

Course Unit Descriptor

Study Programme: Food Engineering			
Course Unit Title: Technology of Sterilized, Concentrated and Dried Dairy Products			
Course Unit Code: DPI21			
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): Winter			
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 sterilizing, concentrated and dried dairy technology.			
Learning Outcomes: The objective of this course is the introduction of students with modern scientific and practical achievements in the field of modern trends in the technology of sterilizing, concentrated and dried dairy products.			
Syllabus: Effect of thermal treatments on milk components. Performance of equipment, technology, mechanisms of deposit formation in the heat exchangers. Concentrated dairy products, milk fractionation - theory, impact on milk components, product properties and quality. Modern methods of drying milk - interaction of components and product quality. Technology of infant formula and instant milk products. Functional properties and health significance of selected dairy products – biologically active components antioxidant potential. Sensory properties. Techno-economic analysis of the process of sterilized, concentrated and dried dairy products. <i>Practice</i> Search, processing, analysis and discussion of achievements in scientific and technical literature in the field of Technology of sterilized, concentrated and dried dairy products. Selection and processing of data and preparation of seminar.			
Required Reading: 1. Carić, M. : Concentrated and Dried Dairy Products, VCH Publishers, 1994. 2. Tamime A.Y.: Dairy Powders and Concentrated Products, Wiley- Blackwell, 2009. 3. Burton, H.: Ultra-high-temperature processing of milk and milk products, Elsevier Applied Science, 1998. 4. Bylund, G.: Dairy Processing Handbook, α -Tetrapak, 1995.			
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	50
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.			