Course Outline: "6104 - Technology, Safety and Quality Control of Food"

1. General information

FACULTY/SCHOOL	Physical Education, Sport Science & Nutrition		
DEPARTMENT	Nutrition & Dietetics		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	**6104**	**SEMESTER**	**6th**
COURSE TITLE	**Technology, Safety and Quality Control of Food**		

INDEPENDENT TEACHING ACTIVITIES 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	**WEEKLY TEACHNG HOURS**	**CREDITS**
Lectures	2	
Laboratory Exercises	2	
Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4	**4**	**5**

COURSE TYPE Background knowledge, Scientific expertise, General Knowledge, Skills Development	Scientific expertise
PREREQUISITE COURSES	No
LANGUAGE OF INSTRUCTION	GREEK
LANGUAGE OF EXAMINATION/ASSESSMENT	GREEK
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES (in English)
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES

Learning Outcomes

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***

- *Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.*
- *Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and* ***APPENDIX B***
- *Guidelines for writing Learning Outcomes*

The aim of the course is to provide students with the special knowledge to be able to (i) apply the principles of quality control and especially the organoleptic assessment of food groups included in the procurement program of mass catering units (catering of health units, tourism, education, etc.), (ii) apply organoleptic techniques in quality assessment, research and acceptance of food by consumers and (iii) correlate organoleptic and objective measurements in quality assessment. Understanding the importance of food quality control is a prerequisite for working in places where they directly or indirectly come into contact with food intended for eating.

The laboratory exercises aim to connect the theory with the practical application of knowledge to familiarize students with the methods of organoleptic evaluation and food quality parameters and to acquire the ability to correlate subjective and objective measurements in the assessment of organoleptic quality.

General Competences

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?

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	*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.) …….*

- Search for, analysis and synthesis of data and information by the use of appropriate technologies,
- Individual/Independent work
- Group/Team work

3. COURSE CONTENT

Definitions, objectives and stages of quality control. Quality control of raw materials, production process and final product. Quality control methods. Organization chart of food production units. Duties of the quality control department.
Sampling. Quality characteristics of food. Organoleptic characteristics: Appearance, texture, smell and aroma, taste.
Introduction to the HACCP system and simulation of HACCP design development for the production of hot and cold kitchen products.
Milk & Dairy Products: Milk production & ingredients. Microbiology of milk, pasteurized and sterilized milk.
Acidic dairy products. Yogurt, Cheeses. Quality control of milk & dairy products.
Meat & meat products: Description & classification of meat and meat products. Smoking, salting and nitration. Dehydrated, pasteurized and boiled sausages. Preservation of meat and meat products by refrigeration. Quality control of meat & meat products.
Catch: Catch classification. Chemical composition and biological value. Refrigeration and freezing. Canning, salting, smoking and drying catches. Catch quality control.
Fats and oils: Oil picking technology - Olive oil. Olive making technology. Quality control of fats & oils.
Fruits & Vegetables: Generally for the preservation of fruits and vegetables. Canning fruit. Canning vegetables. Fruit drying. Plums, sultanas, figs. Quality control of fruits & vegetables.
Winemaking technology. Quality control of wine.
Brewing technology. Quality control of beer.
Cereals: Cereal technology. Flour qualities, baking. Cereal products. Quality control of cereals and their products.
Coffee and tea making technology. Quality control.
Laboratory Exercises
General: Sensory control methods. Basic senses. Organization and design of organoleptic tests. Errors. Analytical and descriptive tests. Sampling and preparation of food samples. Errors during sampling. Control reliability.
1. Couple comparison test. Taste recognition. Application in aqueous solutions.
2. Triangular test. Application in juices and tea.
3. Duo-trio test. Application in cold and / or hot drinks, and / or milk, and / or juices.
4. Classification test. Application in beer.
5. Taste test. Application in beverages, and spread products (honey or praline) on bread.
6. Organoleptic control of bread and bakery products.
7. Organoleptic quality control of olive oil.
8. Organoleptic quality control of wines.
9. Organoleptic quality control of "feta" cheese and other traditional cheese products.
10. Organoleptic control of cold cuts.
11. Organoleptic control of fruits and vegetables
12. Macroscopic quality control of cans.
13. Check the labeling on the packaging of standard foods.

- **TEACHING METHODS - ASSESSMENT**

MODES OF DELIVERY *Face-to-face, in-class lecturing, distance teaching and distance learning etc..*	In class lecturing	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY *Use of ICT in teaching, Laboratory Education, Communication with students*	E class	
COURSE DESIGN *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.*	***Activity/Method***	***Semester workload***
	Lectures	50
	Laboratory Classes	50
	Personal Study	25
	Total	***125***
STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS *Detailed description of the evaluation procedures:* *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.* *Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students.*	Written final exam (100%) which includes: ➢ Multiple choice questions ➢ short- answer questions, ➢ open-ended questions, ➢ problem solving, ➢ written work, essay/report, ➢ laboratory work,	

- **SUGGESTED BIBLIOGRAPHY**

-Suggested bibliography:

1. Τρόφιμα: Έλεγχος ποιότητας, ασφάλεια και μικροβιολογία. Προεστός Χαράλαμπος, Μαρκάκη Παναγιώτα, (2017), Εκδόσεις Da Vinci.
2. Οργανοληπτικός Έλεγχος Τροφίμων, Γρηγοράκης Κρίτων, Τσάκνης Ιωάννης, (2017), Εκδόσεις Παπασωτηρίου
3. Οδηγός καταναλωτή για ασφαλή μεταχείριση τροφίμων, Αρβανιτογιάννης Ιωάννης, Τζούρος Νικόλαος, (2004), εκδόσεις Σταμούλη.
4. Έλεγχος ποιότητας τροφίμων, Εργαστηριακός οδηγός, Αρβανιτογιάννης Ιωάννης, Βαρζάκας Θεόδωρος, Τζίφα Κωνσταντίνα, (2008), Εκδόσεις Σταμούλη.
5. Carpenter, R. P., Lyon, D. H., & Hasdell, T. A. (2012). Guidelines for sensory analysis in food product development and quality control. Springer Science & Business Media.
6. Λειτουργικές Ιδιότητες Νερού, Πρωτεινών, Σακχάρων, Λιπιδίων και Φυσικών Χρωστικών, Κυρανάς Ευστράτιος 1η Έκδοση/2011, ISBN: 978-960-418-369-2, Εκδότης: ΕΚΔΟΣΕΙΣ Α. ΤΖΙΟΛΑ & ΥΙΟΙ Α.Ε.
7. Διατροφή και Χημεία Τροφίμων στη Δημόσια Υγεία, Κοτροκόης Κώστας, Έκδοση: 2η έκδ./2016, ISBN: 9789963274116, Εκδότη): BROKEN HILL PUBLISHERS LTD