

SUBJECT TEACHING GUIDE

435 - Genetic Engineering and Biotechnology

University Master's Degree in Molecular Biology and Biomedicine

Academic year 2023-2024

1. IDENTIFYING DATA			
Degree	University Master's Degree in Molecular Biology and Biomedicine	Type and Year	Optional. Year 1
Faculty	Faculty of Medicine		
Discipline	Optional Subjects Module		
Course unit title and code	435 - Genetic Engineering and Biotechnology		
Number of ECTS credits allocated	5	Term	Semester based (1)
Web			
Language of instruction	English	Mode of delivery	Face-to-face

Department	DPTO. BIOLOGIA MOLECULAR
Name of lecturer	MARIA JESUS LUCAS GAY
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Office	Edificio IBBTEC. Planta: + 3. DESPACHO (308)
Other lecturers	FERNANDO SALMON MUÑIZ MATXALEN LLOSA BLAS GABRIEL MONCALIAN MONTES MARIA PILAR GARCILLAN BARCIA RAUL FERNANDEZ LOPEZ ANA HERRERO MIER MARTA ROBLEDO GARRIDO GUILLERMO ABASCAL PALACIOS

3.1 LEARNING OUTCOMES

- Ability to critically read and interpret recent scientific works on Genetic Engineering and Biotechnology.
- Acquisition of updated knowledge about the main topics in Molecular Biology and Biomedicine

4. OBJECTIVES

This course aims to give students an overview of current issues in Genetic Engineering and Biotechnology.

6. COURSE ORGANIZATION

CONTENTS

1	<ul style="list-style-type: none"> 1- Introduction to Genetic Engineering 2- Gene Cloning 3- CRISPR-Cas Technology and Gene Therapy 4- Recombineering 5- Applications of Genetic Engineering in Research 6- Protein Biotechnology 7- Synthetic Biology 8- Green Biotech: Genetic Engineering in Plants 9- Genetics and Society 10- The future of Biotechnology
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7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Assistance and participation in class	Others	No	Yes	30,00
Continuous assessment through test questions in class	Activity evaluation with Virtual Media	No	No	10,00
Computer lab sessions	Activity evaluation with Virtual Media	No	Yes	30,00
Oral presentation	Oral Exam	Yes	Yes	30,00
TOTAL				100,00

Observations

The unjustified absence of more than two days of classes will suppose failing the subject. Justified absences will be recoverable by completing a written task assigned by the teacher responsible for the subject.

Observations for part-time students

Part-time students must do a written task assigned by the teacher responsible for the subject. In any case, they must perform the compulsory tasks on the Moodle platform and attend the oral exam, which consists of a PowerPoint presentation of a topic related to the program of the subject.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Molecular Biotechnology: Principles and Applications of Recombinant DNA. Sixth Edition (2022). Bernard R. Glick, Cheryl L. Patten. ASM Press. ISBN 978-1-68367-364-4