

Course Outline: “4101 - Food Toxicology”

1. General information

FACULTY/SCHOOL	Physical Education, Sport Science & Nutrition		
DEPARTMENT	Nutrition & Dietetics		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	4101	SEMESTER	4th
COURSE TITLE	Food Toxicology		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY TEACHING HOURS	CREDITS
in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits			
Lectures		3	
<i>Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4</i>		3	4
COURSE TYPE <i>Background knowledge, Scientific expertise, General Knowledge, Skills Development</i>	General Knowledge		
PREREQUISITE COURSES	No		
LANGUAGE OF INSTRUCTION	Greek		
LANGUAGE OF EXAMINATION/ASSESSMENT	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	https://eclass.uth.gr/courses/DND_U_198/		

2. LEARNING OUTCOMES

<p>Learning Outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail. It is necessary to consult: Συμβουλευτείτε το APPENDIX A</i></p> <ul style="list-style-type: none"> <i>Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.</i> <i>Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and APPENDIX B</i> <p><i>Guidelines for writing Learning Outcomes</i></p>			
<p>Toxicology is the scientific area that studies the impact of xenobiotics on living organisms. Xenobiotics are chemical substances that are not expected to be present in the organisms but they are ingested by them through their interaction with the environment or through diet. The main objective of the course is to offer to the students the required knowledge regarding the basic principles of Toxicology and the trajectory of xenobiotics in the organism from ingestion to metabolism and excretion. Furthermore, the biochemical and molecular mechanisms of the toxic action of xenobiotics present in foods are also examined.</p>			
<p>General Competences</p> <p><i>Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> <i>Search for, analysis and synthesis of data and information by the use of appropriate technologies, Adapting to new situations Decision-making Individual/Independent work Group/Team work Working in an international environment Working in an interdisciplinary environment Introduction of innovative research</i> </td> <td style="width: 50%; border: none; vertical-align: top;"> <i>Project planning and management Respect for diversity and multiculturalism Environmental awareness Social, professional and ethical responsibility and sensitivity to gender issues Critical thinking Development of free, creative and inductive thinking (Other.....citizenship, spiritual freedom, social awareness, altruism etc.)</i> </td> </tr> </table>		<i>Search for, analysis and synthesis of data and information by the use of appropriate technologies, Adapting to new situations Decision-making Individual/Independent work Group/Team work Working in an international environment Working in an interdisciplinary environment Introduction of innovative research</i>	<i>Project planning and management Respect for diversity and multiculturalism Environmental awareness Social, professional and ethical responsibility and sensitivity to gender issues Critical thinking Development of free, creative and inductive thinking (Other.....citizenship, spiritual freedom, social awareness, altruism etc.)</i>
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<ul style="list-style-type: none"> Individual/Independent work Group/Team work Working in an interdisciplinary environment Introduction of innovative research Development of free, creative and inductive thinking 			

3. COURSE CONTENT

<ul style="list-style-type: none"> • Introduction to Toxicology - History of Toxicology • Basic principles of Toxicology • Dose-response • Risk assessment of toxic substances • Absorption, distribution and excretion of toxic substances • Bioconversion of toxic substances • Detection of toxic substances in foods • Intrinsic food toxins • Toxic phytochemicals • Food additives • Toxic substances generated due to food processing • Biochemical pollutants and heavy metals • Pesticides • Psychoactive substances – Toxicology and association with nutrition

4. TEACHING METHODS - ASSESSMENT

MODES OF DELIVERY <i>Face-to-face, in-class lecturing, distance teaching and distance learning etc..</i>	Face to face	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in teaching, Laboratory Education, Communication with students</i>	1. Lectures in power point documents 2. Research or review papers in pdf documents 3. Laptops for the projection of relevant videos 4. The lectures in pdf documents that are announced to the students through the eclass platform The students get in touch with the instructor either directly (through face to face contact or email) or indirectly (through notes posted on the poster boards and the website of the Department).	
COURSE DESIGN <i>Description of teaching techniques, practices and methods: Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc. The study hours for each learning activity as well as the hours of self-directed study are given following the principles of the ECTS.</i>	Activity/Method	Semester workload
	Lectures	3 × 13 = 39
	Literature analysis	21
	Preparation for the exams	40
	Total	100
STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS <i>Detailed description of the evaluation procedures:</i> <i>Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other.....etc.</i> <i>Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students.</i>	The assessment language is Greek. The performance of the students is assessed through written exams.	

5. SUGGESTED BIBLIOGRAPHY

<p>- <i>Suggested bibliography:</i></p> <p>- Takayuki Shibamoto, Steve Taylor, Leonard F. Bjeldanes. Introduction to Food Toxicology. Academic Press, 2016.</p> <p>- Curtis Klaassen, John B. Watkins. Βασική Τοξικολογία. Casarett & Doull's Essentials of Toxicology.</p>

McGraw Hill/Medical, 4th edition, 2021.

- *Scientific journals:*

- Toxicology Reports

- Food and Chemical Toxicology

- Current Opinion in Toxicology

- Toxicology Letters

- Human and Experimental Toxicology