	UNIVERSITY OF EAST SARAJEVO Faculty of Technology ***Study programme:*** *Chemical Engineering and Technology /Food Technology* Cycle I | Academic year III	

Course title	PRINCIPLES OF PRESERVATION
Department	Department of Food Technology - Faculty of Technology

Course code	**Course status**	**Semester**	**ECTS**
TF-1-1-HIT-04-1-102-6-6-3-2	obligatory	VI	7

Teacher	Dragan Vujadinović, PhD, Assistant Professor
Teaching assistant	Milan Vukić, MSc, Senior Assistant

Number of classes/ teaching workload (per week)			**Individual student workload (in hours per semester)**			**Student workload coefficient S_o**
Lectures	**Auditory exercises**	**Laboratory exercises**	**Lectures**	**Auditory exercises**	**Laboratory exercises**	**S_o**
3	0	2	63	0	42	1,4
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						

Learning outcomes	The student will demonstrate knowledge / ability to: 1. understand the essence of endogenous and exogenous changes in unprocessed foods (spoilage) and thatnotice the factors that affect them; 2. understands the principles of biosis, anabiosis and abiosis in preventing the process of food spoilage; 3. understand the conditions under which different canning procedures can be optimized with the aimobtaining a microbiologically safe product of predetermined quality; 4. optimizes the technological process for the production of various food products
Prerequisits	No prerequisits
Teaching methods	Lectures, auditory and laboratory exercises, mid-term tests (colloquia).
Syllabus outline per week	1. Introduction. Food spoilage. Principles of food stability. 2. Food processing and canning as opposed to preserving the nutritional quality of foods. 3. Thermal preservation methods. Pasteurization. Sterilization. 4. Microwave heating. 5. Preservation at low temperatures. 6. Freezing. 7. Preservation by lowering water activists. Preservation by water abstraction (concentration). 8. Preservation by drying. 9. Biological canning. 10. Chemical methods of preservation. 11. Use of controlled and modified atmosphere in packaging and storage of food product. 12. Principles of minimum processing and processing of novel foods. 13. Application of ionizing radiation. High frequency energy conservation. Canning high hydrostatic pressure. 14. Ultrasonic preservation. Pulsed light preservation. Canning by a pulsating electric field. 15. Monitoring the efficiency of the conservation process. Tests are envisaged after the 8th week and the 15th week.

Obligatory reading

Author	**Title, publisher**	**Year**	**Pages**
Veresh M.	Principles of food preservation.Faculty of Agriculture, Belgrade	2004.	1-200
Lovrić T.	Processes in the food industry with the basicsof Food Engineering, Hinus, Zagreb	2002.	1-300
Bhat R., Alias AK, Paliyath G	Progress in Food Preservation, JohnWiley & Sons, Ltd,UK	2012.	1-240

Additional reading			
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

	Type of student evaluation	**ECTS**	**Percentage**
Obligations, assessment methods and grading system	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 %
Web page	www.tfzv.ues.rs.ba		
Date			