

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Quality Engineering</b>		Code <b>1010642131010610240</b>
Field of study <b>Mechanical Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>2 / 3</b>
Elective path/specialty <b>Mechatronics</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: <b>1</b> Classes: <b>-</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>1</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>1 100%</b>
<b>Responsible for subject / lecturer:</b>  Prof. Zbigniew Klos email: zbigniew.klos@put.poznan.pl tel. +4861 665 2231 of Machines and Transport ul. Piotrowo 3, 60-965		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Student has fundamental knowledge about management of organizations and fundamental knowledge on innovativity and innovation development
2	<b>Skills</b>	Student possesses ability of perceiving and associating of phenomena occurring in management of market oriented organizations and is able to interpret them, draw practical conclusions and to formulate opinions
3	<b>Social competencies</b>	Student has the awareness of importance and understands the effects of undertaking innovative, market oriented, activities
<b>Assumptions and objectives of the course:</b> Transmitting to the students the knowledge of fundamental issues connected with understanding the role of quality category in modern economy and acquainting them with basic tools of quality engineering implementation in organizations.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b> 1. Has general knowledge in the field of standardization, recommendations and EU directives, international, national and industry standards in the area of quality - [K2A_W09] 2. Has a basic knowledge of quality management systems. - [K2A_W15]		
<b>Skills:</b> 1. Is able to prepare a scientific paper in a foreign language on the quality issues, based on literature and other sources of information, including online sources and submit an oral presentation in this field. - [K2A_U02] 2. Is able to advise on the selection of machines within the selected equipment group, using quality valuation methods. - [K2A_U15]		
<b>Social competencies:</b> 1. Is aware of and understands the importance and impact of non-technical ? quality oriented ? aspects of mechanical engineering activities and its impact on the environment. - [K2A_K02] 2. Is aware of social role of mechanical engineer, understands the need for and is able to deliver opinions and knowledge in the field of fundamental quality issues. - [K2A_K06]		
<b>Assessment methods of study outcomes</b>		
Control test		

<b>Course description</b>		
<p>Definition of quality. Changes of quality. Shaping of quality. Assurance and management of quality: standard, organizational, cultural. Total Quality Management. Specificity of Japanese and American approach towards quality. ISO 9000 standards. Quality assurance and management systems. Introduction to quality assurance and management systems documentation. Methods of quality level evaluation. Introduction to quality costs.</p>		
<p><b>Basic bibliography:</b></p> <ol style="list-style-type: none"> <li>1. J.S. Oakland, Total Quality Management. Butterworth Heinemann, Amsterdam 2003</li> <li>2. K. Ishikawa, What is total quality control? Prentice-Hall inc., Englewood Cliffs 1988</li> <li>3. What does the CE marking on a product indicate? European Union</li> </ol>		
<p><b>Additional bibliography:</b></p> <ol style="list-style-type: none"> <li>1. T. Pfeifer, Quality management. Strategies, methods, techniques. Carl Hanser Verlag, Muenchen 2002</li> <li>2. Directive 93/68/EEC</li> </ol>		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Lecture participation	15	
2. Consolidation of lecture content	3	
3. Consultation	2	
4. Preparation for assessment	8	
5. Assessment participation	2	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	30	1
Contact hours	20	2
Practical activities	0	0