

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Logistics in Transportation Systems		Code 1010612231010620552
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
Elective path/specialty Railway Transport	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: 1 Classes: 1 Laboratory: - Project/seminars: -		No. of credits 2
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 %) 2 100% 2 100%
Responsible for subject / lecturer: dr inż. Grzegorz Gramza email: grzegorz.gramza@put.poznan.pl tel. (61) 665 20 17 Wydział Maszyn Roboczych i Transportu ul. Piotrowo 3, 60-965 Poznań		Responsible for subject / lecturer: mgr inż. Anna Kobaszyńska-Twardowska email: anna.kobaszynska-twardowska@doctorate.put.poznan.pl tel. (61) 665 22 59 Wydział Maszyn Roboczych i Transportu ul. Piotrowo 3, 60-965 Poznań
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	The student has a basic understanding of transport and logistics in the economy, science and the relationship with other areas of knowledge. The student knows and understands the basic methods and practical tools from the scope of the description of transport and logistics. The student knows the main tasks in the operation of transport and logistics and economic development of enterprises and the state. Student zna główne zadania transportu i logistyki w obszarze funkcjonowania i rozwoju gospodarczego przedsiębiorstw i państwa.
2	Skills	The student is able to use the concepts and methods in the description of the technical and economic problems. Students can use their knowledge to analyze specific events and processes in technical and economic systems. The student is able to deal with specific problems from the technical and economic systems.
3	Social competencies	Students can work together in a group, taking the different roles. The student is able to prioritize the tasks. The student is self-reliant in solving problems, acquire and improve their knowledge and skills.
Assumptions and objectives of the course: The aim of the course is to provide students with information concerning logistics and transportation systems, definitions and concepts. Students gain knowledge and skills in the operation of logistics in various industrial and service enterprises in various modes of transport and warehouse management.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Has a structured knowledge of logistics and transport systems, the structure of logistics systems and their functioning in different modes of transport - [K2A_W22]		
2. Has a structured knowledge of logistics systems, knows: the methods of organization and technology to transport cargo and people in transport systems - [K2A_W22]		
Skills:		
1. Is able to obtain information from the literature, internet, databases and other sources in Polish and foreign languages - [K2A_U01]		
2. Is able to communicate using a variety of techniques in a professional environment and other environments using the formal model logistic systems - [K2A_U02]		
3. Is able to organize and manage the transport, logistics and freight forwarding process - [K2A_U16]		
4. Is able to use acquired mathematical theories to create and analyze models of logistics systems - [K2A_U18]		

Social competencies:
1. Understands the need and knows the possibilities of lifelong learning, knows the need for acquiring new knowledge for professional development - [K2A_K01]
2. Is able to think and act in an entrepreneurial manner, make decisions, work for the development of the employer and the society - [K2A_K07]
3. Is aware of the transfer of knowledge to society, takes steps to ensure that the information is understandable - [K2A_K08]

Assessment methods of study outcomes
The written examination, final test

Course description
general definitions of logistics, logistics jobs, logistics overview of the history, the development stage of logistics, logistics customer service and its main components, measures and standards of customer service based on selected market segments, restocking cycle, the basic method of restocking, the method ABC / XYZ inventory classification based on selected market segments, components of comprehensive logistics costs, logistics cost comparison of different modes of transport, the base demand forecasting,

Basic bibliography:
1. Beier F.J., Rutkowski K.: Logistyka. SGH, Warszawa 1993.
2. Coyle J., Bardi E., Langley C.: Zarządzanie Logistyczne. PWE, Warszawa 2007.
3. Praca zbiorowa: Podstawy logistyki. Biblioteka Logistyka, Poznań 2008.

Additional bibliography:
1. Jacyna M.: Wybrane zagadnienia modelowania systemów transportowych. Oficyna Wydawnicza Politechniki Warszawskiej, 2009.
2. Leszczyński J.: Modelowanie systemów i procesów transportowych. Oficyna Wydawnicza Politechniki Warszawskiej, 1999.
3. Rydzkowski W., Wojewódzka-Król K. (red.): Transport. PWN, Warszawa 1998.
4. Stajniak M., Hajdul M., Folyński M., Krupa A.: Transport i spedycja. Biblioteka Logistyka, Poznań 2008

Result of average student's workload

Activity	Time (working hours)
1. Preparation for lectures	0
2. Participation in the lecture	15
3. Studying the lecture	1
4. Consultation lecture	1
5. Exam Preparation	8
6. Participation in the exam	2
7. Preparation for design classes	1
8. Participation in the project activities	15
9. Preparation of the draft	2
10. Consultations to design classes	1
11. Preparing to pass	5
12. Participation in completing	2

Student's workload		
Source of workload	hours	ECTS
Total workload	53	2
Contact hours	36	1
Practical activities	0	0