Course Title	Antioxidant Kitchen and Functional Foods				
Course Code	ICUL-420				
Type of Course	Required				
Level	1st Cycle				
Year / Semester of study	Fourth / Spring				
Lecturer's Name	Fotini Lappa				
ECTS	6	Lectures / week	13	Laboratories / week	0
Course Objectives	The aim of the course is to provide students with basic knowledge about the antioxidant ingredients and the foods those are in and how antioxidants can reduce the risk of developing diseases and be beneficial to our health. It will also analyze the role of functional foods as part of the right diet as well as the role of biological and genetically modified foods in modern society.				
Learning Outcomes	After completing the training, trainees should be able to: • Know the most important antioxidants and the foods that contain them. • Comprehend the potential benefits of antioxidants for our health. • Convert classic recipes to high antioxidant recipes. • Understand the categories of functional foods and how they enhance our health. • Know the principles of organic products and their differences with conventional ones. • Create and design menus in the presence of organic and antioxidant foods. • Know what Genetically Modified Foods are, their uses as well as their advantages and disadvantages.				
Pre-requisites	ICUL-220,310		Co-requisites	None	

Course Content	• Principles of antioxidants
	    Free roots
	    What are antioxidants and why do we need them?
	
	• Antioxidant ingredients
	    ♦ Vitamin A
	    ♦ Vitamin C
	    ♦ Vitamin E
	    ♦ Lycopene
	    ♦ Flavonoids
	
	• Antioxidant kitchen and health promotion
	    ♦ Foods rich in antioxidants.
	    ♦ How these foods contribute to health promotion.				

	• Writing menus with antioxidant foods to promote health.
	• Conversion of classic recipes to recipes with rich antioxidant value.
	• Principles of Mediterranean Diet in Antioxidant Kitchen.
	
	• Principles of functional foods
	  • When can a food be considered "functional"?
	  • When were the functional foods created?
	  • Why consumers prefer them.
	
	• Categories of Functional foods and functional ingredients
	  • Vitamins: Vitamin A, Vitamins B, Vitamin C, Vitamin D, Vitamin E
	  • Plant Fiber
	  • Fatty acids: Mono-unsaturated, omega-3 fatty acids
	  • Metals: Calcium, Magnesium, Iron
	  • Probiotics & Prebiotics
	  • Flavonoids
	  • Plant sterols - Stanols
	  • Phytoestrogens
	
	• Functional foods and their contribution to health
	  • Functional foods and their contribution to optimal development.
	  • Functional foods and metabolism.
	  • Functional foods and heart health.
	
	• Principles of organic food
	  • What are organic products?
	  • Differences between organic and conventional products.
	  • Labeling of organic products.
	
	• Genetically modified foods in modern society
	  • What is Biotechnology and Genetically Modified Food (GMT)?
	  • Uses of GMTs.
	  • Advantages and disadvantages of GMTs.
	
	• Examples of menu design by applying the above knowledge

Teaching Methodology	Lectures, projects, videos and examples
Bibliography	Required: • Αθανάσιος Βαλαβανίδης, 'Φυτοχημικές ουσίες της διατροφής με αντιοξειδωτικές και αντικαρκινικές ιδιότητες', Βήτα Ιατρικές Εκδόσεις, 2011, ISBN 978-960-452-126-5 • Metz/Gruner 'Χημεία και Μικροβιολογία για Τρόφιμα για αρτοποιούς, ζαχαροπλάστες, Μάγειρες, σερβιτόρους', Εκδόσεις ΙΩΝ, 2002, ISBN 960-331-327-0 • Lecturer's Notes Suggested:

	• Siân Astley, Antioxidants and 21st century nutrition, IFIS core food information
Evaluation	• projects, class participation and attendance, midterm examination and final examination
Language	Greek