

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Machine Construction and Operation		Code 1011101341010646780
Field of study Logistics - Full-time studies - First-cycle studies	Profile of study (general academic, practical) general academic	Year /Semester 2 / 4
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: 15 Project/seminars: -		No. of credits 2
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 %) 2 100% 2 100%
Responsible for subject / lecturer: dr inż. Krzysztof Talaśka email: krzysztof.talaska@put.poznan.pl tel. 612244512 Wydział Maszyn Roboczych i Transportu ul. Piotrowo 3, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basics of physics, mechanics and strength of materials, principles of creating technical documentation.
2	Skills	Ability to prepare technical documentation in accordance with the principles of technical drawing, strength calculations.
3	Social competencies	Awareness of responsibility for decisions made in the process of engineering calculations
Assumptions and objectives of the course: Providing students with knowledge regarding the construction and application of basic elements and assemblies used in the construction and construction of machines. Paying attention to the possibility of practical use of knowledge acquired on subjects: physics, mechanics, material durability and engineering graphics.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. He knows the basic methods, techniques, tools and materials used in solving simple engineering tasks in the field of construction and operation of machines as well as typical industrial technologies and in an in-depth knowledge of machine construction and exploitation technologies - [K1A_W05] 2. Has basic knowledge about the life cycle of machines and industrial products - [K1A_W07]		
Skills: 1. Is able to make a critical analysis of the technological processes of machine production and organization of production systems - [K1A_U05] 2. Is able to apply typical methods of solving simple problems in the field of construction and operation of machines, and design the construction and technology of simple parts and subassemblies of machines and design the organization of production units of the first degree of complexity - [K1A_U09] 3. Is able to identify project tasks and solve simple design tasks in the field of construction and operation of machines - [K1A_U15]		
Social competencies: 1. He is aware of the responsibility for his own work and readiness to comply with the principles of teamwork and taking responsibility for the tasks he or she has carried out jointly - [K1A_K01] 2. He is able to interact and work in a group taking on different roles - [K1A_K03]		

Assessment methods of study outcomes		
Forming rating: a) for the project: based on an assessment of the current progress of the project implementation b) in the field of lectures: based on the answers to questions about material assimilated in previous lectures, Summary rating: a) in the scope of the project: on the basis of the final result of work on the project - project evaluation b) in the field of lectures: exam in the form of a test. You can take the exam after completing the exercises.		
Course description		
The construction process, computer-aided design, principles of construction, construction features, dimensional tolerances and fit, basic strength calculations. Welded connections: soldered, welded, glued; riveted, shaped connections: keyed, pin type, threaded connections. Screw mechanisms: examples and applications, construction calculations, construction solutions. Elastic elements: springs, rubber elastic elements, thermobimetals. Axes and shafts: design, materials for axles and shafts. Bearings: friction phenomenon, plain and rolling bearings. Clutches and brakes: selection rules, non-detachable, controlled and automatic clutches. Gear: toothed and traction gears.		
Teaching methods: Lecture - informative and conversational lecture		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Lectures	15	
2. Laboratory	15	
3. Consultation	15	
4. Exam	2	
5. Preparing to exam	20	
Student's workload		
Source of workload	hours	ECTS
Total workload	67	2
Contact hours	47	1
Practical activities	15	1