

Study programme: Food Technology			
Type and level of study: Bachelor's degree (240 ECTS) – First cycle			
Course title: <i>Additives in the food industry</i>			Code: TI16
Lecturer: Associate Prof. Marko Petković, Ph. D., (Ass. Jelena Pantović)			
Language of instruction: English			
ECTS credits: 6			
Prerequisite: /			
Semester: autumn			
Course objective Division, physicochemical properties, and the role of additives. Health aspects and legalization of the use of additives. Division, chemical structure, quality standard of additives and their determination in raw materials, food products. Natural and synthetic colors. The most important preservatives, their impact on product sustainability, and toxicological aspects. Natural, natural-identical, and synthetic flavors and their identification. Chemical structure of emulsifiers, thickeners, antioxidants, stabilizers, and other additives and their impact on product quality. Mechanisms of action of additives.			
Learning outcomes Acquiring the knowledge required for independent management and management of the production process of bread, bakery, and pasta products. Training in the use of various control methods of the technological processes of the production of bread, bakery, and pasta products, as well as finished products.			
Course contents <i>Theoretical instruction</i> Studying and defining the quality of basic and additional raw materials and the production process of bread, bakery, and pasta raw materials. Theoretical foundations of the function of the basic ingredients of the dough for various types of bread, pastries, and pasta. The specifics of the technological process of manufacturing these types of products and the assessment of the quality of basic raw materials and finished products. Physical, chemical, and biochemical changes in the dough during the technological process of preparation, processing, and final shaping of different types of bread, bakery and pasta products. The influence of technological process conditions on the quality of the finished product. Characteristics of equipment for processing bread, bakery, and pasta products. <i>Practical instruction</i> Analysis of additives. Analytical methods in additive quality control. New methods of detection of additives.			
Literature 1. Pućirić-Jovanović, K., Milovanović, M. (2005): Autooksidacija lipida i prirodni antioksidanti flore Srbije. Poljoprivredni fakultet, Beograd-Zemun, str.156. 2. Đilas, S., Čandanović-Brunet, J., Tumbas, V. (2008): Hemija hrane-praktikum sa radnom sveskom. Tehnološki fakultet, Novi Sad, str. 80. 3. Gorunović, M., Lukić, P. (1995): Praktikum iz farmakognozije (hemijsko ispitivanje droga). Farmaceutski fakultet, Beograd, str. 203. 4. Babović, N. (2001): Antioksidansi u biljkama. Zadužbina Andrejević, Beograd, str.90. 5. Actual regulation on the quality and use of additives in foodstuffs and on other requirements for additives and their mixtures. 6. Davidson, P.M., Salminen, S., Thorngate III J.H. (2002). Food Additives, 2nd Ed., Marcel Dekker, Inc., USA.			
Hours of active teaching: 2+0+1	Theoretical: 2×15=45	Practical: 1×15=30	
Teaching methods • Interactive teaching, using video presentations. • Individual consultations related to problems arising in theoretical and practical classes, and laboratory exercises.			
Assessment (maximum points 100)			
Examination requirements	points	Final exam	points
Class participation	5	Written exam	
Practical participation sessions/tests	5	Oral exam	45
Class tests	30		
Practical tests	15		
Other			
Grading system			

Grade	ECTS	Description
10	91-100	Excellent
9	81-90	Exceptionally good
8	71-80	Very good
7	61-70	Good
6	51-60	Passing