COURSE DESCRIPTION CARD - SYLLABUS

Course name
Quality Management [S2MiBP1>ZJ]

Course

Field of study
Mechanical and Automotive Engineering

Year/Semester
1/2

Area of study (specialization)
Heavy-duty Machines

Profile of study
general academic

Level of study
second-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

KNOWLEDGE: Student has fundamental knowledge about management of organizations and fundamental knowledge on innovation development in the field of construction and exploitation of transport means SKILLS: Student possesses ability of perceiving and associating of phenomena occurring in management of market oriented organizations in the field of construction and exploitation of transport means and is able to interpret them, draw practical conclusions and to formulate opinions SOCIAL COMPETENCES: Student has the awareness of importance and understands the effects of undertaking innovative, market oriented, activities, concerning the construction and exploitation of transport means

Course objective

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 with the special emphasis on of construction and exploitation of transport means

Course-related learning outcomes

Knowledge:

Has general knowledge of standardization, EU recommendations and directives, national, industry and international standards systems, and industrial standards.
Has a basic knowledge of quality management systems.
Has extended knowledge of the standards for working machines in the field of methods of calculating and testing machines, safety, including road safety, environmental protection as well as mechanical and electrical interface.

Skills:
He can advise on the selection of machines for the technological line as part of the specialization.
Can communicate on specialist topics with a diverse audience.
He is able to independently plan and implement his own learning throughout life and direct others in this regard.

Social competences:
It is ready to initiate actions for the public interest.
Is willing to think and act in an entrepreneurial manner.
Is ready to fulfill professional roles responsibly, taking into account changing social needs, including:
- developing the professional achievements,
- maintaining the ethos of the profession,
- observing and developing the rules of professional ethics and acting towards the observance of these rules.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Control test and tasks carried out for volunteers.

Programme content

Definition of quality. Changes of quality. Shaping of quality. Assurance and management of quality: standard, organizational, cultural approaches. Total Quality Management. Specificity of Japanese and American approach towards quality management. ISO 9000 standards. Quality assurance and management systems. Introduction to quality assurance and management systems documentation. Methods of technical objects and transport means quality evaluation. Introduction to quality costs. Quality of services

Course topics

1. Introduction to basic concepts related to quality management.
2. Definitions of quality in different contexts.
3. Quality attributes.
4. Quality planning, control, assurance, and improvement.
5. Quality in the product life cycle.
6. Types of quality and product characteristics.
7. Defects and Audits.
8. ISO 9001, processes and procedures related to quality management.
9. Non-conformance management.
10. Ishikawa Diagram and the 5-Why Method.
11. SWOT Analysis and Pareto Analysis.
12. TQM and Deming's Principle.
13. EFQM Model and 5S Approach.
14. Issues related to quality costs.

Teaching methods

Lecture with multi-media presentation

Bibliography

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

2. Kolman R., Kwalitologia. Wyd. Placet, Warszawa 2009
3. Szczepańska K., Koszty jakości dla inżynierów. Wyd. Placet, Warszawa 2009
Additional
1. Urbaniak M., Zarządzanie jakością, środowiskiem oraz bezpieczeństwem w praktyce gospodarczej. Wyd. Difin, Warszawa 2007
2. Frąs J., Kompleksowe zarządzanie jakością w logistyce. Wyd. ITE w Radomiu, 2013
3. Kłos Zb., Elementy inżynierii jakości i ekologii maszyn. Wydawnictwo Politechniki Poznańskiej, Poznań 1998

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	10	0,50