



UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN
SCHOOL OF MEDICINE
Ba CLINICAL CHEMISTRY



SYNTHETIC PROGRAM.

1. Identification data:	
• Institution	Universidad Autónoma de Nuevo León
• College	School of Medicine
• Education program	Clinical Chemistry
• Learning unit	Micology and Virology
• Total hours of classroom, theory and practice	80
• Frequency in classroom per week	4 hours
• Total extra hours (Outside classroom)	40
• Modality	Face-to-face instruction
• Academic period	Sixth semester
• Type of learning unit	Core
• Curricular area	ACFP-F
• UANL Credits	3
• Date of elaboration	04/06/2018
• Date of actualization	25/11/2020
• Responsible (s) for the design and actualization	Design: Gloria M. González González, PhD, Mariana Elizondo Zertuche, PhD Amendment: Alexandra M. Montoya Mendoza, PhD, Rogelio de J. Treviño Rangel, PhD

2.Purpose(s):

The academic unit Mycology and Virology contributes to the graduate profile by developing necessary skills for the selection and performance of laboratory tests that allow for the identification of fungi and viruses in clinical samples, through the analysis of their properties, relation to clinical manifestations, and the elaboration of a laboratory report, focusing on the prevention, diagnosis and treatment of these diseases.

Regarding general skills, the student will be able to apply various strategies for the study of fungi and viruses. The student will manifest human, academic and professional commitment for the contribution to the patient's wellbeing and respect to the environment during their daily work in the laboratory. The student will conduct themselves with empathy during team work conflicts that may arise, such as laboratory sessions, seminars, and lectures.

In the unit Mycology and Virology, the student will acquire specific skills that may allow them to obtain, manage, store and analyze samples for the clinical diagnosis of fungal and viral diseases. Likewise, they will follow in a responsible manner and according to the national and international norms all the chemical and biological material for the protection of health and the environment. They will interpret the results that will allow for timely decision making in the diagnosis of these diseases.

The unit Mycology and Virology integrates the previously acquired skills in the following units: Basic Microbiology, where they study and analyze the microbial world and their cellular diversity; Immunology, where they identify the elements involved in the immune response, like the production of antibodies, lymphocyte activation and cytokine production for the prevention, diagnosis and treatment of diseases; Biochemistry and Molecular Biology, that allows the understanding of the chemical components of living organisms, especially proteins, carbohydrates, lipids and nucleic acids, and other small molecules present inside the cells, as well as the structural and biochemical disorders that may lead to a disease and their diagnosis. This unit provides some fundamental bases for Diagnostic Medical Microbiology.

3. Competence of the graduate profile

- **General skills contributing to this learning unit**

Instrumental skills:

1. To apply autonomous learning strategies at different levels and field of knowledge that allow them to make timely and relevant decisions in the personal, academic and professional spheres.

Personal and social interaction skills:

10. To intervene in the face of the challenges of contemporary society at the local and global level with a critical attitude and human, academic and professional commitment to contribute to consolidating general well-being and sustainable development.

Integrative skills:

14. To resolve personal and social conflicts, in accordance with specific techniques in the academic field and in their profession for appropriate decision-making.

- **Specific skills of the graduate profile that contributes to the learning unit**

2. To execute physical, chemical and/or biological procedures in collection, handling, storage and analysis of samples to contribute to a reliable clinical, toxicological, chemical, food, forensic and environmental diagnosis.

3. To handle chemical and biological materials following official Mexican and/or international standards that guarantee their correct use and disposal to preserve health and the environment.

6. To interpret the results of analyses based on established criteria that allow timely and pertinent decision-making in clinical, toxicological, chemical, food, forensic and environmental diagnosis.

4. Factors to consider for evaluating the learning unit

- Written evaluations.
- Graded activities.
- Laboratory reports.
- Course integrative project/product.

5. Course integrative project/product:

Proposal of a solution to theoretical and practical cases for the analysis of fungi and viruses in clinical samples, for which the student will select the laboratory tests for the identification of the etiological agent and interpretation the results.

6. Sources of support and consultation (bibliography, hemerography, electronic sources):

Bonifaz, A. (2015). Micología Médica Básica 5ta ed. México: Méndez Editores.

Murray, P., Rosenthal, K. & Pfaller, M. (2021). Microbiología Médica 9na ed. España: Elsevier.

Rothan, H.A. & Byrareddy, S.N. (2020). The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. J Autoimmun, 109, 102433.

Departamento de Microbiología FAMED-UANL. <http://www.microbiologia-medicinauanl.com.mx/>

Departamento de Microbiología FAMED-UANL. <http://www.facebook.com/Departamento-de-Microbiología>

Engleberg, C., & Imperiale, M. (2020). Vaccines 2019.

http://www.med.umich.edu/lrc/vaccines/main_page/main_frameset.htm

Mount Sinai Hospital Joseph and Wolf Lebovic Health Complex. (2007). Mycology Image Gallery.

<https://eportal.mountsinai.ca/Microbiology//mig/index.shtml>