UANL
UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

FACULTAD DE MEDICINA

MODULE DESCRIPTION (ANALYTICAL PROGRAM).

1. Module Information Code:	
● Name of the Institution and School	Universidad Autónoma de Nuevo León, School of Medicine
● Name of the Learning Unit	Research Methodology in Health science.
● Total classroom hours for theory and/or practice.	45 hours.
● Total extra classroom hours	45 hours.
● Course Modality	Schooled.
● Type of academic period in which the module is offered	Semester.
● Type of Learning Unit in the Curriculum	Compulsory
● Curriculum area:	ACFB
● UANL credit points	3.
● Date of module creation	December 15, 2015.
● Date of last amendment.	March 23, 2020
Person(s) responsible for the module design and amendments	Dr. Héctor Eloy Taméz Pérez.

2. Introduction:

The learning unit of research methodology in health sciences is divided into three stages:
The history of scientific medicine, which analyses the preceding phase of medicine exemplifying the treatment of prevalent diseases to identify the empirical method of medicine.
A history of the solutions that have been provided at every moment and a critical review of the genesis and development of the ways in which these problems are now presented.
It must now be a social role to play in the familial, economic and social factors that cause or incentive the emergence of the disease.
The research protocol to design the structure of a research project on a health problem from a biopsychosocial perspective in order to assume the process of scientific thought.
With a number of standardized steps through a systematized formal process to incorporate knowledge and to be able to solve a critical problem.
Scientific articles to distinguish the quality of published scientific medical articles valuing their validity and impact and applicability in order to give solutions to clinical situations.

For the student to identify critique and hierarchical content of scientific text and magazines.
The course concludes with the collaboration of the Course Integrative Product. It's a review of a scientific medical article relating to the theme of generated research protocol applied in this competence of search for critical reading and structuring of an opinion.

3. Purpose(s)

The purpose of the research methodology in health science is to develop the sense of criticism for science article by discerning among those with validity and success potential, the ones that can have a successful impact in the daily health-care methodology, As well as to know the basic steps for the implementation of a research protocol and the publication of a scientific article. In this way the student implements the scientific method in resolving medical problems with an innovative analytical and self-critical attitude in the prevention of diagnostic and treatment of diseases that are studied in different learning units. So the student develops self-learning and mindset to easy-making decisions with social responsibility, always seeking the well-being of the patient by learning and implementing the culture of institutional work by working with its medical colleagues with the help of information technologies to keep up with the advances of medicine.

4. Competences of the graduate profile

Instrumental skills:

1. Apply autonomous learning strategies in the different levels and fields of knowledge that allow them make appropriate and relevant decisions in the personal, academic and professional fields.

3. Use the information and communication technologies as access tools to information and its transformation in knowledge, as well as for learning and collaborative work with cutting-edge techniques that allow its constructive participation in society.

5. Employ logical, critical, creative and proactive thinking to analyze natural and social phenomena that let them make relevant decisions in its area of influence with social responsibility.

Personal and social interaction skills:

10. Intervene in front of the challenges of contemporary society at the local and global level with a critical attitude and human, academic and professional commitment to help consolidate the general wellness and sustainable development.

Integrative skills:

14. Resolve personal and social conflicts in accordance with specific techniques in the academic field and their profession for the proper decision making.

15. Achieve the adaptability required in uncertain professional and social environments of our time to improve living conditions.

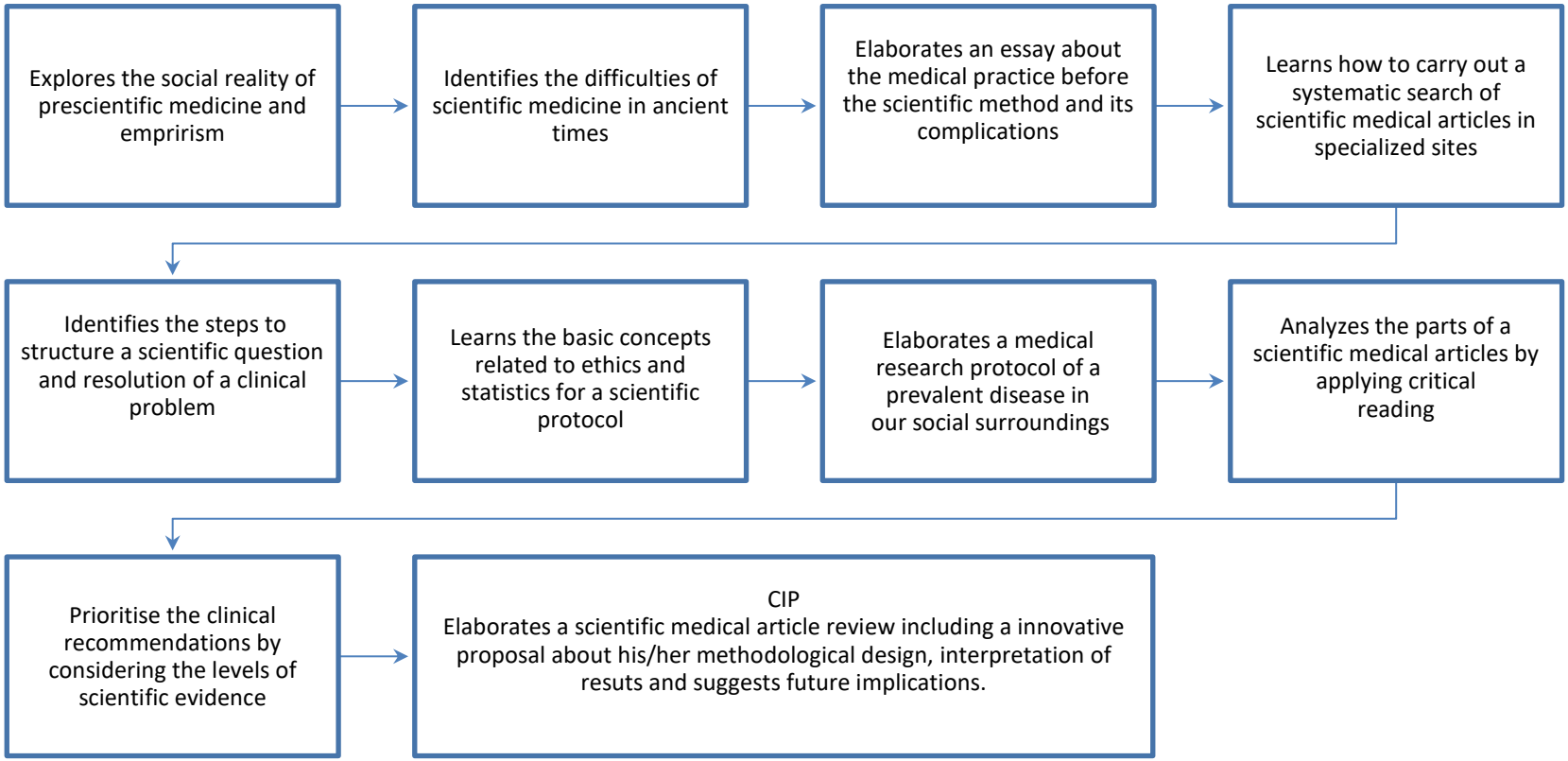
Specific competences of the graduate profile that contributes to the learning unit:

2. Solves clinical problems through deductive reasoning, interpretation of findings and definition of their nature with the aim of making decisions and determine action principles of the medical practice to follow in a responsible way, impacting individual and collective health.

7. Applies the scientific method for the resolution of medical problems with an innovative, analytic and self-critical attitude for preventing, diagnosing and treating diseases.

10. Promotes an organizational work culture for the health field, acknowledging the multidisciplinary work, respect for institutional policies and the observance of rules in order to contribute to a comprehensive treatment of patients.

5. Course Roadmap



6. Structuring into stages or phases

Phase 1: History of scientific medicine

Component(s) of the competence:
Analyzes of the pre-scientific phase of medicine history by exemplifying the treatment of prevalent disease to identify the empirical method of medicine.

Evidence of student learning	Performance criteria	Learning activities	Contents	Resources
Seminar about the research protocol or research project	The essay should have the following characteristics. A) When presenting the data sheet; 1) Title Preferably in upper and lower case. Student´s full name. Using upper and lower case letters. With no abbreviations. 2) Student´s ID number 3) Name of the course and group number. 4) Name of the teacher. 5) Date date B) Essay structure	One-on-one or online advisory to the leader of each working team. Reading of a chapter on the history of medicine. Team discussion of different opinions to elaborate an essay. Conclusions elaborated under tutoring. Group essay elaboration.	**Conceptual Content** ● Basic concepts ● New concept of clinical research. ● Accurate medicine. ● Search of scientific information. **Procedural Content** Critical reflection of text and/or academic articles. Appropriate structure of writings. Drafting conclusions in writing **Attitudinal content** Teamwork Companionship	• Library or electronic and printed Information centers ● Equipped classroom ● Electronic platform ● Textbooks

	1) Introduction. 2) Development. 3) Argumentation. 4) Contents and Summary 5) Conclusion. C) Bibliograpjy in APA format D) General format Criteria. maximum of 3-5 pasterns: 1. Word Processor should be used in the elaboration of the work. USING WHITE PAPER SHEETS. 2. The font type of the full complete text will be Arial. For the main text, it is consider 12-point font size.. The text should be written in lowercase letters , Upper case letters are allowed only when orthographically correct. 3. The following measures shall be consider for pastern: letter sheet size(8” X 11”), left margin		Listen to the others. . To exercise the ability to express and communicate views and convictions in a framework of respect.	

	1.00”, right margin 1.00”, upper margin 1.00”,lower margin 1.00”, page numbering0.5”. The text will be written to 1.5 spaces, full lined up. Headlines are not allowed.nor lines that take space from the text. Every start of paragraph except the first one. should have a half inch indent. To define the measurement of the document use the option. 4. All pages are numbered. except the presentation page. The page number shall be placed at the bottom and centre of the sheet. (ARIAL, eleven points), at a distance of 0.5” (Should indicate the option) 5. The titles and subtitles shall be written in 14 y 12 points respectively. in BOLD. The titles and subtitles shall NOT be centred. but they’ll start at the left margin.			

	6. The footnotes shall be written at 9.5 points (ARIAL).The foot page shall be at 11 points. The reference number of the footnote should be separated with a space from the rest of the text of the same note. E) Timely submitted.			

Phase 2: Component(s) of the competence: **Component element:** Design the structure of a research protocol about a health problem from a biopsychosocial perspective in order to assume the process of scientific thought.				
Evidence of student learning	**Performance criteria**	**Learning activities**	**Contents**	**Resources**
Guided discussion based on an article published in a high-impact journal	Contains the following sections; 1) Conceiving an idea, question, problem or project. 2) Locate the line of investigation. 3) .Identify the study units. 4) Statement of the study. 5) Elaborate the variables table.	These are the activities that the student has to perform to make the best of learning evidence under the established criteria. How is it learn? How to organize learning? Incluye las actividades que el profesor desarrolla en apoyo al aprendizaje de los estudiantes.	**Conceptual Content** ● The idea in research. ● Study design ● Ethics in research ● Statistics ● Publication of a scientific article. **Procedural Content** Identify a problem or research question.	• Library or electronic and printed Information centers ● Equipped classroom ● Electronic platform ● Textbooks

	6) Develop the theoretical framework. 7) Describe the goals of the course. 8) Describe the methodology 9) Describe the expected results. : The protocol should have the following characteristics; A) Presentation of the data sheet. 1) Title, preferably in upper and lower case letters. 2) Student's full name without use of abbreviations. 3) Student's ID number. 4) Name of the course and Name of the group. 5) Name of the teacher. 6) Submission date. B) Essay structure. 1. Summary 2. Introduction/background/ theoretical framework 3. Justification.	It includes activities that the teacher is engaged in supporting student learning. Exposición por parte del Profesor sobre la Encuesta Nacional de Enfermedades Crónicas. Professor's presentation on the National Chronic Disease Survey. Discussion and exemplification of student interest issues. Student's presentation on the idea of the research project and corresponding feedback of the teacher. Search for information, through the guided instruction,through a database tutoring. The professor conducts one-on-one and online team tutoring sessions. Clinical problem solution by the student, through the achievement of the protocol steps.	Search for information related to your question. Apply the components of a research project. **Attitudinal Content** Know how to exercise the ability to express and communicate opinions and convictions within a framework of respect. Accept criticism in order to identify methodological weaknesses that may jeopardize the validity of the project.	

	4. Hypothesis 5. Targets 6. Methods and materials 7. Expected results. C) Bibliography 1) APA method. D) Format general criteria. 1. All papers should be done on Word. 2. Font type will be ARIAL, 12. 3. All pages are numbered. except the presentation page. 4. The page number shall be placed at the bottom and centre of the sheet. 5. The titles and subtitles shall be written in 14 y 12 points respectively. in BOLD. 6. The titles and subtitles shall NOT be centred. but they'll start at the left margin.			

Phase 3: Scientific articles.

Component(s) of the competence:
Distinguish the quality of published scientific medical articles by doubling their validity and applicability in order to resolve clinical situations.

Evidence of student learning	Performance criteria	Learning activities	Content	Resources
. Guided discussion based on an article published in a high-impact journal Final exam	Provides adequate response to the following questions: 1. The study focuses on a clearly defined theme. 2. The result was measured precisely with the aim of minimizing risks and confusion factors. 3. The results of the study match the evidence available. 4. Results can be applied at local and/or national level.	Tutorized activity for the information search. Reading scientific articles provided by the teacher. Team critique of the provided article by highlighting strengths and limitations. Example of articles of interest to students by teachers. Exposition of doubts by students on the methodology of medical articles and the corresponding feedback from the teacher. Search for information through the use of databases. Clinical problem solution through applicability critique of read articles.	**Conceptual Content** ● The structure of a Scientific article ● Control of bias and confusion factors. ● Meta-analysis critical reading ● Critical reading of controlled clinical essays. ● Critical reading of observational studies. ● Scientific evidence levels. **Procedural Content** Classify research designs. Identification of byas and confusion factors. Drafting conclusions in writing. **Attitudinal Content** To exercise the ability to express and communicate views and conviction in a framework of respect. Teamwork.	• Library or electronic and printed Information centers ● Equipped classroom ● Electronic platform ● Textbooks

			Companionship. Listen to others.	

7. .Summative Evaluation:

Seminar about the research protocol or research project……..……..30%
Guided discussion based on an article published in a high-impact journal…… ……..……..30%
Final exam...……...30%
CIP – Scientific medical article review……20%

8. Course Integrative product (signed in the sintetic program).

Scientific medical article review related to the topic of the research protocol generated.

9. References.

Tamez Pérez, H. E. (2013). *El ABC de la medicina científica*. McGraw Hill México.
Sampieri, R. H., Collado, C. F., Lucio, P. B., & Pérez, M. D. L. L. C. (2015).*Metodología de la investigación*. McGraw-Hill.
Straus, S.E (2015). Medicina Basada en la Evidencia Cómo practicar y enseñar la MBE. Elsevier.
Bravo Toledo, R (2007). Medicina basada en Evidencia. http://www.infodoctor.org/rafabravo/mbe.htm, revisada Enero 2016.
Bioestadistico Eirl (2010). Docencia en Investigación Cuantitativa. http://bioestadistico.com/, revisada Diciembre 2015.
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www.iqb.es
student.bmj.com
www.paho.org/default_spa.htm
www.msd.com.mx
www.ncbi.nlm.nih.gov/pubmed

APPENDIX.

ASSESSMENT AND WORKLOAD

Module workload		Number of hours	Percentage
Contact hours	Class-based instruction	16h (35.55%)	50%= 45 horas
	Guided discusión	16h (35.55%)	
	Seminars	10h (22.22%)	
	Exam taking	2h (4.44%)	
	Course integrative producto (CIP)	1h(2.22%)	
Independent study	Study	37h (82.22%)	50%= 45 horas
	Exam preparation	8h (17.77%)	
Total hours of the workload: 30 hours X 3 credits UANL/ECTS*		90h	

*European Credit Transfer and Accumulation System
1 UANL credit = 30 hours

NOTE: Rubrics, checklists and evaluation formats are elaborated by using the performance criteria described in each stage of the module.

SUPLEMENTO COVID-19

Siguiendo las recomendaciones de la Secretaría de Salud del país y la Rectoría de la Universidad, ante la coyuntura de salud COVID-19, la organización de la docencia desde marzo del 2020, seguirá un modelo híbrido, donde la docencia se ajustará a los horarios aprobados por la Secretaría de Salud siguiendo un modelo de Presencialidad / No presencialidad en la medida en que las circunstancias sanitarias y la normativa lo permitan. Los estudiantes asistirán a las clases de manera no presencial mediante la transmisión de las mismas de manera síncrona/asíncrona vía “on line”.