

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject City Logistics		Code 1010615321010610585
Field of study Transport	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty Logistics of Transport	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 9 Classes: - Laboratory: - Project/seminars: 9		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		ECTS distribution (number and %) 2 100%
Responsible for subject / lecturer: dr inż. Paweł Zmuda-Trzebiatowski email: pawel.zmuda-trzebiatowski@put.poznan.pl tel. 616652716 Faculty of Transport Engineering ul. Piotrowo 3 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	The student has a basic knowledge of transport and logistics systems
2	Skills	The student is able to integrate the information obtained, make their interpretation, draw conclusions, formulate justify opinions, has the ability to see, associate and interpret phenomena occurring in logistics
3	Social competencies	The student is aware of the importance and understands the non-technical aspects and effects of transport activities; the student is able to cooperate with the group
Assumptions and objectives of the course: The aim of the course is to familiarize students with the issues of urban logistics and to provide them with the ability to solve problems appearing in this sector.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. has detailed knowledge of selected issues in the field of transport engineering - [T2A_W03] 2. has knowledge about development trends and the most important new achievements of transport means and other, selected, related scientific disciplines - [T2A_W04] 3. knows advanced methods, techniques and tools used to solve complex engineering tasks and conduct research in a selected area of transport - [T2A_W06]		
Skills:		
1. can determine the directions of further learning and implement the process of self-education - [T2A_U16] 2. can use information and communication techniques used in the implementation of transport projects - [T2A_U02] 3. can assess the usefulness of methods and tools for solving an engineering task consisting in the construction or evaluation of a transport system or its components, including the limitations of these methods and tools - [T2A_U09] 4. can interact in a team, taking on different roles in it - [T2A_U15]		
Social competencies:		
1. understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems - [T2A_K02] 2. understands the importance of popularizing activities regarding the latest achievements in the field of transport engineering - [T2A_K03]		

Assessment methods of study outcomes		
Preparation of two projects related to urban logistics: 1. Analysis of CO2 emissions related to students' access to the university 2. A project utilizing GIS systems (choose from, e.g. analysis of the service area of selected logistic facilities)		
Course description		
1. Geographic Information Systems in urban transport and logistics: definitions, applications 2. Urban logistics: basic definitions (urban transport and logistics, physical internet), delivering methods, typical problems of urban logistics, tools of impact on urban logistics owned by municipal administration 3. Cargo transport in the city - "last mile" logistics: definitions, CEP sector, e-commerce, and delivery in cities 4. Non-motorized transport: basic characteristics, impact of non-motorized transport in relation to other modes of transport, non-motorized transport infrastructure, non-motorized travel planning, pedestrian traffic and people with disabilities, e-bikes and e-scooters 5. Transport and logistics projects appraisal: definitions, stakeholders, impacts and fairness of their distribution, risk in transport projects		
Basic bibliography:		
1. Szczepanek R., Zmuda-Trzebiatowski P.: Systemy Informacji Geograficznej z QGIS		
Additional bibliography:		
1. Kauf S., Tłuczak A.: Logistyka miasta i regionu. Difin, Warszawa 2014 2. Kiba-Janiak M., Witkowski J. (red.): Modelowanie logistyki miejskiej. PWE, Warszawa 2014 3. Szoltysek J.: Podstawy logistyki miejskiej. wyd. AE Katowice, Katowice 2009 4. Szoltysek J.: Logistyka miasta. Wyd. PWE, Warszawa 2016 5. Szymczak M.: Logistyka miejska. wyd. AE Poznań, Poznań 2008 6. Zmuda-Trzebiatowski P.: Partycypacyjna ocena miejskich projektów transportowych. Wyd. PP, Poznań 2016		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in classes (according to plan)	18	
2. Preparation for exam	21	
3. Preparation for classes	21	
Student's workload		
Source of workload	hours	ECTS
Total workload	60	2
Contact hours	18	1
Practical activities	45	1