
	<b>UNIVERSITY OF EAST SARAJEVO</b>				
	Faculty of Technology Zvornik				
	<i>Study programme: Chemical Engineering and Technology /Food Technology</i>				
	Cycle I	Academic year III			
<b>Course title</b>	PRINCIPLES OF FOOD PRESERVATION				
<b>Department</b>	Department of Food Technology - Faculty of Technology Zvornik				
<b>Course code</b>		<b>Course status</b>		<b>Semester</b>	
TF-1-1-HIT-04-1-102-6-6-3-2		Obligatory		VI	
<b>ECTS</b>		7			
<b>Teacher</b>	Dragan Vujadinović, PhD, Associate Professor				
<b>Teaching assistant</b>	Milan Vukić, PhD, Assistant Professor				
<b>Number of classes/ teaching workload (per week)</b>			<b>Individual student workload (in hours per semester)</b>		<b>Student workload coefficient S<sub>0</sub></b>
<b>Lectures</b>	<b>Auditory exercises</b>	<b>Laboratory exercises</b>	<b>Lectures</b>	<b>Auditory exercises</b>	<b>Laboratory exercises</b>
3	0	2	63	0	42
3*15+0*15+2*15=75 hours			3 * 15 * 1.40 + 0 * 15 * 1.40 + 2 * 15 * 1.40 = 105 hours		
Total course workload 75+ 105=180 hours per semester					
<b>Learning outcomes</b>	<p>After finishing the course, students will be able to:</p> <ol style="list-style-type: none"> <li>1. understand the essence of endogenous and exogenous changes in unprocessed foods (spoilage) and the factors that affect them;</li> <li>2. understand the principles of biosis, anabiosis and abiosis in preventing the process of food spoilage;</li> <li>3. understand the conditions under which different canning procedures can be optimized with the aim of obtaining a microbiologically safe product of predetermined quality;</li> <li>4. optimize the technological process for the production of various food products.</li> </ol>				
<b>Prerequisites</b>	No prerequisites.				
<b>Teaching methods</b>	Lectures, auditory and laboratory exercises, mid-term tests (colloquia).				
<b>Syllabus per week</b>	<p><b>outline</b></p> <ol style="list-style-type: none"> <li>1. Introduction. Food spoilage. Principles of food stability.</li> <li>2. Food processing and canning as opposed to preserving the nutritional quality of foods.</li> <li>3. Thermal preservation methods. Pasteurization. Sterilization.</li> <li>4. Microwave heating.</li> <li>5. Preservation at low temperatures.</li> <li>6. Freezing.</li> <li>7. Preservation by lowering water activists. Preservation by water abstraction (concentration).</li> <li>8. Preservation by drying.</li> <li>9. Biological canning.</li> <li>10. Chemical methods of preservation.</li> <li>11. Use of controlled and modified atmosphere in packaging and storage of food product.</li> <li>12. Principles of minimum processing and processing of novel foods.</li> <li>13. Application of ionizing radiation. High frequency energy conservation. Canning using high hydrostatic pressure.</li> <li>14. Ultrasonic preservation. Pulsed light preservation. Canning by a pulsating electric field.</li> <li>15. Monitoring the efficiency of the conservation process.</li> </ol> <p>Tests are envisaged after the 8th week and the 15th week.</p>				
<b>Obligatory reading</b>					
<b>Author</b>	<b>Title, publisher</b>			<b>Year</b>	<b>Pages</b>
Veresh M.	Principles of food preservation. Faculty of Agriculture, Belgrade			2004	1-200
Lovrić T.	Processes in the food industry with the basics of Food Engineering, Hinus, Zagreb			2002	1-300
Bhat R., Alias AK, Paliyath G	Progress in Food Preservation, John Wiley & Sons, Ltd, UK			2012	1-240
<b>Additional reading</b>					

Author	Title, publisher	Year	Pages
Rahman, MS	Handbook of food preservation - 2nd ed., Taylor & Francis Group, LLC, New York	2007	1-589
Paul Singh, R.; Dennis R. Heldman	Introduction to Food Engineering Fourth Edition	2009	1-860
Thomas O. and Nils B.	Minimal processing technologies in the food industry	2002	1-300
<b>Obligations, assessment methods and grading system</b>	<b>Type of student evaluation</b>	<b>Grade points</b>	<b>Percentage</b>
	Pre-exam obligations		
	Attendance	6	6 %
	Mid-term test I	20	20 %
	Mid-term test II	20	20 %
	Laboratory exercises	24	24 %
	Final examination		
	Final examination (oral)	30	30 %
Total	100	100 %	
<b>Web page</b>	www.tfzv.ues.rs.ba		
<b>Date</b>	2023		