

Study Programme: Food Engineering		
Course Unit Title: Preservation Methods		
Course Unit Code: 05TKH01		
Name of Lecturer(s): Full Professor Mirela Iličić,, Associate Professor Katarina Kanurić		
Type and Level of Studies: Undergraduate Academic Degree		
Course Status (compulsory/elective): Compulsory		
Semester (winter/summer): Winter		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): Face-to-face		
Number of ECTS Allocated: 5		
Prerequisites:		
Course Aims: Students are trained to understand theoretical and practical knowledge of food presevation methods.		
Learning Outcomes: The objective of this course is to form highly skilled experts for work in the food industry, project, scientific, professional and educational institutions dealing with similar problems.		
Syllabus:		
<i>Theory</i> Composition and properties of food. Food microbiology - factors of microbiological and non-microbiological origin (physical and chemical). Abiotic and anabiotic food preservation methods. Processing by the removal of heat -chilling, freezing. Controlled or modified atmosphere storage. Processing by application of heat - blanching, pasteurisation and heat sterilisation. Dielectric heating. Application of light and ionizing radiation in food preservation. Preservation by reducing water activity - concentration, drying. Osmoanabiosis. Fermentation. Chemical preservatives.. Modern food preservation methods. Combining traditional and new preservation techniques.		
<i>Practice</i> Calculation tasks from: thermal treatments - blanching, pasteurisation, sterilisation; cooling and freezing; concentration by heat; preservation by drying; biological preservation and chemical preservation methods.		
Required Reading:		
<ol style="list-style-type: none"> 1. Carić, M. Concentrated and Dried Dairy Products, VHC, New York, 1994. Tamime, A. Y.: Fermented Milks, Blackwell Science Ltd, 262, 2006. 2. Fellows, P.J.: Food Processing Technology, Principles and Practice, Second edition, Woodhead Publishing Limited, 2003. 3. Zeuthen, P., Bogh-Sorensen, L.: Food Preservation Techniques, Woodhead Publishing Limited, 2003. 4. Toledo, R. Fundamentals of Food Process Engineering, Van Nostrand Reinhold, 1991. 		
Weekly Contact Hours:	Lectures: 3	Practical work: 2
Teaching Methods: Lectures and students group work.		

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	10	written exam	
Practical work		oral exam	30
Preliminary exam(s)	30+30		
Seminar(s)			

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.