INSTITUTO POLITÉCNICO DE BRAGANÇA

Course Unit	Applied Forensic Sciences			Field of study	Biomedical Laboratory Sciences								
Bachelor in	Biomedical Laboratory Sciences			School	School of Health								
Academic Year	2022/2023	Year of study	3	Level	1-3	ECTS credits	5.0						
Type	Semestral	Semester	1	Code	9995-550-3101-00-22								
Workload (hours)	135	Contact hours	T -	TP 40	PL 15	TC -	S -	E -	OT 5	O -			

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): Josiana Adelaide Vaz, Jose Pedro dos Santos Neves

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Be familiar with the various areas of forensic sciences and its importance.
2. Apply knowledge:
3. - in thanatologycal practice in the differential diagnosis between suicide, homicide and accidents, between natural death and violent death and its importance in criminal investigation;
4. - in the area of molecular biology applied to the law, improvement of knowledges concerning to the investigation of paternity and the study of biological evidences;
5. - of Forensic Toxicology, in particular the importance in employment law and criminal law.
6. Interpreting results of scientific studies, evaluating the quality of detection of possible causes of error.
7. Using language on Legal Medicine, Biology, Toxicology supported by Criminology and Law.

Prerequisites

Not applicable

Course contents

The content of the course includes the following topics: Forensic science; Crime Scene; Areas of Forensic Science.

Course contents (extended version)

1. Forensic sciences
   - Definition.
   - Brief History.
   - Objectives.
   - Principles and characteristics.
   - Definition of the concepts of Trace, evidence, evidence and proof.
   - Organization in Portugal.
   - Areas.
2. Crime Scene:
   - Definition.
   - Protocol of investigation in the crime scene.
   - Examination of the crime scene: technical procedures.
   - Chain of Custody.
3. Areas of Forensic Science:
   - Forensic Pathology (Forensic Pathology).
   - Forensic Anthropology.
   - Forensic Odonthology.
   - Forensic Biology.
   - Forensic Toxicology.

Recommended reading

1. Dimaio, V. , & Dimaio, D. (2001). Forensic Pathology. New York : CRC Press.
2. Butler, J. (2005). Forensic DNA typing : biology, technology, and genetics of STR markers. London : Elsevier Academic Press
3. Alberts, B. (2002). Molecular biology of the cell. New York : Taylor & Francis.
4. Machado, H., Granja R. (2020). Forensic Genetics in the Governance of Crime. V. N. Famalicão: Papelmunde, SMG, Lda.

Teaching and learning methods

The teaching methodology will be expository, explanatory, demonstrative and "case-based" learning. In practice component: discussion of articles, group presentation, interpretation of case studies and discussion; demonstrations and development of different protocols, analysis of fingerprint and detection of forensic biological evidence.

Assessment methods

1. Continuous evaluation - (Regular, Student Worker) (Final)
   - Final Written Exam - 70%
   - Practical Work - 30%
2. Final written assessment/ examination - (Regular, Student Worker) (Supplementary, Special)
   - Final Written Exam - 100%
3. Final assessment - (Student Worker) (Final)
   - Final Written Exam - 100%

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Josiana Adelaide Vaz	Antonio Jose Madeira Nogueira	Juliana Almeida de Souza	Adília Maria Pires da Silva Fernandes
02-11-2022	02-11-2022	04-01-2023	07-01-2023