



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	Advanced Topics in Morphological Sciences
• Total hours of classroom, theory and practice	40
• Frequency in classroom per week	1 hour
• Total extra hours (Outside classroom)	50
• Modality	Face-to-face instruction
• Academic period	Ninth semester
• Type of learning unit	Elective
• Curricular area	ACFP-F Essential Professional
• UANL Credits	3
• Date of elaboration	28/09/2018
• Date of actualization	27/07/2020
• Responsible (s) for the design and actualization	Dr. Gilberto Jaramillo Rangel, Dra. Marta G. Ortega Martínez

2.Purpose(s):

The goal is to help students acquire competencies related to the critical and scientific analysis of current biomedical information, using the field of Morphological Sciences as a model. This will provide them with tools applicable to their professional development and contribute to their comprehensive personal formation.

This learning unit builds on knowledge acquired in Cellular Biology, which provides an understanding of the structure and function of cells; Morphological Sciences, which offers insights into the macro and microscopic structure of organisms; Medical Physiology, which enables the analysis of living functions with a focus on health; Biochemistry, which covers the chemical composition of living beings and their chemical reactions; Pathology, which examines the fundamentals of disease; and Molecular Biology, which relates processes occurring in living beings from a molecular perspective. This integration of disciplines supports the student's profile by providing skills for analyzing information across various fields within the QCB.

Additionally, Advanced Topics in Morphological Sciences supports the promotion of three general competencies of UANL (Universidad Autónoma de Nuevo León): First, by using research tools that students can later apply in their professional practice for knowledge generation; second, by fostering in students the acquisition of skills and values to contribute to general well-being and development at local and global levels; and third, by equipping students with specific techniques useful for making informed decisions in solving multifactorial problems and conflicts. The specific competency also supports the promotion of new methodologies to address needs in health-related areas.

3. Competence of the graduate profile

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

Instrumental skills:

8. To use traditional and cutting-edge research methods and techniques for the development of their academic work, the exercise of their profession and the generation of knowledge.

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**

5. To Incorporate new analytical methodology that contributes to the functional, economic and/or environmental improvement of laboratory processes to respond to needs in health areas.

4. Factors to consider for evaluating the learning unit

- Oral presentations
- Accredited activities
- Laboratory reports
- Course integrative project/product

5. Integrative learning Product:

Oral Presentation of the Design of an Original and Relevant Research Project in the Field of Morphological Sciences.

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

Fortoul, T., (2013), Histología y Biología Celular, México DF, México: McGraw-Hill.
 García-Porrero, J.A., Hurlé, J.M., (2005), Anatomía Humana, Madrid, España: McGraw-Hill Interamericana.
 Kierszenbaum, A.L., Tres, L., (2015), Histology and Cell Biology: An Introduction to Pathology, New York, USA: Elsevier.
 Moore, K.L., Dalley, A.F., Agur, A.M.R., (2014), Moore Clinically Oriented Anatomy, 7th ed., Alphen aan den Rijn, The Netherlands: Wolters Kluwer.
 Moore, K.L., Persaud, T.V.N., (2004), Embriología Clínica, 7a ed., Madrid, España: Elsevier.
 Sadler, T.W., (2015), Langman's Medical Embriology, 13th ed., Alphen aan den Rijn, The Netherlands: Wolters Kluwer.