

FACULTY:	Faculty of Mechanical Engineering
FIELD OF STUDY:	Food Technology and Human Nutrition
ERASMUS COORDINATOR OF THE FACULTY:	Krzysztof Rokosz, PhD, DSc, Eng. Małgorzata Smuga-Kogut, PhD
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COURSE TITLE:	Cleaning Processes and Equipments
LECTURER'S NAME:	Joanna Piepiórka-Stepuk, Ph.D.
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ECTS POINTS FOR THE COURSE:	4
ACADEMIC YEAR:	2020/2021
SEMESTER: (W – winter, S – summer)	W
HOURS IN SEMESTER:	W (15h) + L (15h)
LEVEL OF THE COURSE: (1 st cycle, 2 nd cycle, 3 rd cycle)	1 st cycle
TEACHING METHOD: (lecture, laboratory, group tutorials, seminar, other-what type?)	Lecture, laboratory
LANGUAGE OF INSTRUCTION:	English
ASSESSMENT METHOD: (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?)	(W) Written test, (L) Written reports and laboratory work
COURSE CONTENT:	<p>Lecture</p> <ol style="list-style-type: none"> 1. The regulation of hygiene in food production 2. Sediments and fouling in food industry 3. Workplace plan of cleaning and disinfection, documentation, responsibility 4. Types of cleaned surfaces in food industry plants 5. Hygiene of personnel 6. The process of cleaning and disinfection - the basics, stages 7. Factors affected on the effectiveness of the cleaning process 8. Cleaning method and disinfection: <ul style="list-style-type: none"> - Hand cleaning - Foam cleaning - Chamber cleaning - Bubbling and ultrasonic cleaning - Cleaning in CIP system - High pressure cleaning - Other cleaning method (hand, immersion, spray) 9. Water and chemistry detergents and disinfectants used to clean 10. Assessments of cleanliness <p>Laboratory</p> <ol style="list-style-type: none"> 1. Evaluation of the concentration cleaning agents 2. Evaluation of the chemical concentration on the cleanliness 3. Evaluation of the concentration of chemical agents influence on the surface cleanliness 4. Cleaning in CIP system - influence of mechanical factors on the cleanliness 6. Stability of foam depending on agent concentration 7. Chamber cleaning - influence of ultrasound, bubbling and spraying on the cleanliness
ADDITIONAL INFORMATION:	<p>Reference list (selected):</p> <ol style="list-style-type: none"> 1. Lelieveld H.L.M.; Mostert, M.A.; Holah, J.; White, B. 2003. Higiene in food processing. Woodhead publishing limited, England, pp. 197–230; 2. Tamime A., 2008. Cleaning in Place Dairy, Food and Beverage Operations. Blackwell Publishing Ltd; 3. Kanegsberg B., Kanegsberg E., 2001. Handbook for critical cleaning. CRC Press;