

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Passing Project		Code 1010632221010630466
Field of study Mechanika i budowa maszyn	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty Gas technology and renewable energy	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: 4		No. of credits 5
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 Technical sciences		ECTS distribution (number and %) 5 100% 5 100%
Responsible for subject / lecturer: dr inż. Rafał Ślefarski email: rafa.slefarski@put.poznan.pl tel. 616652218 Faculty of Machines and Transport ul. Piotrowo 3 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of the basics of writing papers and reports in the field of mechanics.
2	Skills	Is able to present a description and calculation of the basic thermodynamic processes of thermal energy conversion systems in gas industry.
3	Social competencies	Student knows restrictions of the own knowledge and the skill; understands the need for lifelong education
Assumptions and objectives of the course: To acquaint students with basic principles of writing of interim work. Provide students practical skills of drafting of investigation results and preparing of scientific reports.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Knows the rules of writing thesis, formulate and describe research problems. - [-]		
2. Has an in-depth knowledge of how to prepare and describe engineering projects in energetic industry ? [K2A_W04] - [-]		
Skills:		
1. Is able to describe the development of systems and devices for efficient use of primary energy resources including the renewable energy. - [K2A_U02] - [-]		
2. Is able to freely use knowledge about thermodynamic phenomena occurring in the energy processes necessary for the effective conversion of thermal energy.- [K2A_U04] - [-]		
Social competencies:		
1. Is aware of and understands the importance and impact of non-technical aspects of mechanical engineering activities and its impact on the environment, is aware of responsibility for decisions. [K2A_K02] - [-]		
2. Is able to interact in a group taking on the different roles. - [K2A_K03] - [-]		
Assessment methods of study outcomes		
Project - presentation of solutions to the engineering problem in the form of a report and evaluation of presentation of received results		

Course description		
the genesis of thesis topics, the role of the promoter, Sources of scientific and technical information and ways to use of them, formulating hypotheses, models and modeling, the structure of the thesis, the technique of writing research papers, editorial rules, preparation for the final exam, elements of scientific language: regularities, laws, theories, principles		
Basic bibliography:		
1. Oliver P., Jak pisać prace uniwersyteckie, Wyd. Literackie, Kraków 1999		
2. Leszek W., Badania empiryczne, wyd. ITE, Radom 1997. 2.		
3. Majchrzak J., Mendel T., Metodyka pisania prac magisterskich i dyplomowych. Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań 2005.		
Additional bibliography:		
1. Pieter J., Ogólna metodologia pracy naukowej, Ossolineum, Wrocław 1967		
Result of average student's workload		
Activity	Time (working hours)	
1. Preparation for the project	5	
2. Preparation of the project	100	
3. Participation in the seminar	15	
4. Consultation for the project	5	
5. Presentation of the results of the project	2	
Student's workload		
Source of workload	hours	ECTS
Total workload	137	5
Contact hours	22	1
Practical activities	115	4