Food Technology (O000104)

Valid as from the academic year 2016-2017

Course Specifications

Course size

<table>
<thead>
<tr>
<th>Credits</th>
<th>Study time</th>
<th>Contact hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>150 h</td>
<td>60.0 h</td>
</tr>
</tbody>
</table>

Course offerings and teaching methods in academic year 2016-2017

A (semester 1)
- Lecture: 22.5 h
- Practicum: 22.5 h
- Seminar: coached exercises: 10.0 h
- Guided self-study: 5.0 h

Lecturers in academic year 2016-2017

Varzakas, Theo  
KR01  
Lecturer-in-charge

Offered in the following programmes in 2016-2017

BSc in Food Technology  
5  
A

Teaching languages

English

Keywords

Food, Technology, Unit operations, Processing, Quality, Safety, Shelf life, Sensorial properties, Nutritional value, Packaging

Position of the course

The most important unit operations applied in the food industry are discussed. In particular attention is paid to the influence of applied unit operations on food quality in a wide sense.

Contents

1. Food quality
2. Reception and preparation of raw materials
   2.1. Cleaning
   2.2. Sorting
   2.3. Grading
   2.4. Peeling
   2.5. Other techniques
3. Processes based on heat transfer
   3.1. Introduction
   3.2. Heat production
   3.3. Heat transfer in food processing
   3.4. Applications of steady-state heat transfer
   3.5. Unsteady-state heat transfer
   3.6. Influence of heat on foodstuff
   3.7. Blanching
   3.8. Pasteurization
   3.9. Sterilization
   3.10. UHT
   3.11. Cooling
   3.12. Freezing
4. Processes based on heat and mass transfer
   4.1. Evaporation
   4.2. Drying
   4.3. Frying
   4.5. Baking

(Approved)
4.6. Extrusion
4.7. Agglomeration
5. Processes based on mechanical separation
5.1. Centrifugation
5.2. Filtration
5.3. Membrane separation
6. Processes based on electromagnetic radiation
6.1. Microwave and dielectric heating
6.2. Infrared heating
6.3. Irradiation
7. Food packaging
7.1. Function of packaging: introduction
7.2. Types of packaging
7.3. Packaging systems
7.4. Modified atmosphere packaging
7.5. Active and intelligent packaging
7.6. Safety aspects of packaging migration

Initial competences
Basic knowledge in food chemistry.

Final competences
The student has acquired knowledge concerning the most important unit operations applied in food industry. He/She has gained insight in the impact of these unit operations on the quality of food products in a wide sense.

Conditions for credit contract
Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
This course unit cannot be taken via an exam contract

Teaching methods
Guided self-study, group work, lecture, practicum, seminar: coached exercises

Learning materials and price

References
Air Products. A fresh approach to modified atmosphere packaging (MAP).
Packaging Europe, 2007. Volume 2.2, 2.3 and 2.5.

Course content-related study coaching

(Approved)
Evaluation methods
  end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
  Written examination with open questions

Examination methods in case of periodic evaluation during the second examination period

Examination methods in case of permanent evaluation
  Participation, job performance assessment, report

Possibilities of retake in case of permanent evaluation
  Examination during the second examination period is possible in modified form

Calculation of the examination mark
  Written examination with open questions - 80%
  Participation - 5%
  Report - 10%
  Performance assessment - 5%