ORGANIC CHEMISTRY

Syllabus

GENERAL

SCHOOL	AGRICULTURAL SCIENCES		
DEPARTMENT	FOOD SCIENCE & NUTRITION		
PROGRAMME	UNDERGRADUATE		
COURSE CODE	**ΒΠ211**	**SEMESTER**	**B**
COURSE	ORGANIC CHEMISTRY RESPONSIBLE: D. MAKRIS		

TEACHING ACTIVITIES	**TEACHING HOURS PER WEEK**	**CREDIT UNITS**
LECTURES	3	5
LABORATORY	3	

COURSE TYPE	SCIENTIFIC AREA/SPECIFIC BACKGROUND/ SKILL DEVELOPMENT
PREREQUISITES:	NO
TEACHING AND EXAM LANGUAGE:	GREEK
COURSE OFFERED TO ERASMUS STUDENTS	NO
COURSE SITE (URL)	

LEARNING OUTCOME

Learning outcome

The objective of the course is the understanding of concepts pertaining to Organic Chemistry. Specific attention is given to comprehension of basic notions of molecular structure, chemical bonding, and characteristic reactions. Laboratory exercices intent to accustom students to basic concepts of separation and identification methods of specific groups of organic compounds and train them to basic handling of reagents and chemical techniques.

Upon successful completion of the course, students will be able to:

- *Understand the basic principles of organic chemistry and its applications*
- *Have knowledge of basic notions, principles and theory related with organic chemistry.*
- *Understand and evaluate methods of organic chemistry.*
- *Select the most appropriate methodology for carrying out specific chemical analyses.*
- *Properly and safely use laboratory devices and equipment.*
- *Elaborate statistical data obtained from experimental procedures and draw conclusions.*
- *Comprehend the impact of data processing on the reliability of the results.*
- *Understand the implementation of methods of analysis on the determination of food composition.*

General skills

Upon completion of the course, the students will acquire the following skills:

- *Critical thinking and the link between theory and practical applications*
- *Search, analysis and combination of data and information with the use of cutting edge technologies*
- *Decision making*
- *Self-sufficient working*
- *Team working*
- *Advancement of free, creative and inferential thinking*
- *Development of connotative and divergent thinking*

Syllabus

1st week: Functional groups – Hybrid orbitals - Resonance
2nd week: Alkanes and cycloalkanes
3rd week: Stereoisomerism and chirality
4th week: Acids and bases
5th week: Alkenes – Bonds, nomenclature, properties, reactions
6th week: Haloalkanes – Halogenation and radical reactions
7th week: Reaction mechanisms
8th week: Alcohols
9th week: Aldehydes and ketones
10th week: Carboxylic acids
11th week: Benzene and the concept of aromaticity
12th week: Amines
13th week: Overview - summary

Laboratory course: 1. Introduction 2. Laboratory safety – Good laboratory practice 3. Functional group detection 4. Liquid – liquid extraction 5. Solid-liquid extraction 6. Distillation 7. Thin-layer chromatography 8. Overview - summary

TEACHING AND LEARNING METHODS - EVALUATION

TEACHING MODE	On campus. In laboratory courses, following a short demonstration by the teaching staff, students carry out the experiment. Furthermore, students get accustomed to writing of scientific reports, in which the experimental data are appropriately given and discussed.
USE OF COMPUTER SERVICES	Lectures are delivered by power point presentations and other audio media
TEACHING ORGANISATION	
STUDENT EVALUATION	The language of evaluation is Greek. The final grade is 50% the grade of the lecture course and 50% of the laboratory course. The exams of the lecture course include multiple choice questions. The exams of the laboratory course include exercises (50%) and reports (50%).

Activity	***Semester workload***
Lecture course	39
Laboratory course	39
Study	47
Sum	**125**

RECOMMENDED BIBLIOGRAPHY

Brown W.H., Iverson B.L., Anslyn E.V., Foote C.S., Novak B.M., 2014. Organic Chemistry, 7th Edition, Wadsworth Cengage Learning, U.S.A.
Isac-García J., Dobado J.A., Calvo-Flores F.G, Martínez-García H., 2016. Experimental Organic Chemistry: Laboratory Manual, Elsevier, London, U.K.