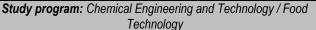
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## **UNIVERSITY OF EAST SARAJEVO**

Faculty of Technology



Academic year I



Course title ADVANCES TECHNOLOGICAL PROCESSES IN FOOD ENGINEERING

**Department** Department of Food Technology - Faculty of Technology

II cycle of studies

Course code Course	status	Semester	ECTS
TF-1-2-HIT-02-2-070-2-6-2-2	elective	II	6
	0.000.70	''	<u> </u>

Teacher	Dragan Vujadinović, PhD, Assistant Professor	
Teaching	Milan Vukić, M.Sc, Senior Assistant	

Number of clast (per week)	sses/ teaching w	orkload	Individua	ll student workload hours)	(in semester	Student workload coefficient S <sub>o</sub>
P	AV	LV	Р	AV	LV	So
2	0	2	45	0	45	1.50
tota	al teaching load ho	ours, semester)		total stude	nt workload (in ho	urs, semester)
	2 * 15 + 0 * 15 + 2	2 * 15 = 60 h		2 * 15 * 1.50	+ 0 * 15 * 1.50 + 2	2 * 15 * 1.50 = 90

Total course load teaching + student): 60 + 90 = 150 hours per semester

Learning	
outcomes	

assistant

Student will demonstrate knowledge / abilities to:

- 1. understand new advanced technological procedures, their importance and pri change:
- 2. understand the principles of advanced techniques in food engineering;
- 3. independently creates mathematical models and simulates individual process operations;
- 4. independently creates new products and introduces characterization methods;
- 5. develops critical and creative thinking about module material.

## Conditionality

**Teaching methods** Lectures, laboratory work

- Introduction and importance of modern technological procedures and processes in food engineering. Research and innovation, current situation and future directions of development.
- 2. Advanced materials in food engineering, properties and requirements.
- 3. Advances in the application of nanotechnology in food processes.
- 4. Novelties and innovations in food technology processes.
- 5. New advances in technological operations of food drying and evaporation.
- 6. Advances and challenges in heat treatments for food packaged in flexible packaging.
- 7. Advanced non-thermal treatments, challenges in preserving food products.
- 8. New food processes. Food structure engineering.

## Syllabus outline per week

- Encapsulation systems and techniques in food engineering, current technologies and future directions
  of development.
- 10. Advanced sensors, modeling and control of food processes.
- 11. Mathematical modeling of transport phenomena from the aspect of simulation and optimization of process operations in food engineering.
- 12. Modeling and control of food safety and quality.
- Prediction models, development of future generations. Modeling changes in textural characteristics and food quality.
- 14. Dynamic approach to product safety and quality assessment in food technology processes.
- 15. Application of hyperspectral technology as a non-destructive tool in the control and assessment of food safety and quality.

	Obligatory literature		
Author / s	Publication title, publisher	Year	Pages (from-to)
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

		Supplementary literature		
Αι	uthor / s	Name of publication, publisher	Year	Pages (from-to)
Sr	mith PG	Introduction to Food Process Engineering, Second Edition, Springer New York Dordrecht Heidelberg London	2011	1-500
Zuidam N	IJ, Nedovic VA	Encapsulation Technologies for Active Food Ingredients and Food Processing, Springer New York	2010	1-367

	Dordrecht Heidelberg London		
	Type of studentevaluation	Points	Percentage
	Pre-examination obligations		
Obligations, assessment methods and grading system	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%
Website	www.tfzv.ues.rs.ba		•
Date			