

Course name **Quality and Safety Management** *Code* V.5. *Credit points* **3 ECTS**
Zarządzanie jakością i bezpieczeństwem

Language of instruction **English**

Programme Basic concepts of Quality Management, Instruments of Quality Management, Normative requirements for Quality Systems

Type of studies BSc studies

Unit running the programme Institute of Production Engineering

Course coordinator and academic teachers **Piotr Pachura, Assoc. Prof.**, Robert Ulewicz, Assoc. Prof., (Lec.), Jacek Selejdak, PhD. (Lec.)

Form of classes and number of hours

Semester	Lec.	Tut.	Lab.	Proj.	Sem.	Credit points
V	30	-	-	-	-	3

Learning outcomes

The basic concepts of quality management (systems, standards, procedures) are the aim of this course. Students will learn about chosen, used in practice instruments of quality management. They will learn to use the concepts of quality management. They will come to know a system of accreditation and certification and quality management system. Students will learn the basic standards and documents of the quality, safety, environmental management systems and HACCP. They will get to know in a theoretical way basic information about conducting audits in enterprises, and the ability to use certain instruments of quality management will allow them to solve quality problems by identifying the sources of causes of nonconformities and to introduce corrective actions. They will get the ability to synthesize and use knowledge from different areas of education in order to analyze and solve basic quality problems. They will also be able to use literature sources in order to broaden their knowledge.

Prerequisites

Basic information about quality management, knowledge of standards for quality management, work safety and environmental protection, the ability to apply appropriate instruments of quality management.

Course description

LECTURE

Terms associated with quality. The essence and the concept of quality. Terminology associated with quality.

Normative requirements of quality systems. Standards of ISO 9000 series. Standards of ISO 14000 series. Occupational Health and Safety. Integrated Management System. Food Safety systems. Management by quality (TQM) in enterprises. Proceedings with incompatible product. Special processes. Examination of processes qualitative capability.

Audit of quality system. Proceedings schedule before obtaining certificate of quality system. Types of audits. Audit course. Course of audit researches. Basic documents from audit.

Accreditation and certification. Accreditation and certification defining. Determination of requirements for accreditation and certification. Structure of EN 45000 standards. Evidence of compliance.

Methods of quality assurance. QFD method (Quality Function Deployment). Taguchi method. Philosophy Kaizen. Zero defects method. FMEA method (Failure Mode and Effect Analysis). Model of service quality. Method for measuring service quality - SERVQUAL method. The method of measuring service quality and customer satisfaction - CIT (critical incidents technique).

Process approach to management. Elements of process approach. Chain of customers and suppliers.

Quality costs. Defining quality costs. Effect of products quality on quality costs. Classification of quality costs. Evaluation and prevention costs. „Iceberg” of quality costs. Factors determining level of quality costs.

„Audyty”. Concept of „Audyty”. Division of „audyty”. Models of „audyty” and „sub-audyty”. Internal Control. Internal „Audyty”.

TUTORIALS

Not applicable

LABORATORY

Not applicable

PROJECT

Not applicable

SEMINAR

Not applicable

Form of assessment Assignment

Basic reference materials

1. Set of lecture notes and problems for individual solution (based on literature presented below). Handouts for tutorial classes.
2. Oakland J., Morris P.: TQM: A Pictorial Guide For Managers, Butterworth Heinemann, Oxford 1997.
3. Koronacki J., Thompson J. R.: Statistical Process Control: The Deming Paradigm and Beyond. Chapman & Hall/CRC, New York 2001.
4. Borkowski S., Czaja P.: Quality and Processes Improvement, Endi Miletić, Sisak 2010.
5. Borkowski S., Rosak-Szyrocka J.: Procedury uzyskiwania znaków jakości. Procedures for Obtaining Quality Marks. Wydawnictwo Politechniki Częstochowskiej, Częstochowa 2009.
6. Scupin R.: The KJ Method, A Technique for Analyzing Data Derived from Japanese Ethnology, Human Organization – Journal of the Society for Applied Anthropology Summer 1997.
7. Mizuno S.: Management for Quality Improvement: The 7 New QC Tools, Productivity Press Inc., Cambridge MA, 1988.

Other reference materials

For Polish-speaking students:

1. Borkowski S.: Mierzenie poziomu jakości, Wyd. Wyższej Szkoły Zarządzania i Marketingu w Sosnowcu, Sosnowiec 2004
2. Borkowski S., Čorejová T.: Instrumenty rozwiązywania problemów w zarządzaniu, Wyd. Wyższej Szkoły Zarządzania i Marketingu w Sosnowcu, Sosnowiec 2004.
3. Więcek J. (red): Zintegrowane zarządzanie jakością, Wyd. Uniwersytetu Łódzkiego,

Łódź 2007.

4. Hamrol A.: Zarządzanie jakością z przykładami, PWN, Warszawa 2008.
5. Wolniak R., Skotnicka B.: Metody i narzędzia zarządzania jakością. Teoria i praktyka, Wydawnictwo Politechniki Śląskiej, Gliwice 2008.
6. Urbaniak M.: Zarządzanie jakością teoria i praktyka, Difin, Warszawa 2004.

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Average student workload (teaching hours + individ.)	2 hours of teaching hours + 1 hours of individual work per week
Remarks:	
<i>Updated on:</i>	