



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Knowledge Management in Quality Engineering

### Course

Field of study

Production Engineering and Management

Area of study (specialization)

Quality Management

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

1/2

Profile of study

general academic

Course offered in

polish

Requirements

elective

### Number of hours

Lecture

15

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

15

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

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Faculty of Mechanical Engineering

Piotrowo Street, No 3 60-965 Poznań

Responsible for the course/lecturer:

### Prerequisites

Student has a fundamental knowledge in the field of quality management, knowledge management and learning organizations as well as in the field of information systems; Student has an ability to choose and apply the appropriate methods and techniques of management (among others: quality tools and quality management methods); Student is aware of the need to learn and to obtain new knowledge as a



continuous process; is able to see the opportunities of continuous improvement in different areas of the life; especially in organizations with special attention to production enterprises.

### Course objective

To acquaint the student with awareness of the need to incorporate the solutions from the knowledge management area into quality management domain; such approach could be one of the conditions for the effective and efficient obtaining, maintaining and improving quality level of processes and products.

### Course-related learning outcomes

#### Knowledge

Student knows and understands the relationships between known concepts of management, especially between concept of quality management and knowledge management.

Student gets to know practical solutions in the field of quality engineer/manager activities support (methods and information systems) in the context of owned/required knowledge assets for quality assurance and improvement.

#### Skills

Student is able to indicate/propose the solutions (methods, tools, systems) supporting knowledge management, improving the efficiency of usage of knowledge assets in enterprise.

Student is able to use in practice the chosen tools of knowledge management.

#### Social competences

Student is aware of the role and the importance of knowledge assets in production enterprises.

Student understands the need of new knowledge acquisition and learning, especially during activities connected with quality assurance.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

#### Lecture:

Passing the written test is a prerequisite for credit. The written test consists of five general questions. Credit is given in case of correct answer for minimum three questions. The test is provided in the end of the semester.

#### Project:

Evaluation is based on the grades, resulting from the project evaluation and student activity, provided by the tutor.

### Programme content

#### Lecture:

The terminology of the subject. Quality engineering and quality management. Processes, instruments and systems in quality management. Processes, instruments and systems supporting knowledge



management. Comparative analysis of these concepts. Quality management instruments (methods and tools) as the sources of knowledge generation, development and application in the scope of obtaining, maintaining and improving the quality level of processes and products. Knowledge conversion processes during teamwork. Knowledge management in quality engineering: examples of projects, solutions, systems. Case studies. Systems supporting the activities of quality engineer/quality manager. Software presentation.

Project:

The aim of the project is the usage of selected instruments (methods and tools) for the purpose of chosen item improvement (e.g. process, product, system organisation and others). The instruments are as the following: knowledge mapping, competences matrix, quality tools, creative techniques, others.

### Teaching methods

### Bibliography

Basic

Probst G., Raub S., Romhardt K., Zarządzanie wiedzą w organizacji (*Managing Knowledge*), Oficyna Ekonomiczna, Kraków 2004 (in English version)

Nonaka I., Takeuchi H., Kreowanie wiedzy w organizacji (*The Knowledge-Creating Company*), Wydawnictwo Poltext, Warszawa 2002 (in English version)

Additional

Tague N.R., 2005, *The Quality Toolbox*, ASQ Quality Press, Milwaukee

### Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2
Classes requiring direct contact with the teacher	30	1
Student's own work (literature studies, preparation for tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	20	1

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

