

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Proseminar		Code 1010621261010624114
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 6
Elective path/specialty Railway Transport	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: - Laboratory: - Project/seminars: -		No. of credits 1
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 %) 1 100%
Responsible for subject / lecturer: Prof. Franciszek Tomaszewski, DSc., DEng. email: franciszek.tomaszewski@put.poznan.pl tel. +48 61 665 25 70 Faculty of Working Machines and Transportation Piotrowo 3 street, 60-965 Poznan		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Students have elementary knowledge about the content of the study of the field of study and specialization. Students have elementary knowledge about research and design activities.
2	Skills	Students can search for information, interfere and use MS Office.
3	Social competencies	Students can carry out discussions, argue their point of view. Students are aware of necessity of further training.
Assumptions and objectives of the course: The aim of the subject is to gain knowledge and competence to solve technical and engineering problems and to present results of those works.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Students know and understand elementary terms about protection of industrial property and about copyright law. - [K1A_W20]		
2. Students know principles of writing graduate works, formulating and describing research problems. - [K1A_W21]		
Skills:		
1. Students can, using knowable methods, prepare the course of research and formulate inferences from obtained results. - [K1A_U07]		
2. Students can proceed research results in a clear and comprehensible way using professional principles and terms. - [K1A_U10 K1A_U17]		
Social competencies:		
1. Students can think and act in resourceful way and make decisions. - [K1A_K07]		
2. Students can define tasks and priorities of their realization. - [K1A_K05]		
Assessment methods of study outcomes		
Credit on the basis of grade for elaborating engineering problems and their presentation.		
Course description		

<p>General part: types of qualification works including graduate works and principles of their realization, requirements for engineering graduate works. Formulating engineering problem, modes of its defining and possible solutions. Principles of formulating thesis of engineering work, literature study, methodology part of the work, presentation of research results and engineering analyses, elaboration of remarks and inferences. Principles of editing, editing aids, preparation of graphic elements and presentation of results.</p> <p>Specialist part: presenting realized engineering analyses and problems, scope and characteristics of engineering by the authors and discussion off all participants of the seminar.</p>		
<p>Basic bibliography:</p> <ol style="list-style-type: none"> 1. Dietrich J., System i konstrukcja, WNT, Warszawa 1978 2. Orczyk J., Zarys metodyki pracy umysłowej, PWN, Warszawa 1988 3. Pieter J., Ogólna metodologia pracy naukowej, Ossolineum, Wrocław 1967 		
<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. Szkutnik Z., Metodyka pisania pracy dyplomowej, Wyd. Poznańskie, Poznań 2005 2. Tarnowski W., Podstawy projektowania technicznego, WNT, Warszawa 1997 		
<p>Result of average student's workload</p>		
<p>Activity</p>		<p>Time (working hours)</p>
1. Participation in the lecture		15
2. Consultations		1
3. Preparation to get credit		1
4. Participation in credit procedures		1
<p>Student's workload</p>		
<p>Source of workload</p>	<p>hours</p>	<p>ECTS</p>
Total workload	18	1
Contact hours	17	1
Practical activities	0	0