

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Design of Production Systems		Code 1011101371011110219
Field of study Management - Full-time studies - First-cycle	Profile of study (general academic, practical) (brak)	Year /Semester 4 / 7
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) elective
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 15 Classes: - Laboratory: - Project/seminars: 15		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 study effects leading to the acquisition of engineering qualifications social sciences Economics		ECTS distribution (number and %) 1 50% 1 50% 1 50%
Responsible for subject / lecturer: dr inż. Jerzy Mazurczak email: Jerzy.Mazurczak@put.poznan.pl tel. 61 6653385 Inżynierii Zarządzania ul. Strzelecka 11 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Student has basic knowledge on production management
2	Skills	Student understands and knows how to apply instruments and techniques of designing production units of the first level of complexity
3	Social competencies	Student understands and is prepared to design an organization for designing the organization for production systems, with special consideration of production
Assumptions and objectives of the course: Cognition theoretical and practical problems associated with designing production systems and fundamental methods and techniques used in this process		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. has a basic knowledge about the life cycle of social-technical systems - [K03-InzA_W01]		
2. knows methods, techniques and adopted tools in solving engineering problems in designing production systems - [K04-InzA_W02]		
3. knows methods and tools of the production structures design - [K1A_W09]		
4. has a knowledge about organizational norms - [K1A_W16]		
5. has the knowledge necessary in the scope of the management and the quality management in designing production systems - [K05-InzA_W03]		
6. knows typical industrial technologies - [K07-InzA_W05]		
Skills:		

<p>1. is able to plan and to carry out an experiment, including measurements and computer simulations, to interpret achieved results and to learn a lesson from - [K01-InzA_U1]</p> <p>2. is able to use, simulation and experimental analytical methods for formulating and solving engineering problems - [K01-InzA_U2]</p> <p>3. is able - at formulating and solving engineering problems to notice their system, social-technical, organizational and economic aspects - [K01-InzA_U3]</p> <p>4. is able to make the economical preparatory analysis of taken engineering action - [K01-InzA_U4]</p> <p>5. is able to effect the critical analysis of processes of technological manufactures of machinery and the organization of production systems - [K01-InzA_U5]</p> <p>6. is able to establish the identity of design tasks and to solve simple design problems in the structure and the use of machines - [K01-InzA_U6]</p> <p>7. is able to apply typical methods of solving simple problems from the scope of construction and the use of machines - [K01-InzA_U7]</p> <p>8. is able to design the structure and the technology of straight parts and sub-assemblies of machines and to design the organization of production units of the first degree complexity - [K01-InzA_U8]</p>
<p>Social competencies:</p> <p>1. is prepared for the conscious and responsible forming production systems - [K1A_K02]</p> <p>2. is responsible for the own work and is ready for the teamwork - [K1A_K02]</p> <p>3. notices cause-and-effect dependences in the realization of put objectives - [K1A_K03]</p> <p>4. is able to hand the knowledge over to members of a team of designers, has an appreciation of responsibility for the own work and the readiness of the compliance for principles of the teamwork - [K1A_K07]</p> <p>5. is prepared for the completion of business undertakings using the system approach including technical, economic aspects marketing, legal, organizational and financial - [K1A_K07, K01-InzA_K2]</p> <p>6. understands non-technical aspects and effects of engineering activity - [K01-InzA_K1]</p>

Assessment methods of study outcomes	
<p>Forming assessment: project: on the basis of assessment of current progress of the execution of tasks lectures: based on the answer to questions concerning material discussed at previous lectures.</p> <p>Final assessment: Lectures: final assessment in form of a written test. Project: passing the design task.</p>	
Course description	
<p>Bases of designing production systems. The enterprise as the system. Determining the design situation (the modernization or designing new systems). Implementation process of the product. Algorithm of planning technical and economic establishments of preparing the production of products. Issues of the design: structures of production systems, starting production, the spatial organization of manufacturing processes. Project documentation. Master plan, location of the enterprise. Evaluation of the system design. New directions and tendencies in designing production systems.</p>	
Basic bibliography:	
<p>1. Organizacja i sterowanie produkcją, Brzeziński M, AW Placet, Warszawa, 2002</p> <p>2. Organizacja i ekonomika procesów produkcyjnych w przemyśle maszynowym, Lis S., PWN, Warszawa, 1984</p> <p>3. Podstawowe zagadnienia zarządzania produkcją, Liwowski B., Kozłowski R., Oficyna Ekonomiczna, Kraków, 2006</p> <p>4. Projektowanie struktur systemów produkcyjnych, Mazurczak J., WPP, Poznań, 2001</p> <p>5. Podstawy projektowania struktur przedsiębiorstw przemysłowych, Jackowicz R., Lis S, WPW, Warszawa, 1987</p> <p>6. Zarządzanie. Produkcja i usługi, Muhlemann A., Oakland J., Lockyer K, PWN, Warszawa, 2001</p>	
Additional bibliography:	
<p>1. Zarządzanie produkcją. Produkt, technologia, organizacja, Pająk E., PWN, Warszawa, 2006</p> <p>2. Inżynieria zarządzania, Durlik I., AMP WN, Katowice, 1993</p>	
Result of average student's workload	
Activity	Time (working hours)

1. lectures		15
2. participation in project classes		15
3. preparation of the project		10
4. consultations		10
5. preparation for the final assessment		8
6. final assessment		2
Student's workload		
Source of workload	hours	ECTS
Total workload	60	2
Contact hours	30	1
Practical activities	15	0