



UNIVERSITY OF
PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

DEPARTMENT OF PHARMACY

SCHOOL OF HEALTH SCIENCES

UNIVERSITY OF PATRAS
SCHOOL OF HEALTH SCIENCES
DEPARTMENT OF PHARMACY
UNDERGRADUATE STUDIES' COURSES



COURSE DESCRIPTION: **ORGANIC CHEMISTRY**
COURSE CODE: **PHA-A24-NEW**

**ORGANIC CHEMISTRY
COURSE DESCRIPTION**

1. GENERAL

SCHOOL	SCHOOL OF HEALTH SCIENCES		
DEPARTMENT	PHARMACY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	PHA-A124- NEW	SEMESTER OF STUDIES	2nd
COURSE TITLE	ORGANIC CHEMISTRY		
	INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	4	6
	Tutorials	2	
COURSE TYPE	General Background Course		
PREREQUISITE COURSES:	-		
TEACHING AND ASSESSMENT LANGUAGE:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes [Instructed/Guided self study in english for Erasmus+ Students]		
COURSE WEBPAGE (URL)	http://www.pharmacy.upatras.gr/images/DS/PHA-A24-EN.pdf		

2. LEARNING OUTCOMES

Learning Outcomes
After taking this Course the student is supposed to acquire the basic skills in organic chemistry which will enable him/her to go on and take the three following Medicinal Chemistry Courses (I, II & III) included in the undergraduate curriculum of the Department of Pharmacy, University of Patras.
General Abilities
Inquiry, Analysis and Synthesis of all data and information by employing all the necessary technologies Adjustment to new challenges and Situations Ability to to take Decisions Independent Work Work Design and Management Promotion of free, creative, and inductive Thinking Ability

3. COURSE CONTENT

Atomic Structure, Orbitals, Theory of Chemical Bonding, Tetrahedral Nature of Carbon Hybridized Orbitals & Double and Triple Bonds, Formal Charges, Lewis Structures, Resonance, Acids & Bases according to Brönsted-Lowry and Lewis

Alkanes & Cycloalkanes, Functional Groups and Constitutional Isomerism, Stereochemistry I, Conformations of Ethane, Butane & Cyclohexane, Reaction Mechanisms, Rates and Equilibria of Organic Reactions
 Alkenes & Alkynes, Special Acidity of Alkynes, Introduction to Organic Synthesis, Stereochemistry II, Stereoisomerism and Fischer Projections
 Alkyl Halides and S_N (Substitution) & E (Elimination) Reactions, Conjugated Dienes & Diels-Alder Reaction
 Benzene & Aromaticity, Aromatic Ions, Electrophilic Aromatic substitution
 Alcohols, Amines, Ethers & Epoxides, Hydrogen Bonding, Alcohol Protection, Williamson Synthesis of Ethers, Hofmann Rearrangement & Elimination, Alkaloids & Morphine Rule

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD	Classroom Teaching	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	E-Class	
TEACHING ORGANIZATION	Teaching Method	Semester Workload
	Lectures	52
	Tutorials	26
	Un-supervised study	72
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	150
STUDENT ASSESSMENT	Written exams in Greek (also possible in English) Multiple choice questions, Short Response Questions	

5. RECOMMENDED LITERATURE

Suggested Books:

1. Organic Chemistry, John McMurry ISBN: 978-960-524-491-0 (Greek translation)
2. In Greek: Organic Chemistry, 1st Ed./2005, Varvoglis Anastasios, ISBN: 960-431-948-5

Relevant Journals:

Journal of Organic Chemistry, Organic Letters, Journal of the American Chemical Society, Synthesis, Synlett, European Journal of Organic Chemistry, Tetrahedron Letters, Tetrahedron.