

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Food Industry Engineering		Code 1010614151010610231
Field of study Mechanical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 5
Elective path/specialty Food Industry Machines and Refrigeration	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 18 Classes: - Laboratory: 6 Project/seminars: -		No. of credits 3
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 1 100%
Responsible for subject / lecturer: dr inż. Wojciech Ratajczak email: wojciech.ratajczak@put.poznan.pl tel. 665 2229 MRiT ul. Piotrowo 3, 60-695		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Graduate has knowledge about applicable technologies in food industry
2	Skills	Graduate is able to get information from different sources (literature, internet).
3	Social competencies	Graduate is aware of meaning and responsibility for activity of engineer in different aspects ? technical, social, interactions on environment etc.
Assumptions and objectives of the course: Knowledge of basic of individual processes in technologies of food industry processing taken advantage and principles of definitions of parameters.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. He owns knowledge about physical bases of processes flow of food processing industry, about physical and mechanical specificity of raw materials and products processes of food processing industry. - [K1A_W24]		
2. It knows and understands basic processes and individual processes taken advantage in technologies of nutritive processing industry. - [K1A_W24]		
3. It knows principles of definitions of parameters of work of machines and fix-ups for their realization - [K1A_W24]		
Skills:		
1. He can define requirement for machines and devices for realization of individual processes in food industry process . - [K1A_U03,K1A_U27]		
Social competencies:		
1. He is aware that selecting devices or other equipment besides technical and technological aspects he also should take into account the aspects of hygiene, safety, economy and ergonomomy. - [K1A_K02]		
Assessment methods of study outcomes		
Writing test		
Course description		

<p>Physical bases of processes flow of food processing, physical and mechanical specificity of raw materials and products of food processing industry. Periods of processing of food and classification of individual process. Rheological conditionality of parameter largeness of individual operations. Pumping of food liquids. Transport o powder materials. Crumbling ? mechanizm and energy of crumbling.</p> <p>Separating and classification of crumbled food products. Agglomeration. Mixing - estimate of efficiency, request of energy. Separating of multiphase match. Mass and energy balance condensing of solution by parrying. Drying ? mass and energy balance. Extraction -mass and energy balance. Extracting of liquid phase from food products.</p>		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in the lecture	30	
2. Preparation for laboratory	12	
3. Participation in laboratory exercises	15	
4. Capturing the content of training, the report	6	
5. Participation in the completion	1	
6. Consultation	4	
7. Exam Preparation	10	
8. Participation in the exam	2	
Student's workload		
Source of workload	hours	ECTS
Total workload	80	3
Contact hours	52	2
Practical activities	36	1