

Food Chemistry [3390]

COURSE OUTLINE

(1) GENERAL

SCHOOL	ANIMAL BIOSCIENCES		
ACADEMIC UNIT	DEPARTMENT OF ANIMAL SCIENCE		
LEVEL OF STUDIES	Undergraduate [Free Elective]		
COURSE CODE	3390	SEMESTER	4th
COURSE TITLE	FOOD CHEMISTRY		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS (ECTS)
Theory: Lectures		3	3
Laboratory: Use of Software Tools		2	2
Total		5	5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Scientific Area		
PREREQUISITE COURSES:	Organic Chemistry , Physical Chemistry, Analytical Chemistry, Inorganic chemistry		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	Yes (in English)		
COURSE WEBSITE (URL):	https://mediasrv.aua.gr/eclass/courses/ETDA130/		

(2) LEARNING OUTCOMES

Learning outcomes	
The course learning 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	
This module aims to provide students with knowledge of important chemical components of foods, and their impact on food quality during processing and storage. Students should be able to: - State the structures and discuss the properties of proteins, lipids, carbohydrates, vitamins. Discuss the effects of processing and storage on these components during processing and storage. - Discuss the importance of non-enzymatic browning on food production and preservation. - Describe selected permitted food additives and discuss their impact on food quality and/or safety. - Discuss the formation of flavor components in food - Describe the undesirable food constituents (toxicants)	
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 Adapting to new situations Decision-making Working independently Team work Working in an international environment Working in an interdisciplinary environment Production of new research ideas Project planning and management Respect for difference and multiculturalism Respect for the natural environment Showing social, professional and ethical responsibility and sensitivity to gender issues Criticism and self-criticism Production of free, creative and inductive thinking Others... 	

- Retrieve, analyse and synthesise data and information, with the use of necessary technologies
- Adapt to new situations
- Make decisions
- Work autonomously
- Future research
- Work in teams
- Respect natural environment
- Be critical and self-critical
- Advance free, creative and causative thinking

(3) SYLLABUS

1. Water and Ice
2. Carbohydrates
3. Lipids
4. Amino acids, peptides, enzymes and Proteins
5. Vitamins
6. Minerals
7. Food Additives
8. Colorants
9. Flavors
10. Toxicants

(4) TEACHING and LEARNING METHODS - EVALUATION

TEACHING METHOD <i>Face-to-face, Distance learning, etc.</i>	Teaching in the auditorium, bibliographic work, lab exercises	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Power point presentations on lectures, use of information data in the lab. Communication with students via open e-class platform and e-mail.	
TEACHING METHODS <i>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</i>	Activity	Semester workload
	Lectures	39
	Laboratory work	26
	Individual study	60
	Course total (25 h of workload per ECTS)	125
STUDENT PERFORMANCE EVALUATION <i>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.</i>	I. Theory Final Exam, written or oral, of increasing difficulty, which may include Multiple choice test, Questions of brief answer, Questions to develop a topic, Judgment questions and Exercise solving. Marking Scale: 0-10. Minimum Passing Mark: 5. II. Laboratory Final Exam Marking Scale: 0-10. Minimum Passing Mark: 5. The final Course mark is the average of the marks on Theory and Lab.	

(5) ATTACHED BIBLIOGRAPHY

Proposed literature:

- Food Chemistry, Belitz, H.-D., Grosch, W., Schieberle, P., Springer

- Food Chemistry, by O. Fennema , CRC Press
- Instructor's Manual for Principles of Food Chemistry, John M. deMan Aspen Publishers

Related scientific journals

- Food Chemistry
- Journal of Agricultural and Food Chemistry
- Journal of food composition & analysis
- Journal of the American Oil's Chemist Society