

Introduction to Food Science & Technology

Course Outline

General

SCHOOL	Agricultural Sciences		
DEPARTMENT	Food Science and Nutrition		
ACADEMIC LEVEL	Undergraduate		
COURSE CODE	MK115	SEMESTER	1 st
COURSE TITLE	Introduction to Food Science & Technology (Instructor: S. Lalas)		
INDEPENDENT TEACHING ACTIVITIES <i>In case credits are awarded separately for different parts of the course (e.g., Lectures, Laboratory Exercises, etc.), if credits are awarded as a whole for the entire course, specify the weekly teaching hours and the total credits.</i>	WEEKLY TEACHING HOURS	CREDITS	
Lectures	3	5	
Laboratory Exercises	2		
COURSE TYPE Background, General Knowledge, Scientific Area, Skill Development	Background, General Knowledge		
PREREQUISITE COURSES:	-		
LANGUAGE OF INSTRUCTION AND EXAMINATION:	Greek		
COURSE OFFERED TO ERASMUS STUDENTS:	Yes		
COURSE WEBSITE (URL):	-		

LEARNING OUTCOMES

Learning Outcomes
<p>The primary aim of this course is to provide students with a comprehensive understanding of the science and technology of food. Specifically, it covers topics such as food types, available food sources, food preparation methods, nutritional value, general principles of technology, food processing, and safe food preservation and distribution methods.</p> <p>Upon successful completion of this course, students will be able to:</p> <ol style="list-style-type: none"> 1. Understand the different types of foods, their sources, and composition. 2. Comprehend food processing and its relationship with changes in food, public health, product quality, and legislation. 3. Grasp the fundamental principles of food processing methods, including drying, concentration, low-temperature processes, thermal processing, ionizing radiation, special processing methods, and mechanical processes. 4. Identify food components, their types, and nutritional value. 5. Understand fermentations and fermentation categories.
General Skills
<p>In addition to specific knowledge, students will also develop the following general skills through this course:</p> <ul style="list-style-type: none"> • Theoretical thinking and the ability to apply theory into practice. • Information gathering, analysis, and synthesis using necessary technologies. • Decision-making skills. • Autonomous work. • Teamwork. • Promotion of free, creative, and inductive thinking. • Development of lateral and divergent thinking.

Course Content

The course is organized into 13 weeks, covering various aspects of food science and technology:

1. Introduction – Historical Overview of Food
2. Food Composition, Carbohydrates
3. Proteins
4. Lipids, Fats, and Oils
5. Water and Inorganic Salts
6. Vitamins
7. Hygiene and Food Safety
8. Food Additives, Legislation
9. Food Processing and Preservation Methods
10. Food Processing and Preservation Methods
11. Food Processing and Preservation Methods
12. Quality and Aesthetic Evaluation
13. Food and Health, Careers in Food Technology

Teaching and Learning Methods - Evaluation

Teaching Method	Face-to-Face or Distance Learning	
Use of Information and Communication Technologies	YES. The course lectures are supported by electronic slide presentations and other audio-visual materials. Supplementary notes are posted on the E-Class platform.	
Teaching Organization - Workload Activities of the Semester	Activity	Workload
	Lectures	39
	Laboratory Exercises	26
	Self-study	60
	Total Course Workload (25 hours of workload per credit):	125
Student Assessment	<p>Language of examination: Greek.</p> <p>Students have access to supplementary notes posted on the E-Class platform, and they also receive a textbook of their choice from those available in the EUDOXUS system.</p> <p>The final grade for the course is determined by a 50% weighting of the theoretical part (lectures) and a 50% weighting of the laboratory exercises. Examinations (both theoretical and laboratory parts) include multiple-choice questions. Specifically: Written examination with multiple-choice questions in the case of face-to-face assessment. Electronic examination through E-Class with multiple-choice questions in the case of distance learning assessment.</p>	

RECOMMENDED BIBLIOGRAPHY

Recommended bibliography :

- Principles of Food Technology," by V. Kioseoglou and A. Blekas, Publisher: G. GARTAGANIS AGIS-SAVVAS.
- "Food Processing and Packaging Technologies," by Ioannis Arvanitoyannis and Alexandros Stratakos, Publisher: UNIVERSITY STUDIO PRESS.

- Relevant scientific journals (indicative):

- Food Chemistry, Elsevier.
- European Food Research and Technology, Springer.
- Journal of Food Composition and Analysis, Elsevier.
- International Journal of Food Science and Technology, Blackwell Publishing.
- Food and Bioprocess Technology, Springer.