SCHOOL	FACULTY OF ENVIRONMENT	
ACADEMIC UNIT	FOOD SCIENCE AND TECHNOLOGY	
LEVEL OF STUDIES	UNDERGRADUATE	
COURSE CODE	**FST701**	**SEMESTER** **7**
COURSE TITLE	**FOOD TOXICOLOGY**	

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercise, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	WEEKLY TEACHING HOURS	CREDITS
Lectures	2	
	2	
Total	4	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		
COURSE TYPE *General background, special background, specialised general knowledge, skills development*	Specialised general knowledge	
PREREQUISITE COURSES:		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)		

LEARNING OUTCOMES

Learning Outcomes

The course earning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.
Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

Upon successful completion of the course the student will be able to:

- Identify toxic substances present in food as endogenous components , as exogenous factors from the environment, as products of interaction of ingredients in the preparation of food and as toxins of microorganisms
- Describe the processes of absorption, distribution, biotransformation. and excretion of toxic substances by the body.
- Understand the effect of toxic substances on the human body, the symptoms and ways of avoiding or preventing poisoning

- Apply modern methods of detection and identification of toxic substances

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	
Production of new research ideas	*......*
	Others...
	....

(1) Adapting to new situations
(2) Decision-making
(3) Working independently
(4) Team work
(5) Criticism and self-criticism
(6) Production of free, creative and inductive thinking
(7) Search for, analysis and synthesis of data and information, with the use of the necessary technology

SYLLABUS

Theoretical part

Definition of food toxicology. Food safety assessment. Ways of action of toxic substances. Phases of toxic action. Effect dose ratio and effect time. Methods for detection and determination of toxic substances in food. Synergy and competition of toxic substances. Definition of ADI and NOEL. Toxicological tests. Ways of manifestation of poisoning. Toxicological role of the gastrointestinal tract. Toxins of microorganisms. Toxicity of food and natural ingredients of food. Interaction of drugs and food ingredients. Toxic substances from the environment. Toxic substances formed during the processing or preparation of food.

Laboratory part of the lesson

Introduction to laboratory food toxicology analyzes.
Methods of analysis / Acute toxicity tests.
Design of the basic parameters of the measurements.
Impact dose curves determination LD50 and EC50.
Determination of toxic substances in food

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	**Use of information technology on data collection and information, in teaching and communication. Communication with students via web, e-mail, e-class and online folder sharing options etc.**

TEACHING METHODS *The manner and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*		

Activity	Semester workload
Lectures	78
Laboratory classes	26
Total contact hours and training	*104*

STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Written examination on graded multiple choice difficulty plus a written project Language Greek

ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

• *Γιαγκίνης Κ., Καραντώνης Χ., Γκιαούρης Ε., Σταμάτιος Θ., Τοξικολογία Τροφίμων, 2016 Εκδόσεις ΖΗΤΗ*

• *Tu A.T.: Handbook of Natural Toxins, Colorado St. Univ., Marcel Dekker Inc., NY, 1992.*

• *Botsoglou N. and Fletouris D.: Drug residues in foods, Aristotle Univ. of Thessaloniki, Marcel Dekker Inc.,2000.*

• *Breneman C.J.: Handbook of food allergies. Marcel Dekker Inc., NY, 1986.• Hathcock H.J.: Nutritional toxicology (vol 1). London Academic Press, 1982.*

Performance Statistics of the last 2years			
Grade (descending order)	absolute frequency	relative frequency %	sum of success rates per class
FOOD TOXICOLOGY			
10	4	12%	12%
9	7	21%	32%
8	9	26%	59%
7	10	29%	88%
6	4	12%	100%
	34	100%	