

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject (-)		Code 1011105311011117659
Field of study Logistics - Part-time studies - Second-cycle	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 1
Elective path/specialty Chain of Delivery Logistics	Subject offered in: Polish	Course (compulsory, elective) elective
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 16 Classes: - Laboratory: - Project/seminars: 16		No. of credits 5
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		ECTS distribution (number and %)
Responsible for subject / lecturer: dr hab. Inż. Marek Fertsch, prof.nadzw. email: marek.fertsch@put.poznan.pl tel. 061 665 3416 Wydział Inżynierii Zarządzania ul. Strzelecka 11, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Student has general knowledge in logistics
2	Skills	Student has general skills in logistics
3	Social competencies	Student has social skills in logistics
Assumptions and objectives of the course: Providing knowledge, skills and social competences connected with analysis of logistics support		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Student is able to identify interdependencies and relations within area of Logistics support and their connection to Logistics - [[K2A_W02]] 2. Student knows basic relations between technical and economic sphere typical for Logistics support - [[K2A_W04]] 3. Student knows basic terms and definitions typical for Logistics support - [[K2A_W09]] 4. Student is familiar with process mapping idea and generally process approach - [[K2A_W10]] 5. Student is familiar with IT systems applicable in Logistics support area - [[K2A_W12]] 6. Student is able to identify and explain methods, tools and means applicable in Logistics support area - [[K2A_W13]]		
Skills:		
1. Student is able to communicate with proper means in professional environment and other environments connected with Logistics support area - [[K2A_U02]] 2. Student is able to develop and present in Polish or in foreign language analysis of a given problem within Logistics support area - [[K2A_U04]] 3. Student is able to benefit from self-learning - [[K2A_U05]] 4. Student is able to define and solve problem integrating interdisciplinary knowledge from the disciplines within logistics - [[K2A_U10]] 5. Student is able to assess potential of new solutions (technics and technologies) within logistics and connected areas - [[K2A_U12]] 6. Student is able to identify areas for improvement within Logistics system - [[K2A_U16]]		

Social competencies:
1. Student is aware of responsibility for own work and ready to obey team work principles, including sharing responsibility for group tasks - [[K2A_K03]]
2. Student is able to identify interdependencies and cause-effect relations in striving for goals and prioritize tasks - [[K2A_K04]]

Assessment methods of study outcomes
Forming assessment a) project ? discussion on solution, students developed in their project, b) answering questions discussed during lecture and referring to issues presented
Final assessment project a) public presentation of project outcomes and discussion on solutions developed b) quality of project developed lecture: presentation of analysis of a problem defined by the coordinator, answering questions concerning subject content

Course description
Logistics support planning. Organization of material necessary for realization of Logistics support. Providing equipment to support and control processes. Packing, storing, transporting material necessary for logistics support. Issues concerning training of logistics support staff, providing infrastructure necessary for logistics support, collecting and distributing data necessary for logistics support. Providing IT software necessary for logistics support. Analysis of logistics support, definition of the problem, identification of available alternatives, selection of assessment criteria, selection of methods and technics of alternatives analysis, collecting and using data, analysis of results, analysis of sensitivity, risk analysis. Teaching methods: conventional specialist lecture, team project, work with literature

Basic bibliography:
1. Blanchard B., Logistics engineering and management, Pearson Education International, Upper Saddle River, New Jersey 2. Blanchard B., Logistics engineering and management, Pearson Education International, Upper Saddle River, New Jersey 3. Fertsch M., Elementy inżynierii logistycznej (rozdz. 1 i2), Wydawnictwo Instytutu Logistyki i Magazynowania, Poznań, 2017 4. Don Taylor G., Introduction to logistics engineering, CRC Pres, Taylor & Francis Group, London, New York, 2009 5. Fertsch M., (2003), Miejsce logistyki we współczesnym zarządzaniu produkcją, [w:] Fertsch M., Logistyka produkcji, Instytut Logistyki i Magazynowania, Poznań 2003, (ISBN 83-87344- 36-2)

Additional bibliography:
1. Fertsch M., (2008), Rekonfigurowalne systemy logistyczne ? nowy obszar badań i zastosowań praktycznych, [w:] Foltynowicz Z., Jasiczak J., Szyszka G. (red.), Towaroznawstwo ? opakowania ? logistyka, Wydawnictwo Akademii Ekonomicznej, Poznań, 2008 2. Pawlewski P., Fertsch M., (2010), Modeling and Simulation Method to Find and Eliminate Bottlenecks in Production Logistics Systems, Proceedings of The 2010 Winter Simulation Conference; B. Johansson, S. Jain, J. Montoya-Torres, J. Hugan, and E. Yücesan, (eds).

Result of average student's workload

Activity	Time (working hours)
1. lectures	30
2. project	30
3. home work	15
4. work in groups	15
5. consultations	35

Student's workload		
Source of workload	hours	ECTS
Total workload	125	5
Contact hours	57	3
Practical activities	46	2