



UANL

UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

FACULTAD
DE MEDICINA



MODULE DESCRIPTION (SUMMARY PROGRAM).

1. Module Information Code:	
• Name of the Institution and School	Universidad Autónoma de Nuevo León, School of Medicine
• Name of the Learning Unit	Genomic Medicine
• Total classroom hours for theory and/or practice.	33 hrs.
• Total extra classroom hours	57 hrs.
• Course Modality	Schooled
• Type of academic period in which the module is offered	4° Semester
• Type of Learning Unit in the Curriculum	Elective
• Curriculum area:	ACFBP, Basic
• UANL credit points	3
• Date of module creation:	07-december-15
• Date of last amendment:	10-august-2020
• Person(s) responsible for the module design and amendments	Dra. med. Laura Elia Martínez Garza. Dra. med. Graciela Arellí López Uriarte.
2. Purpose(s)	
Medicina Genómica forma parte del grupo de materias optativas del cuarto semestre y su importancia se justifica por el avance científico resultado del descubrimiento del genoma humano y su implicación en el área de la salud. Para el médico general ofrece la oportunidad de ejercer	

y establecimiento de las medidas preventivas correspondientes. Se relaciona específicamente con Genética, Embriología, Biología Celular y Tisular así como Bioquímica, Biología Molecular, Farmacología, Medicina interna, Gineco-Obstetricia y Pediatría.

3. Competences of the graduate profile

a) General competences contributing to this learning unit.

Instrumental competences.

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.
4. Dominate their native language in oral and written form with correctness, relevancy, opportunity and ethics adapting its message to the situation or context, in order to transmit ideas and scientific findings.

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.
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

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

Scientific basis of medicine

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.

Professional clinical practice

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

6. Manages human resources, diagnostic interventions, therapeutic modalities, and options on health care according to national standards, promoting a quality culture in attention and guaranteeing patients' security.

Critical thinking and research

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.

Professional values and ethics

8. Integrates professional values and ethics into his medical practice, making no difference due to gender, race, political or sexual preference, religious beliefs, activities developed, disabilities or socioeconomic level, promoting social inclusion and contributing to the population's well-being, their life quality and human development.

Organizational work

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.

4. Summative Evaluation

- Laboratory
- Clinical case report
- Guided report
- PowerPoint presentations

5. Course Integrative Product.

CIP: Comprehensive approach to a clinical case of a genomic disease individually and in written form.

6. References

Textbooks:

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Genomics and Clinical Medicine, Kumar D, Weatherall D. Ed. Oxford University Press 2008.

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Genomic Medicine: articles from the New England Journal of Medicine, Guttmacher A, Collins F, Drazen J, Johns Hopkins University Press, 2004.

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Essentials of Medical Genomics, Brown Ed Willey Liss; 2003.

Other books

Supporting articles: journal titles

- Yahui Liu, Hong Qing, Yulin Deng. Biomarkers in Alzheimer's Disease Analysis by Mass Spectrometry-Based Proteomics. Int. J. Mol. Sci. 2014, 15.
- Philips CM. Nutrigenetics and Metabolic Disease: Current Status and Implications for Personalised Nutrition. Nutrients (2013), 5.
- Orozco L, Martínez-Aguilar NE, Del Río-Navarro BE, García Ortiz H, Jiménez-Morales S, SPINK5 and ADRB2 haplotypes are risk factors for asthma in Mexican pediatric patients, Asthma (2014), Early Online: 1-8.
- Hidalgo-Miranda A, Jiménez-Sánchez G. Genomic basis for breast cancer: advances in personalized medicine. Salud Publica Mex (2009);51 suppl 2:S197-S207.
- Hashemi M, Fazaeli A, Ghavami S, Eskandari-Nasab E, Arbabi F. Functional Polymorphisms of FAS and FASL Gene and Risk of Breast Cancer -Pilot Study of 134 Cases. PLoS ONE (2013) 8(1): e53075.
- Sohaily SA, Biankin A, Leong R, Kohonen-Corish M, Warusavitarne J, , Molecular pathways in colorectal cancer, Journal of Gastroenterology and Hepatology 27 (2012) 1423-1431
- Passalacqua C, Castillo-Taucher S, Genetic markers in essential hypertension, Rev Med Chile 2010; 138: 767-772
- Hottenga JJ, Whitfield JB, Posthuma D, Gonneke W, de Geus EJC, Martin NG, Boomsma DI, Genome-Wide Scan for Blood Pressure in Australian and Dutch Subjects Suggests Linkage at 5P, 14Q, and 17P, Hypertension (2007);49;832-838.
- McCarthy MI, Genomics, Type 2 Diabetes, and Obesity, N Engl J Med (2010);363:2339-50.

Electronic resources:

www.ncbi.nlm.nih.gov/blast
www.ncbi.nlm.nih.gov/entrez
www.ncbi.nlm.nih.gov/genemap
www.ncbi.nlm.nih.gov/pubmed

