

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Quality engineering 2		Code 1011101161011123824
Field of study Safety Engineering - Full-time studies - First-	Profile of study (general academic, practical) general academic	Year /Semester 3 / 6
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 15 Classes: 15 Laboratory: - Project/seminars: 45		No. of credits 4
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		ECTS distribution (number and %) 100 4%
Responsible for subject / lecturer: dr inż. Anna Mazur email: anna.mazur@put.poznan.pl tel. 00 48 61 665 33 65 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań		Responsible for subject / lecturer: dr inż. Małgorzata Jasiulewicz-Kaczmarek email: malgorzata.jasiulewicz-kaczmarek@put.poznan.pl tel. 00 48 61 665 33 65 Faculty of Engineering Management ul. Strzelecka 11 60-965 Poznań
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Student defines and describes basic concepts in quality engineering related to products and processes.
2	Skills	Student can identify and solve simple engineering tasks of practical nature, that are typical of quality engineering related to products and processes.
3	Social competencies	Student understands the need and knows means how to gain knowledge and make progress within a given area of study. He knows how to develop in a professional, personal and social aspects, characteristic for quality engineering of products and processes.
Assumptions and objectives of the course: Developing understanding of theoretical aspects and practical ability to use quality engineering in relation to pro quality systems.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Students knows detailed dependencies that are present in use quality engineering in relation to pro quality systems - [K1A_W10]		
2. Student knows interpretations that are characteristic of use quality engineering in relation to pro quality systems - [K1A_W11]		
3. Student knows fundamental methods, techniques, tools and materials that are applied when solving elementary engineering tasks in quality engineering, in relation to pro quality systems - [K1A_W17]		
4. Student knows basic dependencies that exist in dealing with easy engineering tasks within the framework of quality engineering - [K1A_W18, K1A_W19]		
5. Student has basic knowledge concerning management, including the realm of quality engineering in respect to pro quality systems - [K1A_W22]		
6. Student has basic knowledge of running his own business - [K1A_W23]		
Skills:		
1. Student can create a well- documented report of problems within quality engineering with respect to pro quality systems - [K1A_U03]		
2. Student has self-study ability and comprehends it - [K1A_U05]		
3. Student is able to identify and formulate the specification of simple practical engineering tasks, characteristic on quality engineering - [K1A_U14]		
4. Student is able to assess the usefulness of routine methods and tools to solve simple practical engineering tasks, characteristic on quality engineering and can select and use methods and tools - [K1A_U15]		

Social competencies:
1. Student understands the need to make progress, gain knowledge and acquire new skills on the professional, personal and social level; can argue the need to learn for the whole of his life - [K1A_K01]
2. Student is fully aware of the responsibility that he has taken for his own work and expresses readiness to comply with the rules of team work as well as takes responsibility for mutually realized and completed tasks - [K1A_K03]

Assessment methods of study outcomes
<p>Formative assessment:</p> <p>Classes: current/ongoing evaluation (2-5) of assigned tasks;</p> <p>Projects: current/ongoing evaluation of work progress on a given project;</p> <p>Lectures: evaluations based on questions relating to the presented materials during the current and previous lectures.</p> <p>Collective assessment:</p> <p>Classes: average of partial exercises; credits given after achieving at least 3.0;</p> <p>Projects: evaluation of the presented solution with reference to the chosen project; credits given after achieving at least 3.0;</p> <p>Lectures: written exam (5 open questions with content presented during the lectures); each question is scored 2-5 points; final result is an average of partial grades; the exam pass equals at least 3.0.</p>

Course description
<p>The rule of system approach in quality management. Selected standards of pro quality systems. Developing pro quality culture in an organization. Design, introduction and exploitation of pro quality management systems. Systems integration. Applying selected pro quality methods and tools to make pro quality systems more effective.</p> <p>DIDACTIC METHODS:</p> <p>Lecture: informative lecture, problem lecture, work with the book, lecture.</p> <p>Exercises: lecture with explanation and explanation, case study, situational method, exercise method, demonstration method.</p> <p>Project: presentation method, experience method, project method.</p>

Basic bibliography:
1. Hamrol A., Zarządzanie jakością z przykładami, PWN, Warszawa 2008.
2. Jasiulewicz-Kaczmarek M., Misztal A., Projektowanie i integracja systemów zarządzania projekcją, Wydawnictwo PP, Poznań 2014
3. Mazur A., Gołaś H., Wdrażanie systemów zarządzania jakością, Wydawnictwo Politechniki Poznańskiej, Poznań 2010.
4. Starzyńska B., Hamrol A., Grabowska M., Poradnik menedżera jakości. Kompendium wiedzy o narzędziach jakości Wydawnictwo Politechniki Poznańskiej, Poznań 2010
5. Zymonik Z., Hamrol A., Grudowski P., Zarządzanie jakością i bezpieczeństwem Polskie Wydawnictwo Ekonomiczne, 2013

Additional bibliography:
1. PN-EN ISO 9001:2015 Systemy zarządzania jakością - wymagania
2. PN-EN ISO 9000:2015 Systemy zarządzania jakością - podstawy i terminologia

Result of average student's workload

Activity	Time (working hours)
1. Lecture	15
2. Preparation for an exam	10
3. Classes	15
4. Preparation for classes test	10
5. Project work	45
6. Preparation of the project	10

Student's workload		
Source of workload	hours	ECTS
Total workload	105	4
Contact hours	75	3
Practical activities	30	1