

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Traditional and modern production systems		Code 1011102311011117644
Field of study Logistics - Full-time studies - Second-cycle	Profile of study (general academic, practical) general academic	Year /Semester 1 / 1
Elective path/specialty Corporate Logistics	Subject offered in: Polish	Course (compulsory, elective) elective
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 30 Classes: - Laboratory: - Project/seminars: 30		No. of credits 5
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 5 100% 5 100%
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 knowledge on production management
2	Skills	Student has skills in production management
3	Social competencies	Student has social competences within production management
Assumptions and objectives of the course: Providing student with knowledge, skills, competences within design of traditional and contemporary production units area		
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 production management and their connection to Logistics - [K2A_W02]		
2. Student knows basic relations between technical and economic sphere typical for production management - [K2A_W04]		
3. Student has in-depth knowledge in the field of production engineering and its connections with the field of logistics - [K2A_W05]		
4. Student knows basic terms and definitions typical for production management - [K2A_W09]		
5. Student is familiar with IT systems applicable in production management area - [K2A_W12]		
6. Student is able to identify and explain methods, tools and means applicable in production management area - [K2A_W13]		
Skills:		

1. Student can communicate using appropriately selected resources in a professional environment and in other environments in the field of designing modern production systems - [K2A_U02]
2. Student is able to develop and present in Polish or in foreign language analysis of a given problem within production management 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 rating		
a) project - based on a discussion on solutions that he wants to propose as part of the project b) on the lecture based on the answers to questions about the material discussed in the previous lecture		
Summary rating		
in the scope of the project a) on the basis of the public presentation of the project results and discussions about them, b) on the basis of the substantive quality of the prepared project in the field of lecture - written exam		
Course description		
The lecture begins with a reminder of typical methods and techniques of designing production systems used in classical production systems - the balance sheet model and the assembly line balancing model as well as the classification of classic production units according to the American-European model. Next, the methods of designing production systems according to the JiT concept (0 inventories), lean production systems and agile production systems are discussed.		
In the design classes, students design the selected production system according to the instructions of the instructor.		
Teaching methods: conventional specialist lecture, team project, work with literature		
Basic bibliography:		
1. Fertsch M., Pawlak N., Stachowiak A., Współczesne systemy produkcyjne, Wydawnictwo Politechniki Poznańskiej, 2011		
2. Golińska P., Tradycyjne i nowoczesne systemy produkcyjne, Wydawnictwo Politechniki Poznańskiej, 2011		
3. Brzeziński M., Organizacja i sterowanie produkcją. Projektowanie systemów produkcyjnych i procesów sterowania produkcją, Agencja Wydawnicza Placet, Warszawa 2002		
4. Mazurczak J., Projektowanie struktur systemów produkcyjnych, Wydawnictwo Politechniki Poznańskiej, 2002		
Additional bibliography:		
1. Boszko J. Struktura organizacyjna przedsiębiorstwa i drogi jej optymalizacji, WNT, Warszawa 1973		
2. Lis. S., Podstawy projektowania systemu rytmicznej produkcji, PWN, Warszawa, 1973		
Result of average student's workload		
Activity	Time (working hours)	
1. lectures	30	
2. project	30	
3. consultation	30	
4. work with literature	35	
Student's workload		
Source of workload	hours	ECTS
Total workload	125	5
Contact hours	85	3
Practical activities	40	2