STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
Quality management systems	**1010601141010617750**

Field of study	Profile of study (general academic, practical)	Year /Semester
Aerospace Engineering	**general academic**	**2 / 4**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Safety and Management of Aviation	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**full-time**

No. of hours	No. of credits
Lecture: **1** Classes: **-** Laboratory: **-** Project/seminars: **1**	**3**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
other	**university-wide**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**3 100%**
Technical sciences	**3 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	The student has a basic knowledge of the design, manufacture and operation of technical facilities
2	**Skills**	The student is able to integrate the obtained information, make their interpretation, draw conclusions, formulate and justify opinions
3	**Social competencies**	The student is aware of the importance and understands the non-technical aspects and effects of technical activities. He is prepared for teamwork.

Assumptions and objectives of the course:

Getting to know the basic concepts of quality management and engineering and the importance of this category for society. Understanding the methods of influencing the quality level of technical facilities and services. Understanding the basics of the main quality management systems.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has basic knowledge about the life cycle of devices, objects and technical systems, as well as the methods of their technical description - [K1_W22]

Skills:

1. Can acquire information from literature, the internet, databases and other sources. Can integrate the information obtained and interpret conclusions and create and justify opinions - [K1A_U04]

Social competencies:

1. Is aware of the importance and understands the non-technical aspects and effects of engineering activities, including its impact on the environment, and the related responsibility for decisions - [K1_K02]
2. He is able to interact and work in a group, taking on different roles - [K1_K03]

Assessment methods of study outcomes

Exam veryfying the possession of messages proving: understanding the principles of shaping the level of product quality - technical facilities (devices and systems) and services in their individual spheres of the life cycle, as well as awareness of the basic determinants of quality management in organizations and knowledge of market behavior of customers, bearing in mind qualitative characteristics products (7-10 open questions + 1-2 tasks); design exercises - passing tasks performed on succesive classes

Course description

The terms "quality", "quality engineering" and "quality management systems" and their scope: quality - definitions, descriptive and comparative interpretation, quality attributes, quality engineering and quality management systems - subject and scope.

Quality development in the life cycle: determinants of quality development in design, quality determinants in production, quality manifestation in operation and decommissioning; basic quality control tools.

Quality management: assurance and quality management, quality management (TQM), Deming principles, Japanese approach (5S, kaizen), EFQM model, introduction to standard quality management.

Quality of services: the specificity of service quality, elements of the service quality system, structure; basic issues of the issue of quality costs.

Basic bibliography:

1. Hamrol A., Mantura W., Zarządzanie jakością, WN PWN, Warszawa 2009

2. Hamrol A., Zarządzania jakością z przykładami, PWN Warszawa, 2012

3. Kolman R., Kwalitologia. Wyd. Placet, Warszawa 2009

4. Szczepańska K., Koszty jakości dla inżynierów. Wyd. Placet, Warszawa 2009

5. PN-EN ISO 9001:2009 Systemy Zarządzania Jakością. Wymagania

6. PN-EN ISO 9004:2010 Zarządzanie ukierunkowane na trwały sukces organizacji.- Podejście wykorzystujące zarządzanie jakością

7. PN-EN ISO 9000:2006 Systemy Zarządzania Jakością. Postawy i terminologia

Additional bibliography:

1. Urbaniak M., Zarządzanie jakością, środowiskiem oraz bezpieczeństwem w praktyce gospodarczej. Wyd. Difin, Warszawa 2007

2. Grudowski P., Podejście procesowe w systemach zarządzania jakością w małych i średnich przedsiębiorstwach, Wydawnictwo Politechniki Gdańskiej, Gdańsk 2007

3. Kłos Zb., Elementy inżynierii jakości i ekologii maszyn. Wydawnictwo Politechniki Poznańskiej, Poznań 1998

Result of average student's workload

Activity	Time (working hours)
1. Presence at the lectures	15
2. Review of lectures	10
3. Consultations	6
4. Preparation to the exam	10
5. Presence at the exam	4
6. Presence at the project	15
7. Preparation of the reports	15

Student's workload

Source of workload	hours	ECTS
Total workload	75	3
Contact hours	40	3
Practical activities	38	0