

MODULE DESCRIPTION

Module code	Z-ZIP-083z
Module name	Zarządzanie jakością
Module name in English	Quality Management
Valid from academic year	2016/2017

A. MODULE PLACEMENT IN THE SYLLABUS

Field of study	Management and Production Engineering
Level of education	1st degree <i>(1st degree / 2nd degree)</i>
Studies profile	General <i>(general / practical)</i>
Form and method of conducting classes	Full-time <i>(full-time / part-time)</i>
Specialisation	All
Unit conducting the module	Department of Production Engineering
Module co-ordinator	Wacław Gierulski, PhD hab., Eng., Professor of the University
Approved by:	

B. MODULE OVERVIEW

Type of subject/group of subjects	Major <i>(basic / major / specialist subject / conjoint / other HES)</i>
Module status	Compulsory <i>(compulsory / non-compulsory)</i>
Language of conducting classes	English
Module placement in the syllabus - semester	5th semester
Subject realisation in the academic year	Winter semester <i>(winter semester/ summer)</i>
Initial requirements	No requirements <i>(module codes / module names)</i>
Examination	No <i>(yes / no)</i>
Number of ECTS credit points	2

Method of conducting classes	Lecture	Classes	Laboratory	Project	Other
Per semester	30				

C. TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Module target	Understanding the basic concepts related to the issue of quality management, acquiring the skills of the general perception of the quality, the ability to apply basic tools and methods related to the quality management.
----------------------	---

Effect symbol	Teaching results	Teaching methods (l/c/lab/p/other)	Reference to subject effects	Reference to effects of a field of study
W_01	A student has the knowledge of the importance of the quality in the manufacturing processes and services, knows the methods, tools and systems related to the quality management.	I	K_W09 K_W14	T1A_W04
W_02	A student has the knowledge of the role of the quality management at different stages of the product life cycle.	I	K_W14	T1A_W04
W_03	A student has the knowledge of the methods and techniques to support the process of modification of the existing and new products. Understands the role of innovation.	I	K_W16 K_W18	T1A_W05 T1A_W11
U_01	A student is able to use basic methods of the quality management (for example QFD, FMEA) in the modification or introducing a new product.	I	K_U03 K_U08	TA1_U03 TA1_U14
U_02	A student is able to identify tools and methods adequate for the realization of basic activities related to the quality decisions.	I	K_U01 K_U08 K_U19	TA1_U13 TA1_U15 TA1_U14
K_01	A student understands the need for continuous replenishment of the knowledge in the area of the quality management.	I	K_K01	TA1_K01
K_02	A student is able to think and act with consideration of entrepreneurial non-technical aspects of the manufacturing processes.	I	K_K02	TA1_K02
K_03	A student is aware of the role of the university graduates in the process of knowledge transfer and shaping the public opinion.	I	K_K06	TA1_K07

Teaching contents:

1. Teaching contents as regards lectures

Lecture number	Teaching contents	Reference to teaching results for a module
1	Contemporary perception and the concept of quality. Class quality, reliability issue. Evolutionary changes in the approach to quality issues.	W_01 U_01 W_02 U_02 W_03 K_01 K_02, K_03
2	The concept of TQM, the principles and essence of the concept. The creators of the concept (Deming, Crosby and others). Quality awards - procedures for granting awards. Benchmarking.	W_01 U_01 W_02 U_02 W_03 K_01

		K_02 K_03
3	Quality management standards – the series of ISO 9000, The issue of certification, auditing.	U_01 U_02 W_03 K_01 K_02, K_03
4	Environmental management systems (related to ISO 9001), Occupational health and safety management systems.	U_01 U_02 W_03 K_01 K_02 K_03
5	Hazard analysis and critical control points HACCP – the issue of food safety. The principles and essence of the HACCP system. Critical control points.	W_01 U_01 W_02 U_02 W_03 K_01 K_02 K_03
6	Assessment of the conformity of products - CE mark.	U_01 U_02 W_03 K_01 K_02 K_03
7	Quality management tools: - Descriptive quality tools - block diagram, plan of action, a flowchart, - Creative quality tools - Ishikawa diagram, similarities diagram, relationship diagram, systematics diagram, matrix data analysis, brainstorming.	U_01 U_02 W_03 K_01 K_02, K_03
8	Quality management tools: - Quantitative tools - check sheet, Pareto diagram, - Statistical tools - data collection, histogram, analysis of variance, regression analysis - Control charts, SPC, the ability of process quality.	U_01 U_02 W_03 K_01 K_02 K_03
9	Methods supporting the quality management: FMEA - Failure mode and effects analysis	U_01 U_02 W_03 K_01 K_02 K_03
10	Methods supporting the quality management: - QFD - Quality function deployment, - DOE – Design of experiments, Shainina and Taguchi experiments	U_01 U_02 W_03 K_01 K_02 K_03
11	The concept of Six Sigma, the principles of the concept, The introduction of Six Sigma.	U_01 U_02 W_03 K_01 K_02 K_03

12	Examples of other activities for quality: Poka Yoke, TPM, SMED.	U_01 U_02 W_03 K_01 K_02 K_03
13	The issue of the quality costs, definitions, classification, the basis for calculating the quality costs.	W_01 U_01 W_02, U_02 W_03 K_01 K_02 K_03
14	Designing the company's strategy with regard to quality, environment and safety. Computer systems supporting quality management	W_01 U_01 W_02 U_02 W_03 K_01 K_02 K_03
15	A written test	

2. Teaching contents as regards classes

Class number	Teaching contents	Reference to teaching results for a module

3. Teaching contents as regards laboratory classes

Laboratory class number	Teaching contents	Reference to teaching results for a module

4. The characteristics of project assignments

The methods of assessing teaching results

Lecture – is passed on the basis of the test results and the preparation of a paper (project) associated with lectures (in teams up to 3 people) being presented in the form of the discussion

Effect symbol	Methods of assessing teaching results <i>(assessment method, including skills – reference to a particular project, laboratory assignments, etc.)</i>
W_01	Test, the project team.
W_02	Test, the project team.
W_03	Test, the project team.

U_01	The project team.
U_02	The project team.
U_03	The project team.
K_01	Discussion during the project presentation.
K_02	Discussion during the project presentation.
K_03	Discussion during the project presentation.

D. STUDENT'S INPUT

ECTS credit points		
	Type of student's activity	Student's workload
1	Participation in lectures	30
2	Participation in classes	
3	Participation in laboratories	
4	Participation in tutorials (2-3 times per semester)	
5	Participation in project classes	
6	Project tutorials	2
7	Participation in an examination	
8	Passing the project - discussion	2
9	Number of hours requiring a lecturer's assistance	34
10	Number of ECTS credit points which are allocated for assisted work <i>(1 ECTS point=25-30 hours)</i>	1.3 <i>(sum)</i>
11	Unassisted study of lecture subjects	10
12	Unassisted preparation for classes	
13	Unassisted preparation for tests	
14	Unassisted preparation for laboratories	
15	Preparing reports	
15	Preparing for a final laboratory test	
17	Preparing a project or documentation	10
18	Preparing for an examination	
19	Preparing for an examination on the lecture	
20	Number of hours of a student's unassisted work	20 <i>(sum)</i>
21	Number of ECTS credit points which a student receives for unassisted work <i>(1 ECTS point=25-30 hours)</i>	0.7
22	Total number of hours of a student's work	54
23	ECTS points per module <i>1 ECTS point=25-30 hours</i>	2
24	Work input connected with practical classes <i>Total number of hours connected with practical classes</i>	12
25	Number of ECTS credit points which a student receives for practical classes <i>(1 ECTS point=25-30 hours)</i>	0.5

E. LITERATURE

Literature list	<ol style="list-style-type: none"> 1. Hamrol Adam, <i>Zarządzanie jakością z przykładami</i>, PWN, Warszawa 2005 (lub nowsze). 2. Denis L., <i>Podręcznik zarządzania jakością</i>, PWN, Warszawa 2002 (lub nowsze wydanie). 3. Iwasiewicz A., <i>Zarządzanie jakością w przykładach i zadaniach</i>, Śląskie Wydawnictwo Naukowe WSZiNS, Tychy 2005. 4. Thompson J. R., Koronacki J., Nieckuła J., <i>Techniki Zarządzania Jakością – od Shewarda do metody „Six Sigma”</i>, Akademicka Oficyna Wydawnicza Exit, Warszawa 1995. 5. Ziółkowski S., <i>Systemy zarządzania jakością w małych i średnich firmach</i>, WNT, Warszawa 2007. 6. Wawak S., <i>Zarządzanie jakością – teoria i praktyka</i>, Wydawnictwo Helion
-----------------	--

	2002.
Module website	