

SYNTHETIC 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):	Application of information technologies
Total number of class hours-theory and practice:	40
Class hours per week:	2 hours
Independent study:	20
Course modality:	Face-to-face instruction
Module level:	First semester
Core/elective module:	Core
Curriculum area:	ACFB
UANL credit points:	2
Create date:	May 9 th , 2017
Date of last amendment made:	July 11 th , 2022
Person(s) responsible for the design	M. A. Engineer Angel Enrique Alcorta Garza

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and amendment of the module:	
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2. Purpose:

The purpose of the learning unit (UA) is to train students to develop skills in the use of information technologies, either in face-to-face or out-of-school mode, which will serve them for the implementation and validation of methods in the solution of problems in the biochemical field.

During the UA, the student will develop skills in the management of information and communication technologies as tools for access to information and its transformation into knowledge, through computational practice by preparing written evidence in electronic format, text documents, databases and presentations. They will practice the values promoted by the University, by preparing and presenting written evidence in electronic format to their classmates and professors. The student will use the various information technologies to create better living conditions when carrying out their activities, by working as a team with respect and a positive attitude, in their social and professional environment.

Regarding specific competencies, the student will make use of information technologies to carry out bibliographic searches, which will allow them to incorporate new analytical methodologies for the laboratory.

The learning unit facilitates the advanced generation of text documents, presentations, and databases; is located in the first semester of the Clinical Chemistry curriculum, relates to all the learning units of the curriculum, e.g. Biostatistics, Analytical Chemistry and Instrumental Analysis, applying information technologies by searching for information through them and using them to perform data analysis around problems in the biochemical field.

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3. Competences of the graduate profile

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

Instrumental skills:

3. To manage Digital Information, Communication, Knowledge and Learning Technologies (TICCAD), in academic, personal and professional environments with cutting-edge techniques that allow their constructive and collaborative participation in society.

Personal and social interaction skills:

11. To practice the values promoted by the UANL: truth, equity, honesty, freedom, solidarity, respect for life and others, peace, respect for nature, integrity, ethical behavior and justice, in their personal and professional environment to contribute to building a sustainable society

Integrative skills:

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

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

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.

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4. Summative evaluation:

- Daily evidence
- Project report
- PIA

5. Course integrative project/product:

Proposal to the solution of a case posed, where the various information technologies learned are applied. It must be an unpublished product, on a subject related to the biochemical field. The structure must contain: cover, index, theoretical framework, hypothesis, justification of the sample, database, analysis, results, conclusions, sources of support and consultation.

6. References:

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Elizondo, R. A., Sarabia, J. (2009), Application of Information Technologies, 2nd. Edition, Mexico: Grupo Editorial Patria/UANL.

Huidobro, J. (2007). Information and communication technologies. Polytechnic University of Madrid, 2.

Madruga Payno, Microsoft® Office 2013: Anaya Multimedia.

Professional office automation, Microsoft® Office 2013: ENI Editores.

PAHO/WHO. Regional Mortality Information System; Washington DC;2014 Last updated:May 24, 2014. (IB14-28)

Porto WF, Pires AS, Franco OL (2017) Computational tools for exploring sequence databases as a resource for antimicrobial peptides. Biotechnology Advances.

- <https://dti.uanl.mx/crea-dti-recursos-educativos-digitales/> Eureka Journal on Science Teaching and Dissemination (2005), Vol. 2, No. 1, pp. 2-18, Applications of Information and Communication Technologies in Science Education.