

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Machines		Code 1010614151010610175
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: 6 Laboratory: 8 Project/seminars: -		No. of credits 4
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 %) 4 100%
Responsible for subject / lecturer: Przemysław TYCZEWSKI Ph.D. (Eng.) email: przemyslaw.tyczewski@put.poznan.pl tel. 61 665 2655 Faculty of Machines and Transport ul Piotrowo 3		Responsible for subject / lecturer: Karolina PERZ, Ph.D. (Eng.) email: karolina.perz@put.poznan.pl tel. 61 665 2391 Faculty of Machines and Transport ul. Piotrowo 3
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Student has a basic knowledge about the mechanics, machines construction bases, machines theory, thermodynamics
2	Skills	Student can draw a machine scheme. Can do basic calculations of the main elements and assemblies of the machine, i.e. shafts, bearings, couplings, brakes and transmissions
3	Social competencies	Student is aware of the importance of the responsibility for his own activities, he understands their general aspects and consequences
Assumptions and objectives of the course: Cognition of the basic machines and devices used in the food industry		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Has an expanded knowledge necessary for understanding specialized subjects and expertise in construction, design and manufacturing methods and operation of a selected group of machines, in particular: food industry machines and equipment - [K1A_W24]		
Skills:		
1. Is able to competently advise in the selection of equipment for a given application in the industry covered by chosen specialization, based on the acquired knowledge about an equipment group - [K1A_U25]		
Social competencies:		
1. Has a sense of responsibility for one's own work and is willing to comply with the principles of teamwork and taking responsibility for collaborative tasks - [K1A_K02]		
Assessment methods of study outcomes		
Written examination (lectures); current control of the preparation to the laboratory; evaluation of the laboratory process		
Course description		
Systematics of the food industry machines and devices, including mechanical, thermo-diffusive and packaging processes. Allocation and application of the food industry machines and devices. Structure (main assemblies), principles of operation, schemes, technical characteristics of the food industry machines and devices.		

Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Presence at the lectures tory	30	
2. Preparation to the labora	12	
3. Presence at the laboratory	15	
4. Knowledge fixation, laboratory report	12	
5. Preparation to laboratory pass	4	
6. Presence at the laboratory pass	1	
7. Consultations	5	
8. Preparation to the exam	14	
9. Presence at the exam	2	
Student's workload		
Source of workload	hours	ECTS
Total workload	95	4
Contact hours	53	2
Practical activities	15	0