

POLI ESCOLA SUPERIOR SAÚDE TÉCNICO GUARDA	CURRICULAR UNIT GUIDE (GFUC)	MODELO PED.010.03
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Course	Medicinal Biotechnology						
Curricular Unit (UC)	Animal Experimentation						
School Year	2023/2024	Year	3.º	Period	1.º semestre	ECTS	3
Mode	Optional	Working time (hours)			Total: 81	Contacto: TP:15; S:7, OT:7,5	
Professor(s)	Luís Pedro Ferreira Rato						
<input type="checkbox"/> Responsável da UC ou	Área/Grupo Disciplinar (cf. situação de cada Escola)		Paula Isabel Teixeira Gonçalves Coutinho Borges				
<input type="checkbox"/> Coordenador(a)							
<input checked="" type="checkbox"/> Regente							

GFUC PREVISTO

1. LEARNING OUTCOMES


With this curricular unit it is intended that students should learn about *research with in vivo and/or in vitro models and the development of a new medicine and/or selection of a special compound, study a gene or mutation found in animals and humans or study a fundamental process, namely gene transcription.*

In this sense, the following specific objectives of this unit were:

- To know how to choose the model that responds as closely as possible to what is expected in a human or other animal;
- To be in the notion that when doing animal experimentation there are rules and conducts to follow, which in a case include the objective of the 3R's;
- To recognize the importance of basic research in the evolution of clinical applications;
- To know the theoretical concepts of how to perform some laboratory techniques used in animal experimentation.

2. SYLLABUS

1. Animal Experimentation: Ethics and Legislation
2. Animal model of disease: selection criteria and animal species
3. Collection/management of surgical specimens from animal models of diseases
4. Microbiological control of laboratory animals
5. Emerging animal models in biomedical research. Animal Models for Therapeutic Strategies
6. Animal welfare and experimental procedures: Alternatives to animal experimentation and *in vitro models*
7. Positive contributions of animal experimentation vs quality of life

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3. DEMONSTRATION OF THE SYLLABUS COHERENCE WITH THE CURRICULAR UNIT'S LEARNING OBJECTIVES.

The syllabus of the CU is in accordance and allows to achieve the goals set for this curricular unit. The integration of knowledge throughout the program is obtained through exposure and discussion of contents and analysis of study cases and reports and/or scientific papers, as well as appropriate guidance developed by teaching staff for the process of self-learning allowing students to acquire the basic skills necessary for the development of their activity.

4. MAIN BIBLIOGRAPHY

van Zutphen, L. F., Baumans, V., & Beynen, A. C. (2001). Principles of Laboratory Animal Science, Revised Edition, Elsevier.

Directive 2010/63/EU. Directive 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes

Students will also be given access to videos, books and scientific supporting articles for each topic.

5. TEACHING METHODOLOGIES (INCLUDING EVALUATION):

The teaching process learning of this curricular unit is centered on the student, using pedagogical methodologies of interactive character in which the teacher guide the students in the research of relevant information to obtain the results. Whenever appropriate this approach is complemented, by *online activities*, and group work to discuss the topics addressed. The evaluation included the preparation of exercise (40%) and a critical analysis of an original scientific article applying the *ARRIVE guidelines*, subject to presentation and discussion (60%). The approval of the curricular unit is obtained with a minimum final grade of ten points, on a scale from zero to twenty points (0-20). Failure to pass a continuous assessment implies an examination on the entire subject, at the times provided for this purpose. Approval in the curricular unit results from a minimum final grade of ten points, on a scale from zero to twenty points.

6. DEMONSTRATION OF THE COHERENCE BETWEEN THE TEACHING METHODOLOGIES AND THE LEARNING OUTCOMES.

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The teaching and evaluation methodologies is defined taking into account what is intended to develop in the curricular unit and the skills and abilities that students will acquire in the area of animal experimentation. These students, through theoretical and practical methodologies, the use of techniques and tools appropriate to the development of defined program contents, learned to achieve the educational objectives of this curricular unit. It is in its whole that this curricular unit has added value and adds value to the curriculum of the course where it integrates. In this sense and given that what is intended here is for students to acquire skills in real context promoting autonomy, proactivity, problem solving and responsibility, the assessment of the unit would have to be continuous, allowing the teacher a close contact with each student and the development of their work and level of learning.

7. ATTENDANCE

To the approval of this curricular unit (continuous evaluation or final exam) requires participation and attendance, with a minimum mandatory presence of 75% in TP and Seminar classes.

8. OFFICE SERVICE

Luís Pedro Ferreira Rato ; lrato@ipg.pt; Thursday 11:00 am-12:00 pm

DATA

01 de outubro de 2023

Signatures

O(A) Regente da UC

(assinatura)

O(A) Docente

Luís Pedro Ferreira Rato
(assinatura)