INTERCOLLEGE

Course Title	Antioxidant Nutrition and Functional Foods				
Course Code	ICUL-421E				
Type of Course	Compulsory				
Level	1st Cycle				
Year / Semester of study	Fourth / Spring				
Lecturer's Name					
ECTS	6	Lectures / week	3	Laboratories / week	0
Course Objectives	The aim of the course is to provide students with basic knowledge about the main antioxidants found in foods and how antioxidants can reduce the risk of chronic diseases and be beneficial for our health. It will also analyze the role of functional foods as part of a healthy diet as well as the role of organic and genetically modified foods in modern society.				
Learning Outcomes	After completing the course, students should be able to: • Know the most important antioxidants and the foods that contain them. • Comprehend the potential benefits of antioxidants for our health. • Modify classic recipes to high antioxidant recipes. • Understand the categories of functional foods and how they can enhance our health. • Know the principles of organic products and their differences with conventional ones. • Create and design menus rich in antioxidants. • Know what Genetically Modified Foods are, their uses as well as their advantages and disadvantages.				
Pre-requisites	ICUL-221E, 321E	Co-requisites	None		
Course Content	• Principles of antioxidants Free radicals and oxidative stress Definition of antioxidants • Major antioxidants • Vitamin A • Vitamin C • Vitamin E • Lycopene • Flavonoids				

	• Antioxidant nutrition and health promotion • Foods rich in antioxidants. • How these foods contribute to health promotion. • Create menus rich in antioxidants to promote health. • Modification of classic recipes to recipes with rich antioxidant value. • Antioxidants in the Mediterranean Diet • Principles of functional foods • Can any food be functional? Working definition • When and where was the concept of functional foods born? • Why consumers prefer them? • Categories of Functional foods and functional components • Vitamins: Vitamin A, Vitamins B, Vitamin C, Vitamin D, Vitamin E • Plant Fiber • Fatty acids: Mono-unsaturated, omega-3 fatty acids • Minerals: 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 Gastrointestinal (GI) health. • Functional foods and heart health. • Principles of organic food • Definition of organic foods. • Differences between organic and conventional foods. • Labeling of organic foods. • Genetically modified foods in modern society • What is Biotechnology and Genetically Modified Foods (GMT)? • Uses of GMTs. • Advantages and disadvantages of GMTs.
Teaching Methodology	Lectures, projects, videos
Bibliography	Required: • Lecturer's Notes • Functional foods, Chhikara, Navnidhi, editor.; Panghal, Anil, editor.; Chaudhary, Gaurav, editor, 2022 • Siân Astley, Antioxidants and 21st century nutrition, IFIS core food information

<table>
<tr><td></td><td>Suggested:
Recent Advances and Future Trends in Fermented and Functional Foods, Patra, Jayanta Kumar; Patra, Jayanta Kumar; Shin, Han-Seung; Paramithiotis, Spiros, Multidisciplinary Digital Publishing Institute, 2022</td></tr>
<tr><td>Evaluation</td><td>Individual and team projects, class participation and attendance, midterm examination and final examination

Class Participation
Projects
Mid-Term
Final Exam
Grading Policy<table><tr><td>Final Examinations</td><td>30 – 50%</td></tr><tr><td>Class Tests</td><td>15 – 30% each</td></tr><tr><td>Term paper or Projects</td><td>15 – 30%</td></tr><tr><td>Mid-Term</td><td>30 – 40%</td></tr><tr><td>Homework</td><td>0 – 20%</td></tr><tr><td>Quizzes</td><td>0 – 10%</td></tr><tr><td>Class Attendance & Participation</td><td>0 – 10%</td></tr></table></td></tr>
<tr><td>Language</td><td>English</td></tr>
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