , <i>Acremoniu</i> , <i>Alternaria</i> | 2 |

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| Topic no. 7 Genus <i>Aspergillus</i> | 2 |
| Topic no. 8 Genus <i>Candida</i> , <i>Chrysosporium</i> , <i>Coccidioides</i> , <i>Cryptococcus</i> | 2 |
| Topic no. 9 Genus <i>Epidermophyton</i> , <i>Fusarium</i> | 2 |
| Topic no. 10 Genus <i>Geotrichum</i> , <i>Histoplasma</i> , <i>Malassezia</i> | 2 |
| Topic no 11 Genus <i>Microsporum</i> | 2 |
| Topic no. 12 Genus <i>Penicillium</i> | 2 |
| Topic no. 13 Genus <i>Rhizopus</i> , <i>Rhodotorula</i> , <i>Stachybotrys</i> | 2 |
| Topic no 14 Genus <i>Trichophyton</i> , <i>Trichoderma</i> , <i>Trichosporon</i> | 2 |
| SEMINAR/LABORATORY | Number of hours |
| Topic no 1 Summary of universal precautions and mycology laboratory safety procedures. | 2 |
| Topic no 2 Mycological culture media: preparation and sterilization. | 2 |
| Topic no.3 Different ways to collect the probe to establish the diagnostic in mycological diseases | 2 |
| Topic no 4 The direct microscopic exam of wet and dry samples | 2 |
| Topic no. 5 Preparation and examination of a wet-mount slide from a fungi culture | 2 |
| Topic no 6 Culture transfer instruments, techniques, isolation and maintenance of pure cultures. | 2 |
| Topic no 7 Examination of the morphological characteristic of fungi from <i>Alternaria</i> genus | 2 |
| Topic no. 8 Examination of the morphological characteristic of fungi from <i>Aspergillus</i> genus | 2 |
| Topic no. 9 Examination of the morphological characteristic of fungi from <i>Penicillium</i> genus | 2 |
| Topic no 10 Examination of the morphological characteristic of fungi from <i>Fusarium</i> genus | 2 |
| Topic no 11 Examination of the morphological characteristic of fungi from <i>Mucor</i> genus | 2 |
| Topic no 12 Examination of the morphological characteristic of fungi from <i>Candida</i> genus | 2 |
| Topic no. 13 Examination of the morphological characteristic of fungi from <i>Microspore</i> genus | 2 |
| Topic no. 14 Examination of the morphological characteristic of fungi from <i>Trycophyton</i> genus | 2 |

BIBLIOGRAPHY:

- **Ileana Nichita** - Veterinary Mycology – Manual. Mirton, Timisoara, 2014 (ISBN 978-973-53-1489-0)

ASSESSMENT

| Activity type | Assessment criteria | Assessment methods | Percentage of final grade |
|---|---|--|---------------------------|
| Lectures | Communication of information using scientific language correctly, specialty, circulated within the discipline / scientific field concerned; | Exam - oral assessment 2 subjects | 60% |
| | Knowledge of basic concepts and explain their discipline interdependencies between them; | | |
| | Demonstration of coherent thinking, scientific, logical, the exposure of ideas, theories, laws, and the ability to apply theoretical knowledge to solve practical problems. | | |
| Seminar/laboratory/clinical sessions | Acquisitions application to provide examples in conducting analyzes in solving exercises and problems, supporting arguments, and so on; | Examination for laboratory technics and fungi identification | 30% |
| | Using their procurement discipline in addressing inter-, intra-, multi-and / or transdisciplinary issues / problem situations. | | |
| Other activities | The presence on course and seminar | | 10% |

Course coordinator: Prof. PhD Ileana NICHITA

**Practical activities coordinator L/S/P: S. Lect. PhD Radu Valentin GROS,
Assist. Prof. PhD Alexandru MOZA**