
	<b>UNIVERSITY OF EAST SARAJEVO</b> Faculty of Technology					
	<i>Study program: Chemical Engineering and Technology / Food Technology</i>					
	II cycle of studies	Academic year I				
<b>Course title</b>	ADVANCES TECHNOLOGICAL PROCESSES IN FOOD ENGINEERING					
<b>Department</b>	Department of Food Technology - Faculty of Technology					
<b>Course code Course</b>	<b>status</b>	<b>Semester</b>	<b>ECTS</b>			
TF-1-2-HIT-02-2-070-2-6-2-2	elective	II	6			
<b>Teacher</b>	Dragan Vujadinović, PhD, Assistant Professor					
<b>Teaching assistant</b>	Milan Vukić, M.Sc, Senior Assistant					
<b>Number of classes/ teaching workload (per week)</b>		<b>Individual student workload (in semester hours)</b>		<b>Student workload coefficient S<sub>0</sub></b>		
<b>P</b>	<b>AV</b>	<b>LV</b>	<b>P</b>	<b>AV</b>	<b>LV</b>	<b>S<sub>0</sub></b>
2	0	2	45	0	45	1.50
total teaching load hours, semester) 2 * 15 + 0 * 15 + 2 * 15 = 60 h			total student workload (in hours, semester) 2 * 15 * 1.50 + 0 * 15 * 1.50 + 2 * 15 * 1.50 = 90			
Total course load teaching + student): 60 + 90 = 150 hours per semester						
<b>Learning outcomes</b>	<p>Student will demonstrate knowledge / abilities to:</p> <ol style="list-style-type: none"> <li>1. understand new advanced technological procedures, their importance and pri change;</li> <li>2. understand the principles of advanced techniques in food engineering;</li> <li>3. independently creates mathematical models and simulates individual process operations;</li> <li>4. independently creates new products and introduces characterization methods;</li> <li>5. develops critical and creative thinking about module material.</li> </ol>					
<b>Conditionality</b>						
<b>Teaching methods</b>	Lectures, laboratory work					
<b>Syllabus outline per week</b>	<ol style="list-style-type: none"> <li>1. Introduction and importance of modern technological procedures and processes in food engineering. Research and innovation, current situation and future directions of development.</li> <li>2. Advanced materials in food engineering, properties and requirements.</li> <li>3. Advances in the application of nanotechnology in food processes.</li> <li>4. Novelties and innovations in food technology processes.</li> <li>5. New advances in technological operations of food drying and evaporation.</li> <li>6. Advances and challenges in heat treatments for food packaged in flexible packaging.</li> <li>7. Advanced non-thermal treatments, challenges in preserving food products.</li> <li>8. New food processes. Food structure engineering.</li> <li>9. Encapsulation systems and techniques in food engineering, current technologies and future directions of development.</li> <li>10. Advanced sensors, modeling and control of food processes.</li> <li>11. Mathematical modeling of transport phenomena from the aspect of simulation and optimization of process operations in food engineering.</li> <li>12. Modeling and control of food safety and quality.</li> <li>13. Prediction models, development of future generations. Modeling changes in textural characteristics and food quality.</li> <li>14. Dynamic approach to product safety and quality assessment in food technology processes.</li> <li>15. Application of hyperspectral technology as a non-destructive tool in the control and assessment of food safety and quality.</li> </ol>					
<b>Obligatory literature</b>						
<b>Author / s</b>	<b>Publication title, publisher</b>	<b>Year</b>	<b>Pages (from-to)</b>			
Yanniotis S., Taoukis P., Stoforos NG, Karathanos VT	Advances in Food Process Engineering Research and Applications, Springer New York Heidelberg Dordrecht London	2013	1-79 141-255 341-581			
<b>Supplementary literature</b>						
<b>Author / s</b>	<b>Name of publication, publisher</b>	<b>Year</b>	<b>Pages (from-to)</b>			
Smith PG	Introduction to Food Process Engineering, Second Edition, Springer New York Dordrecht Heidelberg London	2011	1-500			
Zuidam NJ, Nedovic VA	Encapsulation Technologies for Active Food Ingredients and Food Processing, Springer New York	2010	1-367			

	Dordrecht Heidelberg London		
<b>Obligations, assessment methods and grading system</b>	<b>Type of studentevaluation</b>	<b>Points</b>	<b>Percentage</b>
	Pre-examination obligations		
	attendance at lectures / exercises	6	6%
	colloquium 1	20	20%
	colloquium 2	20	20%
	Laboratory exercises	24	24%
	Final exam (oral)	30	30%
	TOTAL	100	100%
<b>Website</b>	<a href="http://www.tfzv.ues.rs.ba">www.tfzv.ues.rs.ba</a>		
<b>Date</b>			