COURSE OUTLINE

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCE		
DEPARTMENT	FOOD SCIENCE AND TECNOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	**FST_802**	**SEMESTER OF STUDIES**	8TH
COURSE TITLE	FUNCTIONAL FOODS		

INDEPENDENT TEACHING ACTIVITIES *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*	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
Lectures	3	
Seminars	1	
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, specialized general knowledge, skills development*	Compulsory Specialized general knowledge
PREREQUISITE COURSES:	There are no prerequisite courses
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/

2. LEARNING OUTCOMES

Leraning 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

Functional Foods is a special course in the science of nutrition.

- The material of the course aims to familiarize students to the topic of functional and novel foods to be able to estimate one of the aspects of innovation in Food Science and Human Nutrition.

- The course aims to describe how functional components act and to present the most representative points of the current legislative framework.

By the end of this course students will obtain:

- Knowledge and comprehension relevant to recent developments in the Food Science
- Comprehension of the significance of innovation
- Comprehension of the role of functional foods in nutrition and health prevention
- Abillity to formulate scientific opinion on functional food issues to the scientific community of other cognitive fields

General Abilities

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

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Adapting to new situations
- Working independently
- Working in an interdisciplinary environment
- Production of new research ideas
- Respect for the natural environment
- Showing social, professional and ethical responsibility
- Criticism
- Production of free, creative and inductive thinking

3. COURSE CONTENT

- General terms about functional foods and the bioactivity of foods and ingredients. Definitions, categories, development and role.
- Bioactivity and bioavailability of nutrients in foods.
- Functional foods, bioactive ingredients and health promotion. Nutrition and Health Correlation. Functional foods and diseases prevention. Nutrition and prevention of cardiovascular diseases, metabolic syndrome, diabetes and cancer. Antioxidants in the diet and their role in health. Probiotic, prebiotic and symbiotic foods. Fibers: Effect on diabetes and cardiovascular diseases prevention. The health effects of monounsaturated and polyunsaturated fatty acids. The effect of phytosterols in reducing the risk of cardiovascular disease. Bioactive peptides and their health significance.
- Existing legislation on functional food. Nutrition claims and health claims.
- Bioactivity documentation methodology. Functional food approval procedures. Development processes and food market entry.
- Bioactivity databases.
- Trends and perspectives in modern reality. Superfoods, Novel Foods, Nutraceuticals, Nanofoods and Genetically Modified Foods.
- Functional food in the Greek market, case studies.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in teaching, laboratory education, communication with students*	Use of Information and Communication Technologies (e.g.powerpoint) in teaching. The lectures content of the courses will uploaded on the e-class. Communication with students will take place via e-class and e-mail.
TEACHING ORGANIZATION *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.*	

Activity	Semester workload
Lectures (3 conduct hours per week x 13 weeks)	39
Seminars (1 conduct hour per week X 13 weeks)	13
Study and analysis of bibliography	50
Project	*20*

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	Final examination	3
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	**125**
STUDENT ASSESSEMENT *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.*	At the end of the semester: (a) Multiple Choice Test, (b) Development Questions. Grades are based 30% on project and 70% on final exams. Grading scale: 1 to 10. Minimum passing grade: 5. Examination time: 3 hours.	

5. RECOMMENDED LITERATURE

-Attached bibliography :

1. Λειτουργικά Τρόφιμα, Κουτελιδάκης Αντώνιος, (2η έκδοση 2019), Εκδόσεις ΖΗΤΗ.

2. Βιολειτουργικά τρόφιμα, Πρόσθετα & Συμπληρώματα Διατροφής, Σφλώμος Κωνσταντίνος, (2019), 2η έκδοση, Εκδόσεις Τσότρας Αν. Αθανάσιος.

3. Gibney M., Vorster H., Kok F. Εισαγωγή στη Διατροφή του Ανθρώπου, Εκδόσεις Παρισιάνος Α.Ε.

4. Functional Foods and Nutraceuticals. Bioactive Components, Formulations and Innovations. Chukwuebuka Egbuna, Genevieve Dable Tupas, (2020), Springer.

-Relevant scientific journals:

Food Technology, Food Chemistry, American Journal of Clinical Nutrition, European Journal of Nutrition, Food Research International, Trends in Food Science & Technology, International Journal of Food Sciences and Nutrition, Lancet, Nutrition, Appetite