COURSE DESCRIPTION CARD - SYLLABUS

Course name
Quality Engineering 2

Course

Field of study
Safety Engineering
Area of study (specialization)

Level of study
First-cycle studies
Form of study
full-time

Year/Semester
III/6
Profile of study
general academic
Course offered in
polish
Requirements
compulsory

Number of hours

Lecture
15
Laboratory classes

Other (e.g. online)

Tutorials
30
Projects/seminars
30

Number of credit points

4

Lecturers

Responsible for the course/lecturer:
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Responsible for the course/lecturer:
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Prerequisites

Knowledge and skills related to engineering aspects of product and process quality, in particular regarding quality evaluation, methods of product quality control as well as critical process control points and their supervision. Knowledge of quality management tools.

Course objective

Providing students with knowledge and skills related to engineering aspects of pro-quality systems. To familiarize students with the essence of standardization and standardization, indicating the links with selected quality systems in relation to systems and products. To familiarize students with selected methods of quality engineering.

Course-related learning outcomes

Knowledge

The student knows the issues related to standardization and standardization in the field of quality engineering of processes, products and systems. Knows the assumptions and requirements of selected quality systems, understands the assumptions of the product conformity assessment system (P6S_WG_07).

Skills

The Student is able to use selected quality management methods (QFD, FMEA, Quality Plan, 5S) to design objects, systems and processes related to security engineering (P6S_UW_07).

The student is able to plan and conduct experiments related to the methods used (QFD, FMEA, Quality Plan), use computer simulations, interpret the results and draw conclusions (P6S_UO_01).

Social competences

The student recognizes the cause-and-effect relationships, is able to set priorities striving to set goals in implemented tasks and projects (P6S_KK_01).

The student is aware of the importance of knowledge in the field of quality engineering in solving problems related to security engineering, is aware of the need for continuous improvement (P6S_KK_02).

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:
Tutorials:

Formative assessment: assessment of the current progress of the implementation of tasks, for each task the student receives a partial assessment.

Summative assessment: arithmetic average of partial grades obtained for individual tasks.

Project:

Formative assessment: assessment of the current progress of the implementation of tasks, for each task the student receives a partial assessment.

Summative assessment: arithmetic average of partial grades obtained for individual tasks.

Lecture:

Formative assessment: answers to questions regarding the content of previous lectures

Summative assessment: The exam is carried out in the form of a written test, consists of 10-20 mixed questions (test and open), scored on a two-point scale of 0, 1. Final threshold: 55% of the points.

Programme content

Lecture: Normalization and standardization in quality engineering. Quality-related systems related to the functioning of the organization (e.g. according to ISO 9001, ISO 14001, ISO 45001, ISO 22000). Integration of pro-quality systems. Quality system in relation to the product. Modular conformity assessment. Declaration of Conformity. Product certification. CE marking procedure.

Tutorials: Quality management methods used in quality engineering of processes, products and systems. Application of developing quality function to solve problems related to safety engineering. FMEA method process - application in the areas of security engineering. Quality plan - a method of designing, monitoring, supervising and improving processes.

Project: Modular conformity assessment. Declaration of Conformity. Product certification. CE marking procedure. Rules for assessing the compliance of personal protective equipment. Conformity assessment of machines and safety components.

Teaching methods

Lecture: informative lecture, problem lecture, work with a book, lecture.

Tutorials: lecture with explanation and explanation, case study, situational method, exercise method, demonstration method.

Project: presentation method, experience method, project method.

Bibliography

Basic

Jędrzejak A., Mazur A., Piotrowska M., Praktyczne aspekty wdrażania metody 5S, Zeszyty Naukowe Politechniki Poznańskiej Organizacja i Zarządzanie, nr 62/2014, Poznań, 2014.

Mazur A., Gołaś H., Zasady, metody i techniki wykorzystywane w zarządzanie jakością, Wydawnictwo Politechniki Poznańskiej, ISBN 978-83-7143-908-7, Poznań 2010, s. 113.

Mazur A., Małecka J., Kompleksowe wykorzystanie metod i narzędzi jakości w FMEA procesu, Problemy Jakości 07/2019, s. 14-19.

Prussak W., Jasiulewicz-Kaczmarek M., Wydawnictwo Politechniki Poznańskiej, Poznań 2010 .

Zymonik Z., Hamrol A., Grudowski P., Zarządzanie jakością i bezpieczeństwem Polskie Wydawnictwo Ekonomiczne, 2013.

PN-EN ISO/IEC 17000:2006 Ocena zgodności. Terminologia i zasady ogólne. PKN, Warszawa, 2006.

Rozporządzenie Parlamentu Europejskiego i Rady (UE) nr 2016/425 z dnia 9 marca 2016 r. w sprawie środków ochrony indywidualnej oraz uchylenia dyrektywy Rady 89/686/EWG (Dz. U. UE L 81/51 z 31.03.2016 r.)

Ustawa z dnia 13 kwietnia 2016 r. o systemach oceny zgodności i nadzoru rynku (Dz.U. 2016 poz. 542, z późniejszymi zmianami).

Ustawa z dnia 30 sierpnia 2002 r. o systemie oceny zgodności (Dz.U. 2002 nr 166 poz. 1360, z późniejszymi zmianami).

Ustawa z dnia 12 grudnia 2003 r. o ogólnym bezpieczeństwie produktów (Dz.U. 2003 nr 229 poz. 2275, z późniejszymi zmianami).

Additional

Gołaś H., Mazur A., Piasek P., Czajkowski P., Zastosowanie standaryzacji w procesie kontroli jakości wyrobów, Problemy Jakości 2/2017, s. 10-14.

Jasiulewicz-Kaczmarek M., Misztal A., Projektowanie i integracja systemów zarządzania projakościowego, Wydawnictwo PP, Poznań 2014.

Breakdown of average student's workload

	Hours	ECTS
Total workload	120	4,0
Classes requiring direct contact with the teacher	75 (15w, 30ćw, 30p)	2,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	45	1,5

[1] delete or add other activities as appropriate