Name of the module/subject         Code (1006122210106141114)           Firstering and standard st			STUDY MODULE D	ESCRIPTION FORM			
Field of study       Profile of study       Year /Semeater         Transport       Logistics of Transport       Subject offered it:       Course (computery, elective)         Second-cycle studies       Form of study (full-time, practical)       Course (computery, elective)         Second-cycle studies       Form of study (full-time, practical)       No. of credits         No. of hours       Logistics of Transport       Project/seminars:       No. of credits         Education areas and fields of sciences       (miversity-wide, from another field)       No. of credits         Education areas and fields of sciences       1       100%         Technical sciences       1       100%         Technical sciences       1       100%         The student has acquired an overall engineering knowledge. He is acquired with major issues       associated with his/her topic/subject of the dissertation.         1       Knowledge       The student can use Interms: Heisber scientific arguments.       Associated with his/her topic/subject arguments.         2       Skills       English. The student can loan formating usels os concerning insider research report.       The student can use Interms: Heisber can write fluently in Polish and read different texts in English. The student can formating usels os concerning insider research report.         3       Social competencies       The student understand the importance of further education and s	Name o Pros	f the module/subject eminar		Code 1010612221010614114			
Distribution         Distribution<	Field of study			Profile of study (general academic, practical <b>(brak)</b>	Year /Semester		
Logistics of Transport         Polish         obligatory           Cyde of study:         Form of study (full-time,part-time)         Form of study (full-time,part-time)         Form of study (full-time,part-time)           Second-cycle studies         full-time         No. of credits         full-time           Locitation:         1         Classes:         -         Laboratory:         Project/seminars:         1           Education areas and fields of science and att         (brak)         (brak)         (brak)           Education areas and fields of science and att         Education areans and science and attern areas active and ascienchinship area	Elective	path/specialty		Subject offered in:	Course (compulsory, elective)		
Cycle of study:         Form of study (full-time.part-time)           Second-cycle studies         full-time           No. of nors         full-time           Lecture:         1         Classes:         -         Laboratory:         Project/seminars:         -         1           Status of the course in the study program (Basic, major, other)         (university-wide, from another field)         No. of cradits           Education areas and fields of science and art         (brack)         (ECT3 diaribution (number and %)           Technical sciences         1         100%         1         100%           Responsible for subject / lecturer:         Jacek zak @put poznan.pl         1         100%         1         100%           Myddai Massyn Roboczych i Transportu         u. Piotrowa 3 60-965 Poznan         The student nas acquired an overall engineering knowledge. He is acquired with major issues           Social         The student can comulate questions concerning his/her research topic.           3         Social         The student can formulate questions concerning his/her research topic.           3         Social         The student can formulate questions concerning his/her research topic.           3         Social         The student can formulate questions concerning his/her research topic.           4         Mudent knowledge and skills in organizing and		Logis	stics of Transport	Polish	obligatory		
Second-cycle studies         full-time           No. of hours         No. of credits         No. of credits           Lecture:         1         Classes:         -         Laboratory:         -         Project/Seminars:         -         1           Status of the sourse in the study program (Basic, major, other)         (university-wide, from number field)         (brak)         CDTS distribution (number and %)           Education areas and fields of sciences         Technical sciences         1         100%         1         100%           technical sciences         Technical sciences         1         100%         1         100%           Responsible for subject / lecturer:         Jacek Zak         The student has acquired an overall engineering knowledge. He is acquired with major issues           Jacek Zak         memain jacek, zak @put poznan.pl         The student can use Internet. He/she can write fluently in Polish and read different texts in English. The student can use Internet. He/she can write fluently in Polish and read different texts in English. The student can use Internet. He/she can write fluently in Polish and read different texts in English. The student can use Internet. He/she can write fluently in Polish and read different texts in English. The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.           Assumptions and objectives of the course:         Extending student knowledge and skills in organizing and ca	Cycle of	f study:		Form of study (full-time,part-time)			
No. of hours       No. of credits         Lecture:       1         Status of the course in the study program (Basic, major, other)       (university-wide, from another field)         Status of the course in the study program (Basic, major, other)       (university-wide, from another field)         Education areas and fields of science and art       (brak)         technical sciences       ECT Statustron (number and %)         Technical sciences       1         Jacek Zak       memail: jacek rak@put.poznan.pl         tel. 61 6652 230       Wydytaid Maszyn Roboczych i Transportu         ul. Piotrowo 3 60-965 Poznań       The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.         2       Skills       The student can use Intermet. He/she can write fluently in Polish and read diffrent texts in English. The student can secontime inportance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Assumptions and objectives of the course:       Extending student knowledge and skills in organization of research projects and writing research reports, publicationa - (K1A_W21)         Libe/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - (K1A_W24)         1       The student can organize a simple/individual research projects and familiar with the pronciples of writing and research report tasks/disseration - (K1A_W2		Second-cy	ycle studies	full-time			
Lacture:       1       Classes:       - Laboratory:       - Project/seminars:       -       1         Status of the course in the study program (Basic, major, other)       (university-wide, from another field)       (brak)         Education areas and fields of science and art       (brak)       (brak)       Education areas and fields of science and art         Education areas and fields of sciences       1       100%       1       100%         Responsible for subject / lecturer:       Jacek Zak       4       1       100%       1       100%         Wyddzie Massyn Roboczych i Transportu       ul. Piotrowo 3 60-965 Poznaň       -       1	No. of h	ours		No. of credits			
Status of the course in the study program (Basic, major, other) (university-wide, from another field) (brak) (brak	Lectur	e: 1 Classes	s: - Laboratory: -	Project/seminars:	- 1		
(brak)         (brak)           Education areas and fields of science and art         ECTS distribution (number and %)           technical sciences         1 100%           Technical sciences         1 100%           Technical sciences         1 100%           Agesk Zak         1 100%           email: jacek.zak@put.poznan.pl         1 100%           tei.61 6652 230         Wydzial Maszyn Roboczych i Transportu           ul. Plotrow 3 60-965 Poznaň         Prerequisites in terms of knowledge, skills and social competencies:           1         Knowledge         The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.           2         Skills         The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.           3         Social competencies         The student understand the importance of further education and self-improvement. He/she can arry put scientific discussion, use scientific arguments.           Assumptions and objectives of the course:         Extending student knowledge concerning organization of research projects and familiar with the pronciples of writing and research report asks/dissertation [K1A_W21]           Lheishe knows different sources of publications [K1A_W21]         Extending the modular research goals and hypotheses. He/she can apply scientific methods concerning e	Status o	of the course in the study	program (Basic, major, other)	(university-wide, from another field)			
Education areas and fields of science and at       ECT Sciences         technical sciences       1 100%         Responsible for subject / lecturer:       Jacek Zak         Jacek Zak       mail: jacek.zak @put.poznan.pl         tel. 61 6652 230       Wydziel Mazyn Roboczych i Transportu         ul. Piotrowo 3 60-965 Poznań       Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge       The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.         2       Skills       The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.         3       Social competencies       The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Assumptions and objectives of the course:       Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertation.         1. The student task/dissertation - [K1A_W21]       Preferencies of writing and research projects and familiar with the pronciples of writing and research project and write a research report         2. He/she knows the rules of formulating research project and write a research report       - [K1A_U24]         3. He/she knows the rules of formulating research project and write			(brak)	(brak)			
technical sciences       1 100%         Responsible for subject / lecturer:       Jacek Zak         Jacek Zak       Jacek Zak         email: jacek.zak @put.poznan.pl       1 6652 230         Wydział Mazyn Roboczych i Transportu       U. Piotrowo 3 60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:       Image: State Sta	Educati	on areas and fields of sci	ence and art		ECTS distribution (number and %)		
Technical sciences       1 100%         Responsible for subject / lecturer:       Jacek Zak email: jacek.zak@put.poznan.pl         ui. 61 6652 230       Wydział Maszyn Roboczych i Transportu         ui. Piotrowo 3 60-965 Poznań       Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge       The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.         2       Skills       The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.         3       Social competencies       The student of course:         Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and objectives of the course:         Study outcomes and reference to the educational results for a field of study         Knowledge:       .1         1. The student nery organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation [K1A_W21]         Study outcomes of publications [K1A_W21]         Strills	techr	nical sciences			1 100%		
Responsible for subject / lecturer:         Jacek Žak         email: jacek.zak@put.poznan.pl         tel. 61 6652 230         Wydział Maszyn Roboczych i Transportu         ul. Piotrowo 3 60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge         2       Skills         3       Social competencies         competencies       The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Assumptions and objectives of the course:         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. The student understand the importance of familiar with the pronciples of writing and teserach projects and familiar with the pronciples of writing and teserach report tasks/dissertations.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. The student understand hopic transport can apply scientific methods - [K1A_UV21]         Study outcomes and reference to the educational results for a field of study         Knowledge:         2. He/she knows the rules of formulating research pro		Technical scie	ences		1 100%		
Responsible for subject / lecturer:         Jacek Zak         email: jacek Zak         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge         2       Skills         The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.         a:       Social competencies         Assumptions and objectives of the course:         Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertation .         1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation .         2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/s							
Jacek Żak         emai: jacek zak @put.poznan.pl         tel. 61 6652 230         Wydział Maszyn Roboczych i Transportu         ul. Piotrowo 3 60-965 Poznań    Prerequisites in terms of knowledge, skills and social competencies:          1       Knowledge         2       Skills         3       The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.         2       Skills       The student nas equired an overall engineering knowledge. He is acquired with major issues for a field of the concerning his/her research topic.         3       Social competencies       The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Assumptions and objectives of the course:       Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertation .         1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and creater report tasks/dissertation - [K1A_W21]         2. He/she knows ther ules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]         3. He/she can organize a simple/individual research project and write a research report - [K1A_U18]         2. He/she knows different sources of publications [K1A_W21] <t< th=""><th>Resp</th><th>onsible for subj</th><th>ect / lecturer:</th><th></th><th></th></t<>	Resp	onsible for subj	ect / lecturer:				
biological construction         email: jacek.zak@put.poznan.pl         tel. 61 6652 230         Wydział Maszyn Roboczych i Transportu         ul. Piotrowo 3 60-965 Poznań    Prerequisites in terms of knowledge, skills and social competencies:          1       Knowledge         2       Skills         3       The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.         2       Skills         3       The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Assumptions and objectives of the course:         Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1       The student skills in organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]         Study outcomes and reference to the educational results for a field of study         Knowledge:         1       The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and resea	Jac	• k Żak					
tel. 61 6652 230         Wydział Maszyn Roboczych i Transportu ul. Piotrowo 3 60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge         2       Skills         3       Social competencies         The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.         2       Skills         3       Social competencies         The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.         3       Social competencies       The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Study outcomes and reference to the educational results for a field of study         Monoledge:         1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]         Skills:         1. The student can organize a simple/individual research project and write a research report - [K1A_U18]         2. He/she knows different sources of publications [K1A_W21]         Skills:         1. The student can organize a simple/individual r	ema	ail: jacek.zak@put.poz	nan.pl				
Wydział Maszyn Roboczych i Transportu ul. Piotrowo 3 60-965 Poznań         Prerequisites in terms of knowledge, skills and social competencies:         1       Knowledge         2       Skills         3       Competencies:         3       Social competencies:         4       The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.         3       Social competencies:       The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Assumptions and objectives of the course:       Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1       . The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]         2. He/she knows different sources of publications [K1A_W21]         3. He/she knows different sources of publications [K1A_W21]         Skills:         1. The student can organize a simple/individual research project and write a research report - [K1A_U18]         2. He/she knows different sources of publications [K1A_W21]         Skill	tel.	61 6652 230					
Prerequisites in terms of knowledge, skills and social competencies:           1         Knowledge         The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.           2         Skills         The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.           3         Social competencies         The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.           Assumptions and objectives of the course:         Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.           Study outcomes and reference to the educational results for a field of study           Knowledge:         - [K1A_W21]           2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]           3. He/she can carry out literature review based on different sources of information - [K1A_U04]           4[]           Social competencies:           1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]           2. He/she understands the value of results/outcomes generated in research projects [K1A_U04]           3. He/she understands the value of results/outcomes generated in research and its impact on society - [K1A	VVyo ul F	ział Maszyn Roboczy Piotrowo 3 60-965 Poz	ch i Transportu mań				
Prerequisities in terms of knowledge, skills and social competencies:         1       Knowledge         1       Knowledge         2       Skills         3       The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.         2       Skills         3       The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.         3       Social competencies:       The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.         Assumptions and objectives of the course:       Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.         Study outcomes and reference to the educational results for a field of study         Knowledge:         1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [(K1A_W21]         2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]         3. He/she can carry out literature review based on different sources of information - [K1A_U18]         2. He/she knows different sources of publications [K1A_W21]         Skills:	Duana						
Image         The student has acquired an overall engineering knowledge. He is acquired with major issues associated with his/her topic/subject of the dissertation.           2         Skills         The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.           3         Social competencies         The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.           Assumptions and objectives of the course:         Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.           Study outcomes and reference to the educational results for a field of study           Knowledge:           1. The student can organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]           2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]           3. He/she knows different sources of publications [K1A_W21]           Skills:           1. The student can organize a simple/individual research project and write a research report - [K1A_U18]           2. He/she can carry out literature review based on different sources of information - [K1A_U04]           3. He/she understands the value of results/outcomes generated in research projects [K1A_K02]           3. He/she under	Prere	quisites in term	is of knowledge, skills an	a social competencies:			
2         Skills         The student can use Internet. He/she can write fluently in Polish and read diffrent texts in English. The student can formulate questions concerning his/her research topic.           3         Social competencies         The student understand the importance of further education and self-improvement. He/she can arry put scientific discussion, use scientific arguments.           Assumptions and objectives of the course:         Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.           Study outcomes and reference to the educational results for a field of study           Knowledge:           1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]           2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]           3. He/she knows different sources of publications [K1A_W21]           Skills:           1. The student can organize a simple/individual research project and write a research report - [K1A_U18]           2. He/she can carry out literature review based on different sources of information - [K1A_U04]           3. He/she understands the value of results/outcomes generated in research and its impact on society - [K1A_K07]           3. He/she can carry out discussion soncerning research project and write a research report - [K1A_U04]           4 [-]	1	Knowledge	The student has acquired an over associated with his/her topic/su	erall engineering knowledge. He is acquired with major issues bject of the dissertation.			
3         Social competencies         The student understand the importance of further education and self-improvement. He/she can carry put scientific discussion, use scientific arguments.           Assumptions and objectives of the course:         Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.           Study outcomes and reference to the educational results for a field of study           Knowledge:           1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]           2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]           3. He/she can organize a simple/individual research project and write a research report - [K1A_U18]           2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]           3. He/she can carry out literature review based on different sources of information - [K1A_U04]           4 []           Social competencies:           1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]           2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]           3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions - [K1A_K07]	2	Skills	The student can use Internet. He English. The student can formul	e/she can write fluently in Polish and read diffrent texts in ate questions concerning his/her research topic.			
Assumptions and objectives of the course: Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations. Study outcomes and reference to the educational results for a field of study Knowledge: 1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21] 2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24] 3. He/she knows different sources of publications [K1A_W21] Skills: 1. The student can organize a simple/individual research project and write a research report - [K1A_U18] 2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02] 3. He/she can carry out literature review based on different sources of information - [K1A_U04] 4[-] Social competencies: 1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07] 2. He/she understands the value of results/outcomes generated in research projects [K1A_K02] 3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -	3	Social competencies	The student understand the imp carry put scientific discussion, us	ortance of further education an se scientific arguments.	d self-improvement. He/she can		
Extending student knowledge and skills in organizing and carrying out research projects and writing research reports, publications and dissertations.    Study outcomes and reference to the educational results for a field of study  Knowledge:  1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]  2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]  3. He/she knows different sources of publications [K1A_W21]  Skills:  1. The student can organize a simple/individual research project and write a research report - [K1A_U18]  2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]  3. He/she can carry out literature review based on different sources of information - [K1A_U04]  4[-]  Social competencies:  1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]  2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]  3. He/she can carry out discussions concerning research topics and use scientific arguments in different considerations - [K1A_K02]	Assu	mptions and obj	ectives of the course:				
Study outcomes and reference to the educational results for a field of study         Knowledge:         1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]         2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]         3. He/she knows different sources of publications [K1A_W21]         Skills:         1. The student can organize a simple/individual research project and write a research report - [K1A_U18]         2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]         3. He/she can carry out literature review based on different sources of information - [K1A_U04]         4 [-]         Social competencies:         1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]         2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]         3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions - with the/she can carry out discussions concerning research projects [K1A_K02]	Extend publica	ing student knowledge tions and dissertation	e and skills in organizing and carr s.	ying out research projects and	writing research reports,		
Knowledge:         1. The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]         2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]         3. He/she knows different sources of publications [K1A_W21]         Skills:         1. The student can organize a simple/individual research project and write a research report - [K1A_U18]         2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]         3. He/she can carry out literature review based on different sources of information - [K1A_U04]         4 [-]         Social competencies:         1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]         2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]         3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions - [K1A_K02]		Study outco	mes and reference to the	educational results for	a field of study		
<ol> <li>The student has knowledge concerning organization of research projects and familiar with the pronciples of writing and research report tasks/dissertation - [K1A_W21]</li> <li>He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]</li> <li>He/she knows different sources of publications [K1A_W21]</li> <li>Skills:         <ol> <li>The student can organize a simple/individual research project and write a research report - [K1A_U18]</li> <li>He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]</li> <li>He/she can carry out literature review based on different sources of information - [K1A_U04]</li> <li>-[-]</li> </ol> </li> <li>Social competencies:         <ol> <li>The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]</li> <li>He/she understands the value of results/outcomes generated in research projects [K1A_K02]</li> <li>He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions - implements in the provide the source is implement in the provide the provide the source is implement.<td>Knov</td><td>/ledae:</td><td></td><td></td><td>,</td></li></ol></li></ol>	Knov	/ledae:			,		
<ul> <li>2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods - [K1A_W24]</li> <li>3. He/she knows different sources of publications [K1A_W21]</li> <li>Skills:</li> <li>1. The student can organize a simple/individual research project and write a research report - [K1A_U18]</li> <li>2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]</li> <li>3. He/she can carry out literature review based on different sources of information - [K1A_U04]</li> <li>4 [-]</li> <li>Social competencies:</li> <li>1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]</li> <li>2. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -</li> </ul>	1. The	student has knowledg	e concerning organization of rese	arch projects and familiar with	the pronciples of writing and		
3. He/she knows different sources of publications [K1A_W21]  5. Skills:  1. The student can organize a simple/individual research project and write a research report - [K1A_U18]  2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]  3. He/she can carry out literature review based on different sources of information - [K1A_U04]  4 [-]  5. Social competencies:  1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]  2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]  3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -	2. He/she knows the rules of formulating research goals, tasks, hypotheses. He/she knows different scientific methods -						
Skills:         1. The student can organize a simple/individual research project and write a research report       - [K1A_U18]         2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems       - [K1A_U02]         3. He/she can carry out literature review based on different sources of information       - [K1A_U04]         4 [-]       - [-]         Social competencies:       - [K1A_K07]         2. He/she understands the value of results/outcomes generated in research projects.       - [K1A_K02]         3 He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -	3. He/she knows different sources of publications - [K1A_W21]						
The student can organize a simple/individual research project and write a research report - [K1A_U18]     He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering     research problems - [K1A_U02]     He/she can carry out literature review based on different sources of information - [K1A_U04]     - [-]     Social competencies:     The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]     He/she understands the value of results/outcomes generated in research projects [K1A_K02]     He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -	Skills:						
<ul> <li>2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]</li> <li>3. He/she can carry out literature review based on different sources of information - [K1A_U04]</li> <li>4 [-]</li> <li>Social competencies:</li> <li>1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]</li> <li>2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]</li> <li>3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -</li> </ul>	1. The	student can organize	a simple/individual research proje	ct and write a research report	- [K1A_U18]		
<ul> <li>3. He/she can carry out literature review based on different sources of information - [K1A_U04]</li> <li>4 [-]</li> <li>Social competencies:</li> <li>1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]</li> <li>2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]</li> <li>3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -</li> </ul>	2. He/she can formulate research goals and hypotheses. He/she can apply scientific methods concerning engineering research problems - [K1A_U02]						
<ul> <li>+ [-]</li> <li>Social competencies:</li> <li>1. The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]</li> <li>2. He/she understands the value of results/outcomes generated in research projects [K1A_K02]</li> <li>3 He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -</li> </ul>	3. He/she can carry out literature review based on different sources of information - [K1A_U04]						
<ol> <li>The student is aware of the social role and importance of scientific research and its impact on society - [K1A_K07]</li> <li>He/she understands the value of results/outcomes generated in research projects [K1A_K02]</li> <li>. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -</li> </ol>	Social competencies:						
2. He/she understands the value of results/outcomes generated in research projects [K1A_K02] 3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -	1 The	student is aware of th	e social role and importance of so	ientific research and its impact	on society - [K1A K07]		
3. He/she can carry out discussions concerning research topics and use scientific arguments in different consideraions -	2. He/s	the understands the value of the	alue of results/outcomes generate	d in research projects [K1A	_K02]		
	3 He	/she can carry out disc	cussions concerning research topi	cs and use scientific argument	s in different consideraions -		

Assessment methods of study outcomes					
F-written tasks checking the students? abilities to construct/develop specific com schedule and budget research goal, tasks and hypotheses, application of selected	ojects: definition of				
P- practical test covering the scope of the Pre-seminar methods.					
Course description					
1. Organization of research projects: Basic rules concerning organization each research project.	of research. Universal	stages/phases of			
2. Process of writing a research report/dissertation: Description of the process of preparation and writing a scientific publication.					
3. Ethical standards in the academic world: General rules and ethical standards concerning carried out research projects and publishing their results. Legal regulations ? intellectual property right.					
4. Literature review: Analysis and characteristics of different sources of information. Major rules and characteristics of literature review.					
5. Selection of the title of dissertation: Discussion between the thematic scope of research and the title of dissertation. The rules of defining the title.					
6. The definition of research goal and tasks: Major features of research goal. The correlation between research goal and tasks. Formulation of research goals and tasks.					
7. Definition of the research hypothesis: The rules of formulation and basics characteristics of the research hypothesis. The essence of proving the research hypothesis.					
8. Classification of scientific methods: The requirements of scientific approach. Scientific methods definition, classification and application.					
Basic bibliography:					
1. Leszek W., Wybrane zagadnienia metodyczne badań empirycznych. Instytut Technologii Eksploatacji, Radom 2006					
<ol> <li>Szubert-Zarzeczny U., Technika pisania prac o charakterze naukowym, Wyd. Wyższa Szkoła Zarządzania &amp;#34;EDUKACJA&amp;#34; Wrocław, 2001.</li> </ol>					
Additional bibliography:					
1. Wojciechowska R., Przewodnik metodyczny pisania pracy dyplomowej. Wyd. DIFIN, 2010					
Result of average student's workload					
Activity	Time (working hours)				
1. Prepering materials	15				
2. Consultation	10				
Student's workload					
Source of workload	hours	ECTS			
Total workload 25		1			
Contact hours	10	0			
Practical activities	15	1			