

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Modern management systems		Code 1010612231010646693
Field of study Mechanika i budowa maszyn	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
Elective path/specialty Product engineering (Inżynieria produktu)	Subject offered in: English	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: 1 Laboratory: - Project/seminars: -		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 technical sciences Technical sciences		ECTS distribution (number and %) 2 100% 2 100%
Responsible for subject / lecturer: dr inż. Krzysztof Koper email: krzysztof.koper@put.poznan.pl tel. 61 665 2110 Machines and Transport Piotrowo 3, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Elementary knowledge of economics, business in industrial companies, the banking system, commercial law and accounting.
2	Skills	Ability to obtain information from the literature, internet, databases and other sources.
3	Social competencies	Awareness and understanding the importance and impact of non-technical aspects of engineering activities. Ability to think and act in an entrepreneurial manner.
Assumptions and objectives of the course: Acquiring the knowledge and skills in framework of processes and procedures used to ensure that an organization can fulfill all tasks required to achieve its objectives in terms of quality, environmental, economic and social impacts of development and manufacturing of technical objects.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Extended knowledge on origin of management systems development and characteristics of chosen systems (ISO 14001, EMAS, POEMS, IPP, OHSAS) - [K2A_W09]		
2. Extended knowledge on origin of management systems development and characteristics of chosen systems (ISO 14001, EMAS, POEMS, IPP, OHSAS) - [K2A_W15]		
Skills:		
1. Prepare an outline of product- or process-based management system using access to available industry standards and specifications. - [K2A_U14]		
2. Prepare an outline of product- or process-based management system using access to available industry standards and specifications. - [K2A_U16]		
Social competencies:		
1. Awareness and understanding of management systems role in realizing business strategy through achieving sustainable development objectives - [K2A_K02]		
2. Awareness and understanding of management systems role in realizing business strategy through achieving sustainable development objectives - [K2A_K06]		

Assessment methods of study outcomes		
Lecture: written examination. Exercise: evaluation of assignments prepared each meeting.		
Course description		
Concept of management systems and reasons for implementation. Structure of a management system. Position of management systems in the business management practice. Transformation of sustainable development principles into management structure and procedures. Characteristics of chosen systems: ISO 14001, EMAS, POEMS, IPP, OHSAS. Similarities and differences of chosen systems. Establishing, supervising, auditing, certification and development of management systems: case studies.		
Basic bibliography:		
1. ISO 14001:2004, Environmental management systems -- Requirements with guidance for use		
2. Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)		
3. OHSAS 18001:1999 Occupational health and safety management systems - Specification		
Additional bibliography:		
1. Journal of Life Cycle Assessment		
Result of average student's workload		
Activity	Time (working hours)	
1. Lecture participation	15	
2. Consolidation of lecture content	2	
3. Exercises participation	15	
4. Consultation	1	
5. Preparation for assessment	6	
6. Assessment participation	1	
Student's workload		
Source of workload	hours	ECTS
Total workload	40	2
Contact hours	32	2
Practical activities	0	0