

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Design of Production Systems</b>		Code <b>1011105371011110219</b>
Field of study <b>Engineering Management - Part-time studies -</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>4 / 7</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>elective</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time, part-time) <b>part-time</b>	
No. of hours Lecture: <b>10</b> Classes: <b>-</b> Laboratory: <b>-</b> Project/seminars: <b>10</b>		No. of credits <b>3</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b>		ECTS distribution (number and %) <b>3 100%</b>
<b>Responsible for subject / lecturer:</b> dr inż. Ireneusz Gania email: ireneusz.gania@put.poznan.pl tel. 616653385 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań		<b>Responsible for subject / lecturer:</b> dr inż. Ireneusz Gania email: ireneusz.gania@put.poznan.pl tel. 616653385 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	The student has a basic knowledge of managing production and services
2	<b>Skills</b>	The student understands and can apply the tools and techniques for the design of the production units of the first level of complexity
3	<b>Social competencies</b>	The student understands and is prepared to design the organization of production systems, especially in terms of production structures
<b>Assumptions and objectives of the course:</b> -Understanding the theoretical and practical issues related to the design of production systems and the basic methods and techniques used in the process		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. He has a basic knowledge of the management of production and its use in the design of production systems - [[K1A_W04,K1A_W07]]		
2. He has extensive knowledge of the structures and processes of production changes in this area and change management - [[K1A_W08,K1A_W10]]		
3. He knows the design methods and tools of production structures - [[K1A_W13,K1A_W14]]		
4. He can describe current trends indicate in designing the organization of production systems - [-]		
<b>Skills:</b>		
1. Able to formulate the task design (engineering) in the field of industrial organization, and choose the appropriate tools and methods to solve the problem - [[K1A_U04,K1A_U12]]		
2. Able to assess the economic terms of the specific problem area manufacturing system design - [[K1A_U13,K1A_U14]]		
3. Can design the structure of production, including the organization of production units higher degrees of sophistication, departments, establishments and auxiliary processes - [[K1A_U15]]		
4. Able to prepare and present in Polish or foreign to discuss the problem of the design of production systems - [[K1A_U16]]		
<b>Social competencies:</b>		

1. He is responsible for proper identification and settlement of dilemmas associated with the practice in the design of production systems - [[K1A\_K02,K1A\_K03]]
2. Understands the need and knows the possibilities of continuous training - [[K1A\_K04,K1A\_K05]]
3. Able to pass on the knowledge to the members of the project team is aware of the responsibility for their own work and willingness to comply with the principles of teamwork - [[K1A\_K06, Klnz\_W05]]

**Assessment methods of study outcomes**

-Written exam, project, presentation of papers

**Course description**

-Basis of design production systems. The company as a system. The term project situation (upgrading or developing new systems). Product realization process. Algorithm design and technical assumptions - economic production preparation products. The problem of design: the structure of production systems, production start, the spatial organization of manufacturing processes. Project documentation. The master plan, the location of the company. Project evaluation system. New directions and trends in the design of production systems.

**Basic bibliography:**

1. Organizacja i sterowanie produkcją, Brzeziński M, AW Placet, Warszawa, 2002
2. Organizacja i ekonomika procesów produkcyjnych w przemyśle maszynowym, Lis S., PWN, Warszawa, 1984
3. Podstawowe zagadnienia zarządzania produkcją, Liwowski B., Kozłowski R., Oficyna Ekonomiczna, Kraków, 2006
4. Projektowanie struktur systemów produkcyjnych, Mazurczak J., WPP, Poznań, 2001
5. Zarządzanie. Produkcja i usługi, Muhlemann A., Oakland J., Lockyer K, PWN , Warszawa, 2001
6. Podstawy projektowania struktur przedsiębiorstw przemysłowych, Jackowicz R., Lis S, WPW, Warszawa, 1987

**Additional bibliography:**

1. Zarządzanie produkcją. Produkt, technologia, organizacja, Pająk E., PWN, Warszawa, 2006
2. Inżynieria zarządzania, Durlik I., AMP WN, Katowice, 1993

**Result of average student's workload**

Activity	Time (working hours)
1. Participation in lectures	10
2. Participation in project activities	10
3. Literature studies	15
4. Preparation of the project	30
5. Exam Preparation	10

**Student's workload**

Source of workload	hours	ECTS
Total workload	75	3
Contact hours	50	2
Practical activities	25	1