

SCHOOL	ENVIRONMENT		
ACADEMIC UNIT	FOOD SCIENCE & TECHNOLOGY		
LEVEL OF STUDIES	BACHELOR OF SCIENCE		
COURSE CODE	FST302	SEMESTER	3
COURSE TITLE	FOOD PROCESSING I		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercise, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
Lectures	2		
Laboratory practice	3		
Total	5	6	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>General background, special background, specialised general knowledge, skills development</i>	Specialised general knowledge		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes, in Greek		
COURSE WEBSITE (URL)			

LEARNING OUTCOMES

Learning 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

The course of **Food Processing I** correlates with the principles of food preservation and the methods to achieve food heat processing and low-temperature processing.

The course aims to educate students on the principles and methodologies to perform heat processing, refrigeration and freezing of foods, targeting the inhibition of microbial growth and maintenance of the quality properties of foods.

Upon successful completion of the course students will be able to:

- Highlight the causes of food spoilage

- Describe the role of processing in the food industry
- Select and apply appropriate methods of heat treatment of food
- Select and apply appropriate methods of preserving and cooling food at low-temperatures
- Evaluate and present the results of laboratory exercises

General Competences

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

 Others...

- Working independently
- Team work
- Decision-making
- Solving problems

SYLLABUS

Theoretical part

1. Introduction to Food Processing I.
2. Factors affecting food spoilage. Microbial growth. Role of pH and water activity.
3. Thermal Food Preservation techniques: Pasteurization and sterilization.
4. Thermal Food Preservation techniques: Aseptic processing. Canning.
5. Heat transfer. Calculations for heat processing.
6. Low temperature food processing: refrigeration.
7. Methods of refrigerating foods.
8. Physiological and biochemical changes in refrigerated foods.
9. Low temperature food processing: freezing.
10. Methods of freezing foods.
11. Physiological and biochemical changes in frozen foods.

Laboratory practice

1. Introduction to Food Processing I.
2. Factors affecting food spoilage.
3. Scalding
4. Pasteurization.
5. Gelling process.
6. Heat processing by cooking: boiling, baking, sous vide
7. Frying
8. Canning.
9. Refrigeration.
10. Freezing.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	In teaching class	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Power point presentation, Whiteboard writing, solving problems Laboratory practice	
TEACHING METHODS <i>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. 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</i>	Activity	Semester workload
	Lectures	78
	Laboratory practice	39
	Total contact hours and training	117
STUDENT PERFORMANCE EVALUATION <i>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.</i>	Final written examination in theory and in laboratory that include: -multiple choice questions -short answer questions -judgment questions -problem solving -presentation	

ATTACHED BIBLIOGRAPHY

1. Conventional and advanced Food Processing Technologies (2015). S. Bhattacharya, (Ed.). John Willey & Sons, Ltd. UK.
2. Food Processing 1 (2016). 2nd Edition, E. S. Lazos, A. E. Lazou, Papazisis Press, Athens.

Performance Statistics of the last 2years			
Grade (descending order)	absolute frequency	relative frequency %	sum of success rates per class
FOOD PROCESSING I			
10	4	3%	3%
9	8	6%	9%
8	32	24%	32%
7	54	40%	72%
6	38	28%	100%
	136	100%	