



Schedule of the course

Degree L/LM/LMCU	Degree in Biotechnology
Name of the course:	Organic Chemistry
Number of credits:	6
Semester:	Second semester of the first year
Teacher Professor:	Prof. Giuseppe Graziano
PhD students/fellows carrying out teaching activities in support of the course	none
Reception hours:	Tuesday 14-16
Indirizzo:	

PRESENTATION OF THE COURSE:

The course intends to provide the basic knowledge of organic chemistry for a biotechnology student: nomenclature, structure and reactivity of the main classes of organic compounds; study of the most important reaction mechanisms; introduction to synthesis strategies.

LEARNING OBJECTIVES

The student should know the main classes of organic chemistry compounds, knowing how to recognize them, and their main reactions so that they can understand their transformations in the perspective of biochemistry. It should also master the stereochemical aspects of both single molecules and their reactions.

PREREQUISITES

It is recommended that you pass the examination of General and Inorganic Chemistry.

COURSE ATTENDANCE

Classes attendance, although not mandatory according to the University Teaching Regulations, is strongly recommended because the course program only covers a part of organic chemistry and home study is facilitated by the teacher's explanations. There are also two written tests, the first one in the middle of the program and the second one at the end of the course, and the passing of both allows student to pass the exam.

CONTENTS OF THE COURSE

Alkanes and their reactions. Alkenes and their reactions. Chemical kinetics. Alkyl halides and nucleophilic and beta-elimination substitutions. Stereochemistry. Grignard reagents. Aldehydes and ketones and their reactivity. Carboxylic acids and their derivatives and their chemical reactivity. Aromatic hydrocarbons and aromatic electrophilic substitution reactions. Enolate anions reactions. Synthetic polymers. Facts about carbohydrates, proteins and fats.

DIDACTIC METHODS

The didactic activity is divided into frontal lessons and exercises for the resolution of organic chemistry exercises that constitute the two written tests that the student will have to deal with. The aim is to enable the student to acquire a solid knowledge of the reactivity of the main groups of organic molecules and of some reaction mechanisms.

REFERENCE TEXTBOOKS

Organic Chemistry - Brown, Iverson, Anslyn, Foote, 5th Edition, EdiSES.

Organic Chemistry – Bruice, 2nd Edition, EdiSES.

EXAM

The exam for attending students is made up of two written tests of 1.5 hours each, one at half of the program and the other at the end of the course, in exercises relating mainly to the reactivity of organic compounds and their molecular structure. Passing both tests allows student to pass the exam. It is possible to take an oral test to improve the vote. For those who do not pass the exam this way, a written test and a subsequent oral test are scheduled.

EXAM CALENDAR

Refer to the link

EXAM BOOKING

Refer to the link

SYLLABUS

Topics	Hours	References	Lesson type
Alkanes and alkenes	10		Frontal lesson
Stereochemistry	4		Frontal lesson
Alkyl halides	6		Frontal lesson
Alcohols, ethers, sulphides	2		Frontal lesson

Exercises	8		
First written test			
Aldehydes and ketones	4		Frontal lessons
Carboxylic acids and derivatives, fats	6		Frontal lessons
Aromatic hydrocarbons	4		Frontal lessons
Synthetic polymers	4		Frontal lessons
Enolate anions	4		
Carbohydrates and proteins	3		Frontal lessons
Exercises	8		
Second written test			