# FOOD TECHNOLOGY I

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<td>Food Technology</td>
<td>Basics of Food Technology</td>
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**LECTURER(S)**
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**DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT**
- Degree in Food Science and Technology

**PREREQUISITES and/or RECOMMENDATIONS (if necessary)**
- Students should have passed the following subjects: Basics of Food Engineering and Unit Operations in the Food Industry.

**BRIEF ACCOUNT OF THE SUBJECT PROGRAMME (ACCORDING TO THE DEGREE ??)**

**GENERAL AND PARTICULAR ABILITIES**

**OBJECTIVES (EXPRESSED IN TERMS OF EXPECTED RESULTS OF THE TEACHING PROGRAMME)**
- Select variables of heat treatment necessary for microbial thermal inactivation.
- Identify alternative sterilization technologies such as irradiation, high-pressure processing and pulsed electric field processing
- Calculate refrigeration systems, including mechanical refrigeration cycle.
- Design preservation systems by reducing the water activity such as drying, freeze-drying and evaporation.
- Describe materials and types of packaging suitable for various foods.

### DETAILED SUBJECT SYLLABUS

### THEORETICAL TOPICS:

#### 1. Thermal processing

#### 2. Low temperature technologies for preservation
Irradiation. High-pressure processing. Pulsed electric field.

#### 3. Freezing
Low temperature production: mechanical refrigeration cycle, enthalpy diagram, refrigerants. Refrigeration: heat transfer under unsteady state, calculations of common terms used in refrigeration system design. Freezing: freezing curve, freezing kinetics.

#### 4. Dehydration

#### 5. Packaging

### PRACTICES:
Laboratory Practices

### READING


### RECOMMENDED INTERNET LINKS