

MODULE DESCRIPTION (SUMMARY PROGRAM)

Module Information Code:	
• Name of the Institution and School	Universidad Autónoma de Nuevo León, School of Medicine
• Name of the learning Unit	Biostatistics
• Total classroom hours for theory and/or practice.	40 hrs.
• Total extra classroom hours	50 hrs.
• Course Modality	Schooled
• Type of academic period in which the module is offered	4° Semester
• Type of Learning Unit in the Curriculum	Compulsory
• Curriculum area:	Basic formation curricular area
• UANL credit points	3
• Date of module creation:	17/09/2015
• Date of last amendment:	14/01/2021
• Person(s) responsible for the module design and amendments:	Dr. Raúl Gabino Salazar Montalvo. M.C. María Guadalupe Rodríguez López

2. Propourse

It analyses the trend and control of health-related events in a population, through its description, through its variation and the establishment of relations between the processes that affect it, in support of the establishment of diagnosis, preventive measures, forecast and rehabilitation. It contributes to the training of a competent doctor to solve the main health problems of the first level of care for the individual and community through the statistical analysis of the population and it's a fundamental part of getting into a postgraduate course. It relates to research methodology to make the core part of the results analysis and interpretation research; with preventive medicine for the correct description of the population, in coverage of preventive schemes and health prpgrammes. In the sixth semester, it relates to pharmacology for biokinetic analysis of medicinal products; and with work medicine to perform the statistical analysis of accidents and diseases that originate in the performance of the job. In the seventh semester it relates to epidemiology and public health in the description of the population in decision making for the implementation of specific health programmes. It responds to the university's general competences, since the development of self-learning is privileged, it uses mathematical reasoning and handles information technologies by resolving health problems, using research methods and techniques, and generating modifications to existing health programmes. Commitment is encouraged towards intervention to resolve prevalent health problems in the community with professional responsibility and ethics. With regard to the specific competences of the profession, the scientific foundations of medicine are used by analysing economic and social factors to contribute in the form of decisions and medical actions. Health problems are analysed by putting professional ethics before, to educate the population on risk factors related to the development and prevention of the disease whether these are physical social or cultural.

3. Competences of the graduate profile

a. General competences of the graduate profile to which the learning unit contributes:

Instrumental competences:

2. Use the logical, formal, mathematical, iconic, verbal and non-verbal languages according to their stage of life, in order to understand, interpret and express ideas, feelings, theories and streams of thinking with an ecumenical focus.
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.

8. Use methods and techniques of traditional and cutting-edge research for the development of their academic work, the practice of their profession and the generation of knowledge.

Personal and social interaction skills

9.- 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 with the purpose of promoting environments of peaceful coexistence.

11. Practice the values promoted by the UANL: truth, equality, honesty, liberty, solidarity, respect for life and anyone's, peace, respect for nature, integrity, ethics, behavior and justice, within their personal and professional environment in order to make a sustainable society.

Integrative skills

13. .Take the lead according to social and professional needs to promote relevant social change.

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

b. General competences of the graduate profile to which the learning unit contributes:

1.- Use the medicine scientific fundamentals considering economical, psychological, social, cultural and environmental factors which contribute to the development and evolution of a disease for decision-making and medical actions.

3.-Manages information and communication technologies as a tool for accessing to information and transform it into knowledge, as well as for learning purposes and collaborative work with cutting-edge techniques which allow an edifying participation in society.

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.

4. Summative evaluation.

- Basic concepts of biostatistics
- Frequency table
- Solving exercises
- Solving probability exercises
- Regression analysis
- Written partial evaluation
- Course Integrative Product.

5. Course Integrative Product.

Analysis of a database in a research study about the most frequent population health problems of a specific geographical region.

6. Bibliography, bibliohemerography and electronic sources.

References:

Celis de la Rosa, A. (2004). *Bioestadística*. México, D.F.: El Manual Moderno.

Pagano, R. (2011). *Estadística para las ciencias del comportamiento*. México, D.F.: Cengage Learning.

Manual de trabajo de Bioestadística. Departamento de Medicina Preventiva y Salud Pública.

Source books:

Daniel W. (1995). *Bioestadística. Base para el análisis de las ciencias de la salud*. México: Limusa.

Rosner, B. (2006) Fundamentals of Biostatistics. Belmont, CA. Thomson Learning.

Villa Romero, A., Altamirano Moreno, L., Garcia de la Torre, G. (2011) Epidemiologia y Estadística en Salud Pública. México D.F. Mc. Graw Hill.

Electronic sources:

<https://sites.google.com/site/sitesagradopythia/concepto-y-aplicaciones-de-la-aritmetica>

www.medicalbiostatistics.com

<http://www.bioestadistica.uma.es/baron/bioestadistica.pdf>

http://www.hrc.es/bioest/M_docente.html

