

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Proseminar</b>		Code <b>1010632121010634114</b>
Field of study <b>Mechanical Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 2</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: <b>1</b> Classes: <b>-</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>1</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>1 100%</b> <b>1 100%</b>
<b>Responsible for subject / lecturer:</b>  Prof. dr hab inż. Tomasz Dobski email: tomasz.dobski@put.poznan.pl tel. 61 665 2218 Maszyn Roboczych i Transportu Piotrowo 3, 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Knowledge of the basics of writing papers and reports in the field of mechanics.
2	<b>Skills</b>	Is able to present a description and calculation of the basic thermodynamic processes of thermal energy conversion systems in gas industry.
3	<b>Social competencies</b>	Student knows restrictions of the own knowledge and the skill; understands the need for lifelong education
<b>Assumptions and objectives of the course:</b> To acquaint students with basic principles of writing of papers and reports in engineering works. Provide students practical skills of drafting of investigation results and preparing of scientific reports.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Has an in-depth knowledge of how to prepare and describe engineering projects in energetic industry - [K2A_W04] 2. Knows how to analyze the thermodynamic and energetic processes - [K2A_W04]		
<b>Skills:</b>		
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] 3. Is able to develop technical description, market offer and design documentation for a complex machine from the selected equipment group - [K2A_U016]		
<b>Social competencies:</b>		
1. Is aware of and understands the importance and impact of non-technical aspects of mechanical engineering activities and its impact on the environment and responsibility for own decisions - [K2A_K02] 2. Understands the need for lifelong learning; is able to inspire and organize the learning process of others - [K2A_K01]		
<b>Assessment methods of study outcomes</b>		
Lecture ? the written examination and presentation of solutions to the problem in the form of a report		

<b>Course description</b>		
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		
<b>Basic bibliography:</b>		
1. 1. Boć J., Jak pisać pracę magisterską, Wyd. Kolonia, Wrocław 2003 2. 2. Dietrich J., System i konstrukcja, WNT, Warszawa 1978 3. 3. Oliver P., Jak pisać prace uniwersyteckie, Wyd. Literackie, Kraków 1999 4. 4. Orczyk J., Zarys metodyki pracy umysłowej, PWN, Warszawa 1988 5. 5. Pieter J., Ogólna metodologia pracy naukowej, Ossolineum, Wrocław 1967 6. 6. Szkutnik Z., Metodyka pisania pracy dyplomowej, Wyd. Poznańskie, Poznań 2005 7. 7. Tarnowski W., Podstawy projektowania technicznego, WNT, Warszawa 1997 8. 8. Żółtowski B., Seminarium dyplomowe; zasady pisania prac dyplomowych, Wyd. ATR, Bydgoszcz 1997 9. 1. Boć J., Jak pisać pracę magisterską, Wyd. Kolonia, Wrocław 2003 10. 2. Dietrich J., System i konstrukcja, WNT, Warszawa 1978 11. 3. Oliver P., Jak pisać prace uniwersyteckie, Wyd. Literackie, Kraków 1999 12. 4. Orczyk J., Zarys metodyki pracy umysłowej, PWN, Warszawa 1988 13. 5. Pieter J., Ogólna metodologia pracy naukowej, Ossolineum, Wrocław 1967 14. 6. Szkutnik Z., Metodyka pisania pracy dyplomowej, Wyd. Poznańskie, Poznań 2005 15. 7. Tarnowski W., Podstawy projektowania technicznego, WNT, Warszawa 1997 16. 8. Żółtowski B., Seminarium dyplomowe; zasady pisania prac dyplomowych, Wyd. ATR, Bydgoszcz 1997		
<b>Additional bibliography:</b>		
1. 1. Leszek W., Badania empiryczne, wyd. ITE, Radom 1997, 2. 2. Polański Z., Planowanie doświadczeń w technice. PWN, Warszawa 1984. 3. 3. Pułto A., Prace magisterskie i licencjackie. PWN, Warszawa 2000. 4. 1. Leszek W., Badania empiryczne, wyd. ITE, Radom 1997, 5. 2. Polański Z., Planowanie doświadczeń w technice. PWN, Warszawa 1984. 6. 3. Pułto A., Prace magisterskie i licencjackie. PWN, Warszawa 2000.		
<b>Result of average student's workload</b>		
Activity	Time (working hours)	
1. Participation in the lecture	15	
2. Fixing the lecture	5	
3. Consultation for the lecture	5	
4. Preparing to pass the lecture	10	
5. Participation in the completion of the lecture	2	
<b>Student's workload</b>		
Source of workload	hours	ECTS
Total workload	37	1
Contact hours	25	0
Practical activities	0	0