

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Machine Technology and Design of Production Processes		Code 1011105241011100159
Field of study Engineering Management - Part-time studies -	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 4
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 10 Classes: - Laboratory: 14 Project/seminars: -		No. of credits 4
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. Józef Gruszka, prof. nadzw.. PP email: jozef.gruszka@put.poznan.pl tel. 665 33 77 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge from high school. The necessary information in the field of technology and machine parts will be explained subsequently.
2	Skills	Ability to solve simple problems, the ability to obtain information from the identified sources
3	Social competencies	Understanding the importance of technical sciences and their applications
Assumptions and objectives of the course:		
-The aim of the course is to familiarize students with theoretical and practical issues in the field of manufacturing techniques applied in the machine industry, with particular emphasis on market economy conditions.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Has basic knowledge of products lifecycle - [K1A_W21] 2. Knows fundamental methods, techniques, tools and materials that are applied in solving simple engineering tasks relating building and machines? exploitation - [K1A_W24] 3. Knows some typical industrial technologies and has an extensive knowledge of building technologies and machines? exploitation - [K1A_W27]		
Skills:		
1. Can use analytical, simulation and experimental methods for formulating and solving engineering tasks - [K1A_U13] 2. Can perform preliminary economic analysis of undertaken engineering activities - [K1A_U15] 3. Can perform critical analysis of technological processes of machine production and organization of production systems - [K1A_U16] 4. Can identify design tasks and solve simple design tasks in terms of machine construction and operation - [K1A_U17] 5. Can use typical methods of solving simple problems in construction and operation of machines - [K1A_U18]		
Social competencies:		
1. Is aware of the importance and understand the non-technical aspects and effects of engineering activities, including its environmental impact, and the associated responsibility for decisions - [K1A_K08] 2. Is aware that the creation of products that meet user needs requires a systematic approach including technical, economic, marketing, legal, organizational and financial issues - [K1A_K09]		

Assessment methods of study outcomes		
Formative assessment: a) in terms of laboratories: on the basis of an assessment of the current progress of the tasks. b) in lectures: on the basis of answers to questions about material modified in previous lectures. Summary: a) lecture - written test on the basis of previously prepared questionnaire b) written laboratory pass.		
Course description		
lectures: - Introduction to the subject of lectures. - The outline of metallurgy, - Molding, - Plastic working, - Plastic processing, - Welding, - Thermal treatment, - Routing and hand- - Machining (turning, planing, chiseling, tugging, drilling, tapping, milling, boring, - Abrasive). Laboratories: Getting acquainted with production techniques in the conditions of production plants Didactic methods: lectures; monographic with the use of a computer with the division of the content of the program into separate thematic issues in connection with the subject of the laboratory Laboratories: visits to production plants in the scope of selected technological processes		
Basic bibliography: 1. red. Erbel J. Encyklopedia technik wytwarzania stosowanych w przemyśle maszynowym tom I i II Oficyna Wydawnicza PW W-wa 2001 2. Szreniawski J. Techniki wytwarzania. Odlewnictwo. PWN Warszawa 1989 3. Szweyger M Metalurgia skrypt PP Poznań 1993 4. Sikora R. Przetwórstwo tworzyw wielkocząsteczkowych Wyd. Żak W-wa 1993 5. Gruszka J. Studium rozwoju technologii produkcji tulei cylindrowych. Monografia- Modelowanie warstwy wierzchniej s.53-66,Wydawca IBEN Gorzów Wlkp.,2014		
Additional bibliography: 1. Feld M. Technologia budowy maszyn WNT W-wa 2004 2. Gruszka J.Światowe tendencje w technologii produkcji tulei cylindrowych. Silniki Spalinowe nr 3,2011		
Result of average student's workload		
Activity	Time (working hours)	
1. lecture	10	
2. laboratory	14	
3. consultations	5	
4. preparation for laboratory	15	
5. prepare for credits	11	
6. credits	5	
Student's workload		
Source of workload	hours	ECTS
Total workload	60	4
Contact hours	34	2
Practical activities	14	1