

SYNTHETC PROGRAM

1. Module identification code.	
Name of the institution:	Universidad Autónoma de Nuevo León
Name of the school:	School of Medicine
Name of the degree program:	Clinical Chemistry
Name of the course (learning unit):	Food Analysis
Total number of class hours-theory and practice:	140
Class hours per week:	3 hours
Independent study:	10
Course modality:	Face-to-face instruction
Module level:	Eighth semester
Core/elective module:	Core
Curriculum area:	ACFB
UANL credit points:	5
Create date:	May 5 th , 2018
Date of last amendment made:	January 19 th , 2024
Person(s) responsible for the design and amendment of the module:	Dr. C Norma Cecilia Cavazos Rocha, Dra. Idalia Francisca Carmona Alvarado, M.C. Samantha Armijo Martínez, Dr. David Paniagua Vega.

2. Purpose:

The purpose of this learning unit is to encourage students to develop skills that allow them to select and apply appropriate methodology to ensure the quality of food, knowing its composition, preservation, nutritional value and manufacturing processes. This will allow them, as future graduates, to solve problems of chemical analysis in different food matrices.

Regarding general competencies, during this learning unit, the student applies autonomous learning strategies to study the chemical composition of food, the factors that determine its quality, some of the industrialization processes, the most commonly used conservation methods, the most important microorganisms in food, and relevant topics in food toxicology. Likewise, during the development of the unit, the student acquires an attitude of commitment and respect towards his/her peers when interacting for the presentation of seminars and classes. He/she also constructs innovative proposals when expressing his/her experiences during the development of his/her reports (field work) that contribute to overcoming the challenges of the interdependent global environment during his/her professional practice.

During the learning unit, the student also develops specific skills, both in the classroom and in the laboratory, as he or she applies procedures and interprets the results of analysis based on established criteria and guarantees the reliability of the analytical results obtained, applying quality control guidelines in food analysis methods for correct decision-making.

The Food Analysis learning unit is located in the eighth semester of the Clinical Chemistry Program, for its development, uses the skills acquired in the Biochemistry learning units, to understand the properties of foods due to their nutrients and Instrumental Analysis to carry out an adequate selection and application of chemical analysis methods.

Food analysis provides students with the knowledge and skills necessary to develop in the analysis and quality control laboratory during professional internships and social service in the food area.

3. Competences of the graduate profile

General competences to which this module (learning unit) contributes:

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:

12. To make innovative proposals based on a holistic understanding of reality to help overcome the challenges of the interdependent global environment.

Specific competences of the graduate profile to which this module (learning unit) contributes:

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.
7. To guarantee the reliability of the analytical results obtained by applying quality control guidelines as established by laboratory policies for correct decision-making.

4. Summative evaluation:

- Daily evidences
- Partial exams
- PIA

5. Course integrative project/product:

Report and presentation of a proposal to solve a problem related to the composition, quality and preservation of a food

6. References:

Badui D. S. (2015). *Food science in practice*. Mexico: Pearson Education publishing house.

▪ Baudi D. S. (2013) *Food chemistry*. Mexico: Limusa publishing house.

▪ Mendoza E., Calvo C. *Bromatology. Composition and properties of food*. Mc. Graw Hill publishing house. Mexico 2010.

▪ Kirk R., Sawyer R. Egan H. (2011) *Pearson Food Composition and Analysis*. Mexico: Grupo Editorial Patria publishing house.

▪ Chávez M. *Food composition*. Miriam Muñoz de Chávez. Nutritional value of the most consumed foods. (2009). Mexico: Mc Graw Hill publishing house.

▪ Frazier, M.C. (1993) *Food microbiology*. Spain: Acribia publishing house.

▪ Charley H. (2016) *Food technology*. Mexico: Limusa publishing house

▪ Lindner E. (1994) *Food Toxicology*. Spain: Acribia publishing house.

▪ Ediciones y Publicaciones Alimentaria. Website: <https://eypasa.com/>

▪ Official Mexican Standards. Retrieved on January 14, 2021. <http://transparencia.cofepris.gob.mx/index.php/es/marco-juridico/normas-oficiales-mexicanas/alimentos>

▪ Food and Agriculture Organization of the United Nations. Website: <http://www.fao.org/home/es/>

▪ Analytical and food scientific journals: *Journal of the AOAC*, *Food Science*, *Food Technology*.