



UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN
SCHOOL OF MEDICINE
Ba CLINICAL CHEMISTRY



SYNTHETIC PROGRAM.

1. Identification data:	
• Institution	Universidad Autónoma de Nuevo León
• College	Faculty of Medicine
• Education program	Clinical Chemistry
• Learning unit	Basic organic chemistry
• Total hours of classroom, theory and practice	120
• Frequency in classroom per week	6 hours
• Total extra hours (Outside classroom)	60
• Modality	Schooled
• Academic period	Third semester
• Type of learning unit	Compulsory
• Curricular area	ACFB
• UANL Credits	6
• Date of elaboration	March 15th, 2018
• Date of actualization	July 04 th , 2022
• Responsible (s) for the design and	Dr. C. Noemí Herminia Waksman Minsky, Dr. C. Verónica Mayela Rivas Galindo, Dr.

actualization	Dr. C. Noemí Herminia Waksman Minsky, Dr.C. Jonathan Pérez Meseguer
2.Purpose(s):	
<p>This learning unit aims to contribute to achieving the graduate profile by mastering the basic knowledge of Organic Chemistry to predict the behavior of biomolecules. This will allow students, in their professional field, to substantiate and understand the development of laboratory tests.</p> <p>During this learning unit, the student will develop some general competencies, as they will be able to use the learning strategies indicated by the professor for each phase of the program. Additionally, through teamwork, they will demonstrate openness and respect while integrating into workgroups in the environments in which they operate, with the aim of promoting peaceful coexistence. They will assume committed leadership by actively participating in academic activities and taking initiative in the different processes in which they are involved.</p> <p>They will also develop specific competencies by solving problems through the application of knowledge regarding the physicochemical properties of organic compounds, which will be useful for determining analytes in various matrices.</p> <p>This learning unit, due to both its content and its placement in the third semester of the program, constitutes a fundamental link within the framework that integrates the Clinical Chemistry curriculum. It is a unit that is related to General Chemistry and Physical Chemistry, as it uses knowledge of the general properties of matter, atomic structure, thermodynamics, and kinetics, and provides the basis for understanding the functional groups present in biologically relevant molecules. This knowledge supports the learning units of Biochemistry and Clinical Biochemistry. The study of functional groups also forms the foundation for laboratory techniques used to manipulate organic molecules in the Organic Techniques learning unit and the specific methods used for their analysis, which are developed in the Organic Analysis and Comprehensive Laboratory of Organic Analysis learning units.</p>	

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 fields of knowledge that allow them to make timely and relevant decisions in the personal, academic and professional spheres.

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:

13. To assume leadership roles committed to social and professional needs in order to promote relevant social change.

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

1. To solve problems by applying knowledge of the chemical composition of matter as well as its physicochemical properties to determine analytes in biological, environmental and food matrices.

4. Factors to consider for evaluating the learning unit

- Questionnaires and problems
- Laboratory reports.
- Partial exams.
- Course integrative project/product

5. Course integrative project/product:

Integrative written assessment where solutions to simple organic compound synthesis problems are proposed.

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

Cambridge Soft Corp. (2012). ChemBioDraw versión 11.0. Cambridge, EUA.

Hart, H. Hart, D.J. and Craine, L.E. (2007) Química Orgánica. Mexico: McGraw-Hill.

Morrison, R. T. and Boyd, R.N. (1998) Química Orgánica. EUA: Fondo Educativo Interamericano México. Solomons, T.W. (2004) Fundamentos de Química Orgánica. México: editorial Limusa.

• **Wade, L. G. (2017). Química Orgánica. México: Pearson Educación de México SA de CV.**

<https://www.nearpod.com> <https://www.genial.ly> <https://www.mentimeter.com> <https://www.edpuzzle.com>

<https://www.acdlabs.com/> <https://www.quimicaorganica.org/>

<https://es.khanacademy.org/science/organic-chemistry>