

Course Unit	Research in Lab. Biom. Sciences I		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
Type	Semestral	Semester	1	ECTS credits	5.0
Code	9995-550-3104-00-22				
Workload (hours)	135	Contact hours	T -	TP 30	PL -
			TC -	S 25	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) Ana da Conceicao Saraiva e Sousa Tavares, Antonio Jose Madeira Nogueira, Daniela Sofia Carvalho Alves, Emanuel Onofre Serra Lameiras, Josiana Adelaide Vaz, Rute Alexandra Araujo da Costa Dominguez

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Recognize the research process in health: the epistemologicals, methodological, technical and ethical aspects, in articulation theoretical/empirical field, in the practical clinical one.
2. Elaborate a Project of Research in Laboratory Biomedical Sciences.
3. Recognize the need of analyze a critical appreciation of research in Laboratory Biomedical Sciences.
4. Identify the characteristics of the rationale methodological
5. Elaborate a critical appreciation of the research instruments
6. Know the inherent elements to the instrumental and methodological plan of a research
7. Be able to perform all steps of the Research Planning, Execution and Publication ;

### Prerequisites

Before the course unit the learner is expected to be able to:  
Not applicable

### Course contents

Formulation of the question; Study design; Selection of data sources; Selection of participants; Preparation of the Protocol; Data collection; Processing and analysis of data; Disclosure of results; Ethics in research.

### Course contents (extended version)

1. Scientific Method in Health - The Scientific Research as a process
2. Formulating the question
3. Study Design
  - Experimental Studies
  - Observational Studies
  - Other types of studies (Drawings hybrids; incomplete and Drawings Study synthesis of evidence)
  - Frequency and association measures
4. Selection of data sources
  - Primary data
  - Secondary data
  - Instruments for data collection
5. Selection of participants
  - Selection criteria (inclusion and exclusion)
  - Sampling Methods
  - Recruitment
6. Preparation of Protocol Research
7. Data collection
8. Processing and analysis of data
9. Dissemination of results
10. Ethics in research

### Recommended reading

1. Girão, A. (2008). Investigação aplicada em análises clínicas e saúde pública. Coimbra: Escola Superior de Tecnologia da Saúde de Coimbra.
2. Pestana, H. , & Gageiro, J. , (2008). Análise de dados para Ciências Sociais. A complementaridade do SPSS. Lisboa: Edições Sílabo.
3. Ribeiro, J. (2010). Metodologia de Investigação em Psicologia e Saúde. 3ª Ed. Oliveira de Azemeis. Livpsic.
4. Thomas, R. (2003). Blending qualitative & quantitative: Research methods in theses and dissertations. London: Corwin Press, Inc - A Sage Publications Company.

### Teaching and learning methods

Lectures: Theoretical expository, interactive methodology. Practical classes: Running Form Critical Analysis of a scientific article; Practical Application of Methods and Techniques of Research in Laboratory Biomedical Sciences; Seminar for presentation of research papers.

### Assessment methods

- Continuous assessment - (Regular, Student Worker) (Final, Supplementary, Special)
- Development Topics - 40% (Critical analysis of a scientific paper in the area of LBC)
- Projects - 60% (Oral presentation and writing of Research Project in the area of LBC)

### Language of instruction

Portuguese, with additional English support for foreign students.

## Electronic validation

Ana da Conceicao Saraiva e Sousa Tavares, Antonio Jose Madeira Nogueira, Daniela Sofia Carvalho Alves, Emanuel Onofre Serra Lameiras, Josiana Adelaide Vaz, Rute Alexandra Araujo da Costa Dominguez	Josiana Adelaide Vaz	Juliana Almeida de Souza	Adília Maria Pires da Silva Fernandes
27-10-2022	02-11-2022	03-01-2023	07-01-2023