

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Passing Project		Code 1010612221010614451
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty Food Industry Machines and Refrigeration	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: 1		No. of credits 6
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		ECTS distribution (number and %)
Responsible for subject / lecturer: dr inż. Łukasz Wojciechowski email: lukasz.wojciechowski@put.poznan.pl tel. 665-2376 MRiT ul. Piotrowo 3, 60-695 Poznań		Responsible for subject / lecturer: dr inż. Tomasz Rochatka email: tomasz.rochatka@put.poznan.pl tel. 665-2655, MRiT ul. Piotrowo 3, 60-695 Poznań
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	The basics of machine design and the basis of refrigeration and food przechowalnictwa in implemented in the course of the study.
2	Skills	Can design selected machines and refrigeration systems.
3	Social competencies	Is aware of and understands the non-technical aspects and effects of engineering activities.
Assumptions and objectives of the course: Framing cooling design skills of the means of transport.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Has knowledge of considerations to be taken into account in the development of the project (assessment of the current state of technical theory and practice, the selection of and justification for the solution, social aspects). - [K2A_W19]		
Skills: 1. Able to design, in accordance with the specifications, equipment, technological lines for the production or processing of food. - [K2A_U06] 2. Know how to evaluate the operation of the system of technical objects. - [K2A_U06]		
Social competencies: 1. Is aware of the ecological and social aspects of the design task. - [K2A_K02 K2A_K06]		
Assessment methods of study outcomes		
Evaluation shall be subject to design and content development theoretical.		
Course description		
During the course the students carry out individual projects of body intended for the transport of refrigerated foods (refrigerated heated vehicles isotherms, lodownie). The project involves the selection of: izotermicznego body, the cold unit (heating) and accessories. Each of the students also made a study of the theoretical phase chosen of the design process.		

Basic bibliography:		
1. Pojazdy chłodnicze w transporcie żywności. Praca zbiorowa pod red. Zwierzyckiego W. i Bieńczyka K., Wyd. Systherm Serwis, Poznań 2006.		
2. Chłodniczy transport żywności [w:] Kalendarz Chłodnictwa rok 2005. Praca zbiorowa pod red. Zwierzycki W., Wyd. Systherm Serwis, Poznań 2004.		
3. Kwaśniowski S., Pojazdy izotermiczne i chłodnicze. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 1997.		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Preparing for classes	25	
2. Participation in activities	15	
3. Project preparation	100	
4. Consultation	4	
5. Preparation for assessment	4	
6. Participation in the successful completion	2	
Student's workload		
Source of workload	hours	ECTS
Total workload	150	6
Contact hours	60	1
Practical activities	150	6