

Course Unit	Food Technologies Initiation		Field of study	Food Industries	
Bachelor in	Zootechnical Engineering		School	School of Agriculture	
Academic Year	2022/2023	Year of study	3	Level	1-3
Type	Semestral	Semester	1	ECTS credits	6.0
Code	9129-312-3203-00-22				
Workload (hours)	162	Contact hours	T 30	TP -	PL 30
			TC -	S -	E -
			OT 20	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Marieta Amélia Martins Carvalho

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. The students will have to know the characteristics of each group of foods (animals, vegetables and minerals) and its requirements of general conservation.
2. They will have to know the techniques for food conservation and transformation.

### Prerequisites

Before the course unit the learner is expected to be able to:

The students will have to know: Chemistry, Biochemistry and Microbiology.

### Course contents

Composition of the food products: Proteins. Lipids. Carbohydrates. Others. Initiation to human nutrition. Causes of deterioration of foods. Microorganisms and sources of contamination. The enzymes, classification and way of action. Alimentary poisonings, causes, consequences and prevention. Methods of conservation of foods: physics, chemicals and microbiological.

### Course contents (extended version)

1. Slight knowledge of nutrition human being.
  - Proteins. Lipids. Carbohydrates.
  - Others.
2. Causes of deterioration of foods.
  - Microorganisms and sources of contamination.
  - The enzymes, classification and way of share.
  - Alimentary poisonings, causes, consequências and prevention.
3. Methods of conservation of foods.
  - Physicists: refrigeration, congelation, sterilization, pasteurização and termização. Drying.
  - Activity of the water (aw).
  - Irradiation.
  - Other methods.
  - Chemistries: fumage, humetantes, acidificantes, others.
  - Microbiological: láctica fermentation, ascetic fermentation and alcoholic fermentation.

### Recommended reading

1. DATTA, N. ; TOMASULA, P. M. , 2015. Emerging Dairy Processing Technologies: Opportunities for the Dairy Industry (IFST Advances in Food Science). Hardcover. Publisher: Wiley-Blackwell
2. LIDON, F. ; SILVESTRE, M. M. , 2008. Conservação de alimentos: princípios e metodologias. Escolar Editora
3. SINGH ; HELDMAN, 2013. Introduction to Food Engineering. Academic Press, Amsterdam
4. Apontamentos da Docente
5. FELLOWS , P. J. , 2018. Tecnologia do Processamento de Alimentos. Editora Artmed. Brasil

### Teaching and learning methods

Lectures and practice. Practices on food hazards, epidemiology and legislation. In the hours of no presence, students should make reports on practical classes. The mentoring component of guidance teachers will monitor and assist students in developing the various activities related to curriculum unit.

### Assessment methods

1. Continuous assessment: - (Regular) (Final)
  - Development Topics - 25% (Monograph and its presentation in class (25%; 1, 5 ECTS). The note must be >9, 5 points.)
  - Practical Work - 25% (Practical work (25%; 1, 5 ECTS). The note must be >9, 5 points.)
  - Intermediate Written Test - 25% (Intermediate Written Test theory / practical (25%; 1, 5 ECTS). The note must be >9, 5 points.)
  - Final Written Exam - 25% (A written theory / practical (25%; 1, 5 ECTS). The note must be >9, 5 points.)
2. Evaluation of working students: - (Student Worker) (Final, Supplementary, Special)
  - Final Written Exam - 100% (Global written exam: theoretically and practical (100%; 6, 0 ECTS).)
3. Resource evaluation: - (Regular, Student Worker) (Final, Supplementary, Special)
  - Final Written Exam - 100% (Global written exam: theoretically and practical (100%; 6, 0 ECTS).)
4. Special evaluation: - (Regular, Student Worker) (Final, Supplementary, Special)
  - Final Written Exam - 100% (Global written exam: theoretically and practical (100%; 6, 0 ECTS).)

### Language of instruction

Portuguese, with additional English support for foreign students.

### Electronic validation

Marieta Amélia Martins Carvalho	Álvaro Luís Pegado Lemos Mendonça	Marieta Amélia Martins Carvalho	Ramiro Corujeira Valentim
14-12-2022	22-12-2022	22-12-2022	31-12-2022