

SUBJECT TEACHING GUIDE

447 - Structure of Macromolecules

University Master's Degree in Molecular Biology and Biomedicine

Academic year 2025-2026

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	447 - Structure of Macromolecules				
Number of ECTS credits allocated	5	Term	Semester based (1)		
Web					
Language of instruction	English	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. BIOLOGIA MOLECULAR				
Name of lecturer	IGNACIO MARIA ARECHAGA ITURREGUI				
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Office	Facultad de Medicina. Planta: + 1. DESPACHO (1095)				
Other lecturers	MARIA PILAR GARCILLAN BARCIA MARIA ELENA CABEZON NAVARRO JORGE RIPOLL ROZADA FERNANDO MORO PEREZ				

3.1 LEARNING OUTCOMES

--Understanding experimental approaches for the determination of the three-dimensional structure of biological macromolecules

4. OBJECTIVES

- 1.- Understanding the basics of the structure of macromolecules
- 2.- Introduction to the experimental methods used in the determination of the three-dimensional structure of macromolecules

6. SUBJECT PROGRAM

CONTENTS

1	- 30 h Seminars - 10 h Practicals in laboratory - 10h Practicals in classroom
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7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Students will give a shor-talk about one of the topics treated in this course	Oral Exam	Yes	Yes	30,00
Students will be evaluated by the active participation in seminars, debates and practical sessions	Others	No	No	10,00
-Assitance to seminars and active participation	Others	No	Yes	60,00
TOTAL				100,00
Observations				
Observations for part-time students				
Part time students unable to attend seminars will have to do an individual report in one of the topics. In any case, the oral exam, consisting of a PowerPoint presentation, is compulsory.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

GÓMEZ-MORENO, C Y SANCHO, J (COORDINADORES) "ESTRUCTURA DE PROTEÍNAS". ED. ARIEL 2003
 CREIGHTON, T . "PROTEINS. STRUCTURE AND MOLECULAR PROPERTIES" 2ª ED. FREEMAN. 1993
 BRANDEN, TOOZE. "INTRODUCTION TO PROTEIN STRUCTURE" 2ª ED. GARLAND 1999
 LESK, A. "AN INTRODUCTION TO PROTEIN ARCHITECTURE: THE STRUCTURAL BIOLOGY OF PROTEINS." OXFORD UNIVERSITY PRESS, 2001
 KYTE "STRUCTURE IN PROTEIN CHEMISTRY", GARLAND 1995
 DARBY, CREIGHTON "PROTEIN STRUCTURE" IRL PRESS. OXFORD UNIVERSITY PRESS 1993
 RHODES, G "CRYSTALLOGRAPHY MADE CRYSTAL CLEAR". 2ª ED. ACADEMIC PRESS 2000