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| FACULTY: | Faculty of Mechanical Engineering and Energetics |
| FIELD OF STUDY: | Food Technology and Human Nutrition |
| ERASMUS COORDINATOR OF THE FACULTY: | Agnieszka Szparaga, PhD, DSc, Eng |
| E-MAIL ADDRESS OF THE COORDINATOR: | agnieszka.szparaga@tu.koszalin.pl |
| COURSE TITLE: | **Food packaging** |
| LECTURER’S NAME: | Dr hab. inż. Tomasz Rydzkowski, prof. PK  Dr hab. inż. Iwona Michalska-Pożoga, prof. PK |
| E-MAIL ADDRESS OF THE LECTURER: | tomasz.rydzkowski@tu.koszalin.pl  iwona.michalska-pozoga@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 4 |
| COURSE CODE (USOS): | 0811>2000-OdŻ (Lec); 0811>2000-OdŻ-lab |
| ACADEMIC YEAR: | 2024/2025 |
| SEMESTER: (W – winter, S – summer) | S |
| HOURS IN SEMESTER: | Lecture (30h) + Laboratory (30h) |
| LEVEL OF THE COURSE:  (1st cycle, 2nd cycle, 3rd cycle) | 1st cycle |
| TEACHING METHOD:  (lecture, laboratory, group tutorials, seminar, other-what type?) | Lecture, laboratory |
| LANGUAGE OF INSTRUCTION: | * **English full time scheme for classes with 5 and more International Erasmus+ students enrolled/accepted;** * **English 50% individually with the teacher + Polish 50% with Polish students or individual project work- scheme for classes with less than 5 International Erasmus+ students enrolled/ accepted;** |
| ASSESSMENT METOD:  (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | class test, written reports, continuous assessment |
| COURSE CONTENT: | **Lecture**  Getting to know the specifics of the packaging industry, including: characteristics of packaging materials, properties and characteristics of the packaging, application, quality and defects of packaging. Construction of packaging made from cellulose and wood pulp, polymers, glass, metals, composites materials. Bulk packaging and transportation. Getting to know the food packaging systems (packagingtechniques and packaging). Packaging using modern packaging techniques (in vacuum, modified and controlled atmosphere). Basic knowledge of packaging materials recycling. Introduction to the principles of marking and labeling of foods, methods of food preservation (retorting, aseptic packaging, hot bottling, etc.) as well as with the requirements of hygienic - sanitary packaging and the role of packaging in marketing. Knowledge of general information on the packaging andthe level of economic and civilization.  **Laboratory**  As part of the lab the student will acquire the ability tostudy the properties and durability of packaging together with an assessment of their compliance with the standards,  particular: identification of packaging materials, evaluationof packaging - bottles, test the quality of closing down ondouble tab endurance test paper bags, Seal strength rating of selected packages food, explore the process of sealing the film and its impact on the quality of packaged foods, the analysis of macro- and microscopic structure ofcharacteristic packaging elements, evaluation of packaging techniques of selected food products.  **Classes**  Data research on packaging and packaging systems typical for food and other industry sectors. |
| ADDITIONAL INFORMATION: | Reference list (selected):  Barone C., Bolzoni L. at all: Food Packaging Hygene, Springer International 2015  Parisi S.: Food industry and packaging materials-performance-oriented guidelines for users. Smithers RAPRA Technology, Shawbury 2013 |

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