

COURSE GUIDE

<u>Subject name</u>	QUALITY MANAGEMENT
<u>Course of study</u>	Quality & Production Management
<u>The form of study</u>	full-time
<u>Level of qualification</u>	I
<u>Year</u>	II
<u>Semester</u>	3
<u>The implementing entity</u>	Department of Production Engineering and Safety
<u>The person responsible for preparing</u>	dr inż. Magdalena Mazur
<u>Profile</u>	general academic
<u>Course type</u>	core subjects
<u>ECTS points</u>	4

TEACHING METHODS – NUMBER OF HOURS PER SEMESTER

LECTURE	CLASS	LABORATORY	PROJECT	SEMINAR
15E	-	30	-	-

ITEM DESCRIPTION

1. COURSE AIMS

- C1. Knowledge of basic issues in quality management and organization of supervisory systems (systems, standards, procedures).
- C2. Practical implementation of quality analysis instruments.

2. ENTRY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Student knows the basic concepts of production processes.
2. The student has knowledge about the general functioning of the economy.
3. The student knows the basics of management in production system organizations.
4. Student is able to perform mathematical calculations.

3. LEARNING OUTCOMES

- EK 1- The student knows the basic requirements of quality standards and systems for their supervision.
- EK 2- The student uses the concepts of quality management, organization of control and analysis of quality.
- EK 3- The student is able to analyze the quality of selected industrial products using tools and methods of quality management.

4. COURSE CONTENT

Type of teaching – LECTURES	Number of hours
W 1- Basic concepts in quality management.	1
W 2- Group work assumptions - quality circles.	1
W 3- Traditional tools of quality management - general requirements.	1
W 4- Group the new tools of quality management - general requirements.	1
W 5- Group methods of quality management.	2
W 6- Characteristics of special processes.	1
W 7- Quality analysis in service processes.	1
W 8- Presentation and discussion about the quality management standards	1
W 9- Quality system certification concepts	1
W 10- Basic documents in quality management systems based on ISO standards.	1
W 11- Quality requirements of the HACCP system.	1
W 12- Routine handling of noncompliant products.	1
W 13- Awards and quality contests - assumptions.	1
W 14- Toyota Production System - Japanese approach to management	1
Type of teaching – LABORATORY	Number of hours
L 1- Overview of organization rules and final evaluation conditions.	1

L 2- Organization of analytical work in working groups.	1
L 3- Analysis of the causes of quality problems based on the Ishikawa diagram - building a diagram for the selected example.	2
L 4- Preparing the quality control data sheets.	2
L 5- Principles of implementation the Pareto-Lorenz diagram. Use of the Pareto-Lorenz diagram on the example of analysis the nonconformities occurring in the production process of a selected product.	3
L 6- Preparation and implementation of risk analysis based on FMEA. Identification of preventive actions for the selected product.	4
L 7- Customer satisfaction analysis using the SERVQUAL method on the example of the selected service delivery process.	4
L 8- Analysis of the level of product matching to customer requirements - QFD method.	5
L 9- Planning to solve quality problems with the use of 7 new quality management tools.	6
L - 10 - Final test.	2

5. TEACHING TOOLS

1. lecture with audiovisual - presentation.
2. ISO standards.
3. compilation of numerical data for performance analyzes.
4. textbooks and scripts.
5. Microsoft Office (excel, word) software, SNAP program

6. WAYS OF ASSESSMENT (F – FORMATIVE, P – SUMMATIVE)

- F1. Evaluation of sub-reports.
 F2. Observation of student work.
 P1. Final test or partial tests.
 P2. Written exam.

7. STUDENT WORKLOAD

Form of activity		Average number of hours for realization of the activity		
		[h]	ECTS	ECTS
Contact hours with the teacher	LECTURE	15	0,6	1,12
Preparation for exam		10	0,4	
Exam		3	0,12	
Contact hours with the teacher	LABORATORY	30	1,2	2,28
Preparation of the laboratories		12	0,48	
Preparing for test		15	0,6	
Getting Acquainted with the indicated literature		10	0,4	0,4
Consultation		5	0,2	0,2
TOTAL NUMBER OF HOURS / ECTS POINTS FOR THE COURSE		100	4	

8. BASIC AND SUPPLEMENTARY RESOURCE MATERIALS

Basic resources:

1. Duke Okes. *Root Cause Analysis. The Core of Problem Solving and Corrective Action.* American Society of Quality. Milwaukee 2009.
2. Jeofrey Bean. *Customer Experience Rules!: 52 Ways to create a great customer experience.* Brigantine Media, Vermont 2015.
3. Matt Watkinson. *The Ten Principles Behind Great Customer Experiences.* FT Publishing, 2013.
4. James M Joyner. *Quality Still Works: How to make your organization even more successful.* University Publishers, 2014.
5. Tristan Boutros, Jennifer Cardella. *The Basics of Process Improvement.* Taylor & Francis Group 2016.

Supplementary resources:

1. Douglas C. Montgomery. *Statistical Quality Control.* John Wiley & Sons 2013.
2. Russell T. Westcott. *The Certified Manager of Quality/Organizational Excellence Handbook.* American Society of Quality 2013.

9. TEACHERS (NAME,SURNAME, ADRES E-MAIL)

1. dr hab. inż. Robert Ulewicz, prof. PCz. (robert.ulewicz@wz.pcz.pl)
2. dr Joanna Rosak-Szyrocka (asros@op.pl)
3. dr inż. Magdalena Mazur (magdalena.mazur@wz.pcz.pl)
4. dr inż. Manuela Ingaldi (manuela@gazeta.pl)
5. dr inż. Marta Jagusiak-Kocik (jmarti@o2.pl)
6. dr inż. Krzysztof Knop (kknop@poczta.fm)
7. mgr inż. Krzysztof Mielczarek (k.mielczarek@zim.pcz.pl)

10. MATRIX OF LEARNING OUTCOMES REALISATION

Learning outcome	Reference of given outcome to outcomes defined for whole program	Course aims	Course content	Teaching tools	Ways of assessment
EK1	K_U01, K_U02, K_U05, K_K02, K_K04	C1	W1, W6, W12 ÷ W 14	1,2,4	F2, P2
EK2	K_U01, K_U02, K_K04,	C1	W1, W 8 ÷ W 11	1,4	F2, P2
EK3	K_W07, K_U01, K_U03, K_U07, K_U09, K_K03	C1, C2	L 2 ÷ L 9 W 2 ÷ W5, W7	3,4,5	F1, F2, P1

11. FORM OF ASSESSMENT - DETAILS

	grade 2	grade 3	grade 4	grade 5
EK 1	The student does not know basic standards and quality management systems and their supervision	The student knows only the selected standards of quality management systems and their supervision	The student knows all the standards of the quality management system and their supervision, which were presented during the classes	The student knows all the standards of quality management systems and their supervision, as well as can indicate differences between them
EK 2	Students do not know how to use quality management concepts	The student is able to use some concepts of quality management	The student knows how to use quality management concepts	The student knows how to use the concepts of quality management and express their opinion
EK 3	Student can not present the assumptions of quality analysis in selected instruments	The student is able to present the assumptions of the quality analysis of selected instruments, but he can not do the analysis	The student is able to perform quality analyzes only with selected instruments	The student is able to analyze the quality of all the discussed instruments

12. ADDITIONAL USEFUL INFORMATION ABOUT THE COURSE

1. Information where presentation of classes, instruction, subjects of seminars can be found, etc. - information presented to students in class, if required by the formula classes are sent electronically to the e-mail addresses of individual dean groups - information can be found on the website of the department.
2. Information about the place of classes - - information can be found on the website of the department.
3. Information about the timing of classes (day of the week / time) - information can be found on the website of the department.
4. Information about the consultation (time + place) - are given to students for the first class, can be found on the website of the department.

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Coordinator