



UNIVERSITY OF
PATRAS
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

DEPARTMENT OF PHARMACY

SCHOOL OF HEALTH SCIENCES

UNIVERSITY OF PATRAS
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DEPARTMENT OF PHARMACY
UNDERGRADUATE STUDIES' COURSES



COURSE DESCRIPTION: **TOXICOLOGY**
COURSE CODE: **PHA-D24-NEW**

**TOXICOLOGY
COURSE DESCRIPTION**

1. GENERAL

SCHOOL	HEALTH SCIENCES		
SEPARTMENT	PHARMACY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	PHA-D24-NEW	SEMESTER OF STUDIES	8th
COURSE TITLE	TOXICOLOGY		
	INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS
	Lectures	4	5
	Tutorials	1	
COURSE TYPE	Scientific Field 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-D24-EN.pdf		

2. LEARNING OUTCOMES

Learning Outcomes
<p>In general, this class ambitions to facilitate the acquisition of knowledge, skills and capabilities at the level 6 of the European Framework of Skills of Lifelong Learning. In particular, it aims to provide students with the following:</p> <ol style="list-style-type: none"> 1. To acquire a demonstrable knowledge and understanding of elements in the field of Toxicology and of the action of Xenobiotics in humans, supported by the use of textbooks of advanced level and by additional data derived from recent developments at the forefront of this field. 2. Grasp the chemical, cellular and functional basis of toxicity, as well as the basis for antidote use and toxicity treatment, when this is available and indicated 3. Be able to use the acquired knowledge and understanding in a manner showing a professional approach, based on analytical and synthetic inductive use of the data provided, in combination with other areas of knowledge to which they are exposed during their studies (e.g. Pharmacology, Biochemistry, Physiology) 4. Be able to synthesize and communicate information and advice on problems of intoxication (poisoning) 5. Be able to approach complex novel problems related to poisoning and suggest diagnosis, solutions and treatment 6. Students are expected to develop the skills and knowledge needed to continue in more advanced studies with a high degree of autonomy

General Abilities

- Search, analyze and synthesize data and information, using the appropriate technology tools
- Adapt to new situations
- Decision- making
- Independent work
- Group work
- Work in an international environment
- Work in an inter-disciplinary environment
- Respect for natural environment
- Develop critical thought towards others and themselves
- Development of free, creative and inductive thinking

3. COURSE CONTENT

Introduction - Basic notions of Toxicology
 Risk assessment
 Absorbance, Distribution, Metabolism and Excretion
 Clinical symptoms – Treatment of poisoning
 Mechanisms of Toxicity
 Toxic responses of the CNS
 Toxic responses of the Cardiovascular system and Blood
 Toxic responses of the Respiratory system
 Toxic responses of the Liver, GI and Reproductive systems
 Toxic responses of the Urinary system and the Kidneys
 Chemical Carcinogenesis
 Toxicology of organic solvents, alcohols and other industrial chemicals
 Toxicology of Metals
 Toxicology of Plant and Animal toxins
 Toxicology of Pesticides
 Toxicology of household chemicals – Antiseptics, Disinfectants
 Environmental Toxicology (mostly toxic gases)
 Toxicology of pharmaceutical products
 Toxic drug-drug interactions
 Selective antidotes
 Food Toxicology
 Environmental pollutants – Air pollution

4. TEACHING AND LEARNING METHODS - ASSESSMENT

Teaching method	Face-to-face	
Use of information and communication technologies	Use of E-class platform to communicate with students and manage their tasks Use of PCs in teaching	
Teaching organization	Teaching Method	Semester Workload
	Lectures	52
	Tutorials	13
	Autonomous study	60
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	125

STUDENT ASSESSMENT	Evaluation done in greek Written exam: <ul style="list-style-type: none">• Multiple choice questions• Pairing Qs, and Qs requiring brief reasoning and justification• 100% of the final grade
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5. RECOMMENDED LITERATURE

Suggested Books:

Essentials of Toxicology, 2013 (translated in greek)

ΒΑΣΙΚΗ ΤΟΞΙΚΟΛΟΓΙΑ, C. Klaasen, J. Watkins, 2013, Εκδ. Παρισιάνου

ΤΟΞΙΚΟΛΟΓΙΑ (επίτομο), Α. Κουτσελίνης, 2004, Εκδ. Παρισιάνου

Suggested Scientific Journals:

Annual Review of Pharmacology and Toxicology

Critical Reviews in Toxicology

Web Sources:

<https://www.epa.gov/>

<http://monographs.iarc.fr/>

<https://www.atsdr.cdc.gov/substances/indexAZ.asp#>

<https://ntp.niehs.nih.gov/pubhealth/roc/index-1.html>