	UNIVERSITY OF EAST SARAJEVO Faculty of Technology Zvornik	
	Study programme: *Chemical Engineering and Technology*	
	Cycle I / Year IV	

Course title	HYGIENE AND SANITATION IN FOOD PRODUCTION
Department	Department for Food Technology – Faculty of Technology Zvornik

Course code	**Course status**	**Semester**	**ECTS**
04-2-112-7	Elective	VII	4

Teacher	Vesna Gojković Cvjetković, PhD, assistant professor
Teaching assistant	Vesna Gojković Cvjetković, PhD, assistant professor

Number of hours/ 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**
2	0	2	30	0	30	1.00
2*15+0*15+2*15=60 hours			(2*15*1.00+0*15*1.00+2*15*1.00)=60 hours			
Total course workload 60 + 60=120 hours per semester						

Learning outcomes	After finishing the course, students will be able to: 1. understand the importance of hygiene in food safety, 2. demonstrate and utilize the knowledge of the ways of contamination with the most important pathogens and the ways to control the most important pathogens in the food production chain, 3. demonstrate and utilize the knowledge of detergents and disinfectants and the ability to conduct testing of their activity, 4. implement legal requirements for hygiene and control of hazard intake, growth of microorganisms and cross-contamination in the food industry, 5. apply good manufacturing practice in the maintenance of process plants, staff hygiene, and hygienic food handling.
Prerequisites	
Teaching methods	Lectures, auditory and laboratory exercises, mid-term tests (colloquia).
Syllabus outline per week	1. Basics of hygiene and sanitation in food production. 2. Sources of contamination of food and process plants. 3. Microorganisms. Pathogen control in the food industry. 4. Employee hygiene. 5. Hygienic food handling. Food poisoning, types and causes. 6. Detergents and modes of action, sanitizers and modes of action. 7. Chemical contamination of food. 8. Properties of surfaces that come into contact with food, biofilms and their removal. 9. Characteristics of sanitation equipment. 10. The importance of water for sanitation, the importance of the layout of the equipment in operation, the importance of proper air flow. 11. Pest control. Waste management. 12. Basic legal regulations. 13. Obligations of the food industry according to the requirements for hygiene in processes. 14. Good manufacturing practice (GMP), good hygiene practice (GHP) 15. Prerequisite programs in the design and construction of facilities (external and internal requirements for the construction of facilities), cross-contamination. Mid-term tests are taken after the 8th week and the 15th week. Semester verification is required after the 15th week.

Obligatory reading			
Author	**Title, publisher**	**Year**	**Pages**

Šubarić, D., Babić, J., Ačkar, Đ.	Hygiene and sanitation, PTF, Osijek	2012	1-177
Fons-Sole, E., Grujić, R., Vučić, G., Škipina, B., Mirjanić, D.	Contemporary technologies and food safety	2004	1-67
Šubarić, D. , Babić, J., Ačkar, Đ.	Hygiene and Sanitation, PTF, Osijek	2012	1-177
Sanchias, AV, Allaert, VC, As-Almenar, I. VI., Sala, MN, Torres, GM	Practicum in Food Microbiology, University of Lleida, Catalonia-Spain, University of Banja Luci, Univerzitet u Tuzli	2001	1-113
Additional reading			
Author	**Title, publisher**	**Year**	**Pages**
Marriott, NG, Gravani, RB	Principles of Food Sanitation, Fifth Edition, Springer Science, Business Media, Inc	2006	1- 425
Marriott, NG	Essentials of food sanitation., International Thomson Publishing.	1997	1-359
Roberts, TA	Microorganisms in foods, second edition, Kluwer Academic / Plenum Publishers New York	2005	1-723

	Type of student evaluation	**Grade points**	**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	2023		