



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	Morphological Sciences
• Total hours of classroom, theory and practice	140
• Frequency in classroom per week	7 hours
• Total extra hours (Outside classroom)	40
• Modality	Face-to-face instruction
• Academic period	Second semester
• Type of learning unit	Core
• Curricular area	ACFB Basic
• UANL Credits	6
• Date of elaboration	28/08/2017
• Date of actualization	22/12/2023
• Responsible (s) for the design and actualization	Dr. Gilberto Jaramillo Rangel, Dra. Marta G. Ortega Martínez

2.Purpose(s):

This learning unit (LU) aims to foster both professional and human development in students through the integration of knowledge in three closely related scientific areas. It promotes the development of competencies to recognize the embryonic processes involved in assisted fertilization procedures, while also considering bioethical principles. Additionally, it aims to help students understand the general organization of the human body and handle information for determining appropriate sites for biological sample collection, enabling them to perform this task with precision and safety. Furthermore, students will acquire the foundational knowledge to justify and substantiate laboratory procedures according to the types of samples.

Regarding general competencies, students will be able to use their native language effectively in both oral and written forms to explain embryonic processes and describe histological images in an organized and clear manner, employing relevant, timely, and ethical terminology, and adapting their message to the context to convey their ideas. They will also develop an attitude of commitment and respect, showing acceptance towards diverse social and cultural practices, which affirms the principle of integration when resolving bibliographic research tasks in teams and being evaluated by their peers. Additionally, they will achieve the adaptability required for social and professional environments by working in different situations during their individual practical laboratory work.

During the LU, students will also develop specific competencies as they execute biological procedures to obtain, manage, store, and analyze samples, contributing to diagnoses while ensuring safety.

The Morphological Sciences LU utilizes competencies acquired in the Cellular Biology LU, applying knowledge of cellular structure and function to the organization of tissues and organs. It also relates to the Medical Physiology LU by applying knowledge of structural organization to the function of various organs and systems, and to the Pathology and Clinical Pathology LUs by providing normal parameters to determine cellular and tissue changes in disease situations.

3. Competence of the graduate profile

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

Instrumental skills:

4. To master their mother tongue orally and in writing with correctness, relevance, timeliness and ethics, adapting their message to the situation or context, for the transmission of ideas and scientific findings.

Personal and social interaction skills:

9. To maintain an attitude of commitment and respect towards the diversity of social and cultural practices that reaffirm the principle of integration in the local, national and international context in order to promote environments of peaceful coexistence.

Integrative skills:

15. To achieve the adaptability required by the uncertain social and professional environments of our time to create better living conditions.

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

2. To execute physical, chemical and/or biological procedures in the 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.

4. Factors to consider for evaluating the learning unit

- Course integrative project/product

5. Integrative learning Product:

Essay on a clinical laboratory procedure through the integration of knowledge from Morphological Sciences.

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

Alcaraz del R. (2016). Elementos de Anatomía Humana (Decimoquinta ed.). México: Méndez Editores.

Dudeck, R. (2016). Embriología (Sexta ed.). China: Wolters Kluwer.

Junqueira, L. y. (2013). Histología Básica, Texto y Atlas (Doceava ed.). China: Panamericana.

Lonrenz, A. (19 de septiembre de 2017). Cells, Tissues, Organs. Basel, Switzerland.

Pawlina, W. M. (2015). Ros:Histología. Texto Atlas (Séptima ed.). España: Wolters Kluwer.

Ruiz Arguelles, G. y. (2017). Fundamentos de Interpretación Clínica de los exámenes de laboratorio (Tercera ed.). España: Médica-Panamericana.

Sadler, T. (2016). Langman:Embriología Médica (13° ed.). España: Wolters Kluwer.

Stark, J. M. (19 de septiembre de 2017). Journal of Morphology. New Jersey, Ill, E.U.A.

Universidad de Michigan (2014) Medical-Histology and Virtual Microscopy Learning Resources. Recuperado el 19 de Sept de 2017 de <https://histology.med.umich.edu/schedule/medical>

Universidad de Illinois (2017) Internet Atlas of Histology, College of Medicine Universidad de Illinois at E.E.U.U. <https://histolife.illinois.edu/histo/atlas/showcat>