



COURSE DETAILS

"ORGANIC CHEMISTRY"

SSD CHIM/06

DEGREE PROGRAMME: FOOD TECHNOLOGY

ACADEMIC YEAR 2021-2022

GENERAL INFORMATION – TEACHER REFERENCES

TEACHER: VIRGINIA LANZOTTI

PHONE: 081/2539459

EMAIL: VIRGINIA.LANZOTTI@UNINA.IT

GENERAL INFORMATION ABOUT THE COURSE

COURSE: ORGANIC CHEMISTRY (CHIM/06)

CHANNEL: **ODD**

YEAR OF THE DEGREE PROGRAMME: **II**

SEMESTER: **I**

CFU: **9**

REQUIRED PRELIMINARY COURSES (IF MENTIONED IN THE COURSE STRUCTURE "ORDINAMENTO")

General and inorganic chemistry

PREREQUISITES (IF APPLICABLE)

No requirement

LEARNING GOALS

The aim of the course is to introduce carbon compounds, their structure, their reactivity, and their diffusion in biological systems.

EXPECTED LEARNING OUTCOMES (DUBLIN DESCRIPTORS)

Knowledge and understanding

The student needs to demonstrate knowledge of the main classes of organic compounds with reference to the structure, nomenclature, and chemical-physical properties. Furthermore, the student will have to show knowledge of molecules of biological interest with particular attention to those present in food.

Applying knowledge and understanding

The student needs to demonstrate its ability to recognize the class to which organic compounds belong, to determine the relative and absolute stereochemistry, to know the nomenclature and to predict their reactivity.

COURSE CONTENT/SYLLABUS

Introduction to organic compounds. Functional groups and classes of organic compounds. Traditional nomenclature and IUPAC nomenclature. Structure of alkanes alkenes, alkynes; alcohols, ethers and thioethers; dienes and polyenes, aromatic compounds, amines and heterocyclic compounds, aldehydes and ketones, carboxylic acids, and derivatives. Reactivity of organic compounds with the study of reaction mechanisms and the main chemical reactions with reference to those of organic compounds present in foods. (6 ECTS)

Conformational analysis of linear and cyclic molecules. Stereochemistry: representation of chiral molecules with one or more stereocenters. Optical activity and chirality. Absolute and relative configurations. (1 ECTS)

Molecules of biological interest. Lipids: fatty acids, triglycerides, phospholipids, and steroids. Carbohydrates: monosaccharides, disaccharides, and polysaccharides. Amino acids: acid-base properties, peptide bond, peptides, and proteins. Nucleic acids: DNA and RNA structure; Synthetic polymers. (2 ECTS)

READINGS/BIBLIOGRAPHY

W. Brown, T. Pon - Introduzione alla Chimica Organica - EdiSES (con modellini molecolari)

P.Y. Bruice - Elementi Di Chimica Organica - EdiSES (con modellini molecolari)

N.E. Schore, K.P.C. Vollhardt - Esercizi risolti di Chimica organica - Zanichelli

F. Nicotra, L. Cipolla- Eserciziario di Chimica Organica - EdiSES

On the teacher Unina website (and on Microsoft Teams) there are a collection of exercises, lecture slides and additional material useful for exam preparation.

TEACHING METHODS

The teacher will use lectures for approx. 70% of the total hours, also using online material to be viewed, and the remaining 30% in interactive exercises and discussion of students' papers

EXAMINATION/EVALUATION CRITERIA

a) Exam type:

Exam type	
written and oral	X
only written	
only oral	
project discussion	
other	

In case of a written exam, questions refer to: (*)	Multiple choice answers	X
	Open answers	
	Numerical exercises	

(*) multiple options are possible

The exam consists of a written exam and an oral exam. The written exam is mandatory to access to the oral exam.

b) Evaluation pattern:

The outcome of the written test is binding for admission to the oral test. The written exam consists of theory questions and exercises with multiple choice answer. For the written test, the number and correctness of the answers provided by the student will be assessed. The exam is passed if a mark of at least 18/30 is obtained.

The oral exam will be assessed based on the following indicators: completeness, exposure, relevance.

The oral exam consists of 3 questions on the course content for a maximum time of 15-20 minutes. The final mark is the result of both exams.

ADDITIONAL REMARKS:

The students cannot take part in two exam sessions less than three weeks apart.

Booking for the exam session on segrepass is mandatory to participate in the exam session.

It is required the identity card to access to the written and oral exams.

It is required the 5-digit PIN code for the exam registration.