



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Quality in the design of earth and road machinery

### Course

Field of study

Year/Semester

Construction and operation of means of transport

2/3

Area of study (specialization)

Profile of study

Machines

general academic

Level of study

Course offered in

Second-cycle studies

Polish

Form of study

Requirements

full-time

compulsory

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

30

0

0

Tutorials

Projects/seminars

15

0

### Number of credit points

1

### Lecturers

Responsible for the course/lecturer:

dr inż. Łukasz Gierz

email: lukasz.gierz@put.poznan.pl

tel. 61-6652225

Wydział Inżynierii Lądowej i Transportu

ul. Piotrowo 3, 60-965 Poznań

Responsible for the course/lecturer:

mgr inż. Dawid Romek

email: dawid.romek@put.poznan.pl

tel. 61-647 58 79

Wydział Inżynierii Lądowej i Transportu

ul. Piotrowo 3, 60-965 Poznań

### Prerequisites

Knowledge: Has a basic knowledge of the operation and maintenance processes of machines.

Skills: He can use modern means of sharing and disseminating scientific, technical and legal information

Social competences: Understands the importance of legal norms in society and market mechanisms.

### Course objective

Learn the basic concepts of management and engineering quality and the importance of this category for society. Understanding conformity assessment procedures for machines



### Course-related learning outcomes

#### Knowledge

1. Understands the concept of quality in the design, production and operation of machines.
2. He knows the development trends in the issues of quality.
3. Knows the basic legal regulations at the EU level in the field of quality.
4. Knows the principles of functioning of the quality assurance systems in the enterprise.

#### Skills

1. Can use the directives and standards in the field of working machines.
2. Is able to join the process of machine conformity assessment.

#### Social competences

1. Understands the importance and importance of the concept of quality in economic and social life
2. Understands the importance of the conformity assessment process for machines

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written exam, completion of the exercise

### Programme content

Quality system in the enterprise. Specifying quality - qualitative factors, quality criteria. Shaping the quality, elements of shaping the quality, effective functioning of the system. Implementation of the quality system, implementation issues, organization of work. Quality Certification. Functioning of the quality system, Introduction to the Act on Conformity Assessment and Market Surveillance, Basic terminology: machine, partly completed machine, placing on the market, distributor, importer, etc.,. Standards: harmonized with DM2006 / 42 / EC, types of harmonized standards, Risk assessment in machine construction in accordance with PN-EN ISO 12100: 2012 7, Particularly dangerous machines, Requirements for technical documentation and user manuals,. EC declaration of conformity, Declaration of incorporation of partly completed machinery, Product marking in accordance with DM 2006/42 / EC

### Teaching methods

1. Lecture with multimedia presentation
2. Exercises - solving problems

### Bibliography

#### Basic

1. Gawlik J., Kiełbus A.: Metody i narzędzia w analizie jakości wyrobów. Politechnika Krakowska, Kraków 2008, s.79-92.



2. Dyrektywa Maszynowa 2006/42/WE

Additional

1. Kolman R.: Kwalitologia, wiedza o różnych dziedzinach jakości. Wydawnictwo PLACET Warszawa 2009, s.312-322.
2. Samek A.: Współpraca specjalistów w procesie projektowania. Przegląd Mechaniczny 3/2008, s.16-19

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	100	6,0
Classes requiring direct contact with the teacher	45	3,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	55	3,0

<sup>1</sup> delete or add other activities as appropriate