ipb
INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Precision and Customization of Health Care			Field of study	Health		
Master in	Applied Health Sciences - Community Intervention			School	School of Health		
Academic Year	2022/2023	Year of study	1	Level	2-1	ECTS credits	4.5
Type	Semestral	Semester	2	Code	5055-668-1206-00-22		

Workload (hours)	121,5	Contact hours	T	-	TP	-	PL	-	TC	-	S	-	E	-	OT	-	O	54

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)	Emanuel Onofre Serra Lameiras, Olívia Rodrigues Pereira

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Define, characterize and distinguish the concepts of precision medicine and personalized medicine and 4P medicine
2. Understand the contribution of other sciences, namely genomics, to the evolution of precision medicine
3. Identify and understand the application of precision medicine in health care in diverse pathologies
4. Analyze the current difficulties and future prospects of precision medicine applied to health care
5. Demonstrate adequate synthesis and communication skills

Prerequisites

Not applicable

Course contents

Precision medicine and its application in health care; Current barriers and the future of the precision medicine application in healthcare.

Course contents (extended version)

1. Concepts
   - Precision medicine
   - Personalized medicine
   - 4P medicine (predictive, preventive, personalized and participatory medicine)
2. Contribution of genetics, genomics, molecular biology and other areas for precision medicine
3. Precision medicine and its application in health care
   - Oncology
   - Cardiovascular risk factors
   - Neurodegenerative diseases
   - Other
4. Barriers to the application of precision medicine in health care
5. The future of the application of precision medicine in health care

Recommended reading

1. Pothier, K. C. (2017). Personalizing Precision Medicine: A Global Voyage from Vision to Reality, Wiley: New Jersey. ISBN: 978-1-118-79211-7
2. McCarthy, J. J. , Mendelsohn, B. A. (2017). Precision Medicine: A Guide to Genomics in Clinical Practice 1st Edition, McGraw-Hill Global Education Holdings, LLC
3. Collins, F. S. , Varmus, H. (2015) A New Initiative on Precision Medicine. N Engl J Med, 372: 793-795. DOI: 10. 1056/NEJMp1500523
4. National Research Council. (2011) Toward Precision Medicine: Building a Knowledge Network for Biomedical Research and a New Taxonomy of Disease, National Academy of Sciences. ISBN 978-0-309-22219-8
5. Walker, R. , Whittlesea, C. (2007) Clinical pharmacy and therapeutics (4ª ed) UK: Elsevier www. infarmed. pt; www. dgs. pt; www. dgv. pt; www. ema. europa. eu/ema/; www. fda. gov/

Teaching and learning methods

The teaching methodologies include typologies T, TP, TC, OT. The theoretical themes will be approached in a theoretical-practical context in which practical exercises. The development of a project will be developed in TC and OT classes. Teaching for IPG using videoconferencing.

Assessment methods

- Unique alternative - (Regular, Student Worker) (Final, Supplementary, Special)
   - Final Written Exam - 50%
   - Projects - 50% (Written project and oral presentation and discussion (integrated evaluation with PIS))

Language of instruction

1. Portuguese
2. Portuguese, with additional English support for foreign students.

Electronic validation

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20-03-2023	21-03-2023	28-06-2023	28-06-2023

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