

Polish course name	ZARZĄDZANIE JAKOŚCIĄ
English course name	QUALITY MANAGEMENT
Course code	WIP-MDL-D1-QM-02
Field of study	Materials design and logistics
Level of qualification	First degree
Form of study	Full-time
Semester	2
Number of ECTS points	2
Ways of assessment	Test

Number of hours per semester

Lecture	Seminar	Classes	Laboratory	Project
15		15		

TEACHERS:

Dr inż. Zbigniew Skuza,

Dr inż. Edyta Kardas,

Dr Agnieszka Bala - Litwiniak.

COURSE OBJECTIVES:

- › **C1** Provide students with knowledge of the basic issues of quality management.
- › **C2** To familiarize students with a selected group of methods and techniques of quality management - used to analyze and improve this system.
- › **C3** Acquisition by students of practical skills in the field of basic analysis and assessment of the quality management system.

PRELIMINARY REQUIREMENTS FOR KNOWLEDGE, SKILLS AND OTHER COMPETENCES:

1. Basic knowledge of mathematics.
2. Basic knowledge of organization and management.
3. Average mastery of data processing principles.
4. Ability to work independently and in a group.
5. Ability to use an engineering calculator.

COURSE CONTENT

LECTURE

- › **L1** Basic concepts and definitions in the field of quality management.
- › **L2** Theoretical foundations of quality management.
- › **L3** Motivating employees to raise the level of quality.
- › **L4** Quality management concepts.
- › **L5** TQM (Total Quality Management) - management philosophy.
- › **L6** Quality assurance in pre-production, production and post-production.
- › **L7, L8** Quality management systems. Integration of management systems
Quality management in various sectors.
- › **L9, L10** Quality management methods.
- › **L11, L12** Quality management tools and techniques.
- › **L13** Statistical quality control.
- › **L14** Methods of testing the quality of services.
- › **L15** Summary of the lectures.

CLASSES

- › **C1** Introduction to classes (discussion of the purpose and scope).
- › **C2, C3** FMEA – Failure Mode and Criticality Analysis.
- › **C4, C5** Pareto – Lorenz analysis.
- › **C6, C7** Analysis ABCD – Suzuki method.
- › **C8, C9** Analysis 5M.
- › **C10, C11** Ishikawa diagram.
- › **C12, C13** Shewhard's control cards.
- › **C14** Qualitative ability of the process, machines.
- › **C15** Summary of classes, final test.

BASIC REFERENCES

1. J. Łańcucki, D. Kowalska, J. Łuczak: Zarządzanie jakością w przedsiębiorstwie, Biblioteka Menedżera i Służby Pracowniczej, Bydgoszcz 1995 r.
2. M. Urbaniak: Zarządzanie jakością. Teoria i Praktyka, Difin, Warszawa 2004 r.
3. J. Łańcucki: Podstawy kompleksowego zarządzania jakością TQM, Akademia Ekonomiczna w Poznaniu, Poznań 2001 r.
4. E. Konarzewska-Gubała: Zarządzanie przez jakość: koncepcje, metody, studia przypadków, Wydawnictwo Uniwersytetu Ekonomicznego, Wrocław, 2013 r.

5. A. Hamrol, W. Mantura: Zarządzanie jakością. Teoria i praktyka, Wydawnictwo Naukowe PWN, Warszawa – Poznań 1998 r.
6. M. Stoma: Modele i metody pomiaru jakości usług, Q&R Polska Sp. zo. o., Lublin 2012 r.
7. A. Hamrol: Zarządzanie i inżynieria jakości, PWN, 2020 r.

SUPPLEMENTARY REFERENCE MATERIALS

1. Z. Skuza, R. Prusak, R. Budzik: Contemporary Elements of Quality Management System in the Metallurgical Enterprise, Metalurgija, vol. 50, nr 2, p. 137-140, 2011 r.
2. Z. Skuza, T. Frączek, R. Prusak: FMEA Analysis of Logistic Processes in the Industrial Enterprise, Carpathian Logistics Congress 2018, p. 444-449, Czechy 2018 r.
3. E. Kardas: The Analysis of Qualitative Parameters of Anodised Coating of Finishing Strips, 27th International Conference on Metallurgy and Materials, 23 do 25 maja 2018 r., Brno, Czechy. Proceedings, 2018 r., pp. 2002-2007.
4. E. Kardas, P. Pustejovska, S. Brozova: Statistical Analysis of Quality Parameters of Pig Iron, System Safety: Human - Technical Facility - Environment (red.) Ulewicz Robert, Nikolic Ruzica R. Warszawa: De Gruyter Poland, 2019 r., pp. 616-623.

LEARNING OUTCOMES

- › **EU1** The student has a basic knowledge of quality management.
- › **EU2** The student knows the basic instruments for analyzing and improving the quality management system.

TEACHING TOOLS

- › Lecture with the use of audiovisual means.
- › Classes - solving problem tasks with the help of the teacher.
- › PCz e-learning platform.

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

- › **F1.** Assessment of activity during classes.
- › **F2.** Assessment of self-preparation for classes.

P1. Assessment of the mastery of the teaching material being the subject of exercises - final test.

STUDENT WORKLOAD

Form of activity	Number of hours	ECTS
Contact hours with the teacher		
Lectures	15	0,6
Seminar		
Classes	15	0,6
Laboratory		
Project		
Test	2	0,08
Exam		
Total contact hours	32	1,28
Student's own work		
Getting acquainted with the indicated literature	5	0,2
Preparation for seminar		
Preparation for classes	5	0,2
Preparation for lab		
Project preparation		
Consultation	4	0,16
Preparation for the test	4	0,16
Total student's own work	18	0,72
Total number of hours/ ECTS points for the course	50	2,0

ADDITIONAL INFORMATION

Timetable of classes	https://wip.pcz.pl/dla-studentow/plan-zajec/studia-stacjonarne
Information about the consultation (time + place)	https://wip.pcz.pl/dla-studentow/konsultacje-dla-studentow

MATRIX OF LEARNING OUTCOMES REALISATION

Learning outcome	Reference of given outcome to outcomes defined for whole program	Course objectives	Course content	Ways of assessment
EU 1	K_W07,	C1	L1 - L15	F1
EU 2	K_U04,	C2, C3	C1 - C15	F2 P1

FORM OF ASSESSMENT - DETAILS

EU1 The student has a basic knowledge of quality management.

- › 2,0 The student has no basic knowledge of quality management.
- › 3,0 The student has some basic knowledge of quality management.
- › 3,5 The student has almost a basic knowledge of quality management.
- › 4,0 The student has a good basic knowledge of quality management.
- › 4,5 The student has an almost very good basic knowledge of quality management.
- › 5,0 The student has a very good basic knowledge of quality management.

EU2 The student knows the basic instruments for analyzing and improving the quality management system.

- › 2,0 The student does not know the basic instruments for analyzing and improving the quality management system.
- › 3,0 The student partially knows the basic instruments for analyzing and improving the quality management system.
- › 3,5 The student knows the basic instruments for analyzing and improving the quality management system.
- › 4,0 The student knows the basic instruments for analyzing and improving the quality management system well.
- › 4,5 The student knows almost very well the basic instruments for analyzing and improving the quality management system.
- › 5,0 The student knows the basic instruments for analyzing and improving the quality management system very well.