

Course Unit Descriptor

Study Programme: Food Engineering			
Course Unit Title: Food Preservation Processing			
Course Unit Code: DPI33			
Name of Lecturer(s): Full Professor Mirela Iličić, Associate Professor Katarina Kanurić			
Type and Level of Studies: Doctoral Academic Degree			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to face			
Number of ECTS Allocated: 10			
Prerequisites: None			
Course Aims: Students of doctoral studies are trained to introduce innovations, advanced operations and processes in the field of food preservation technology .			
Learning Outcomes: The objective of this course is the introduction of students with modern scientific and practical achievements in the field of food preservation technology .			
Syllabus: <i>Theory</i> Development in conventional heat treatments, Development in freezing. Freeze drying (lyophilisation) and freeze concentration. Emerging preservation techniques. Membrane filtration, concentration, drying, irradiation. Processing using electric fields, high of hydrostatic pressure, light or ultrasound. Food preservation using atmospheric plasma. Natural antioxidants. Antimicrobial enzymes. Application of biotechnology. The influence of modern preservation methods on product quality and shelf life of product.. <i>Practice</i> Search, processing, analysis and discussion of achievements in scientific and technical literature in the field of food preservation techniques. Selection and processing of data and preparation of seminar.			
Required Reading: 1.Zeuthen, P., Bogh-Sorensen, L. (2003): Food Preservation Techniques, Woodhead Publishing, Limited, 2003. 2. Fellows, P.J.: Food Processing Technology, Principles and Practice, Second edition, Woodhead Publishing Limited, 2003. 3. Ojha, K.S., Tiwari, B.K.: Novel Food Fermentation Technologies,eds. Springer Int. Publ., 2016. 44.Mastwijk, H.C., Groot, M.N.: Use of cold plasma in food processing. In: Encyclopedia of biotechnology in agryculture and food. Taylor and Francis, 2010.			
Weekly Contact Hours:	Lectures: 4	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	5	written exam	
Practical work	10	oral exam	30
Preliminary exam(s)	25	
Seminar(s)	10		

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