STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
Pro-quality statistical applications	**1011105311011122037**

Field of study	Profile of study (general academic, practical)	Year /Semester
Engineering Management - Part-time studies -	**general academic**	**1 / 1**

Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Communication Management in	**Polish**	**elective**

Cycle of study:	Form of study (full-time,part-time)
Second-cycle studies	**part-time**

No. of hours				No. of credits
Lecture: **12** Classes: **-** Laboratory: **-** Project/seminars: **-**				**2**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
other	**from field**

Education areas and fields of science and art	ECTS distribution (number and %**)**
social sciences	**2 100%**
Economics	**2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student defines and describes the basic concepts of descriptive statistics.
2	**Skills**	The student is able to interpret and describe the insights and observations. The student can conclude.
3	**Social competencies**	The student is aware of the importance of quality for its addressees and creators of its level.

Assumptions and objectives of the course:

Transferring knowledge and allowing the acquisition of skills relating to the application of statistical methods and benefits resulting from them.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. The student knows the basic concepts regarding the statistical pro quality applications - [K2A_W01]

2. The student knows the basic rules and procedures of the statistical research regarding quality supply and/or products - [K2A_W01]

3. The student knows the basic rules and procedures for the statistical examination of production processes - [K2A_W01]

4. The student knows the status of normalization connected with the use of statistical methods in relation to the pro quality activities in enterprises - [K2A_W12]

Skills:

1. The student is able to use the descriptive statistics for analysis e g. customer requirements in specific groups of products at the stage of the project, in the area of customer?s satisfaction with the product, etc. - [K2A_U02, K2A_U06]

2. The student is able to make decisions on the basis of the facts, that means on the results of data analysis - [K2A_U02, K2A_U06]

3. The student is able to manage a company in terms of quality by easiness to associate technical issues with the quality and economic ones - [K2A_U02, K2A_U06]

4. The student is able to schedule inspections and verify, on the basis of population size and fixed border quality - [K2A_U02, K2A_U06]

5. The student is able to work with the standards related to statistical checks - [K2A_U02, K2A_U06]

6. The student has the ability to control the process based on the results of the control cards analysis - [K2A_U02, K2A_U06]

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Social competencies:
1. The student is aware of the importance of applying statistical methods - [K2A_K03, K2A_K06]
2. The student is aware of the results of statistical applications in an enterprise - [K2A_K03, K2A_K06]
3. The student is focused on the use of statistical methods for conscious quality improvement in an enterprise - [K2A_K03, K2A_K06]

Assessment methods of study outcomes
Formative assessment:
Lectures: evaluation of participation in discussions on the material discussed in previous lectures.
Collective assessment:
Lectures: written test in 14-15 week semester (open questions) from the content presented during lectures.

Course description
Basic concepts of statistical pro quality applications. The use of statistics in quality management. Capabilities and examples of the use of descriptive statistics (data grouping, series distribution and histograms, and methods of data presentation).The statistical research regarding quality supply and/or products. Control, measurement and verification. Sampling, sample distribution and sampling methods. Plans for 1-, 2-, multi-step tests. Statistical control of inbox. Statistical examination of production processes. Statistical process control of SPC. Analysis and assessment of process suitability (the control card X-R, the control card of defective p, control card (c).
Didactic methods:
problem lecture, discussion seminar, case study

Basic bibliography:

1. Sałaciński T., SPC - statystyczne sterowanie procesami produkcji, ? Wydawnictwo: Politechnika Warszawska, 2009

2. Thompson J.R., Koronacki J., Statystyczne sterowanie procesem - Metoda Deminga etapowej optymalizacji jakości, Akademicka Oficyna Wydawnicza PLJ, Warszawa 1994

3. Thompson J.R., Koronacki J., Nieckuła J., Techniki zarządzania jakością od Shewharta do metody Six Sigma, Akademicka Oficyna Wydawnicza Exit, Warszawa, 2005

4. Jasiulewicz-Kaczmarek M., Misztal A., Mrugalska B., Projektowanie systemów zarządzania jakością, Wydawnictwo Politechniki Poznańskiej, Poznań 2011.

Additional bibliography:

1. Olejnik T., Wieczorek R., Kontrola i sterowanie jakością, Warszawa?Poznań, PWN, 1982

2. Prussak W., Jasiulewicz-Kaczmarek M., Elementy inżynierii systemów zarządzania jakością, Wydawnictwo PP, Poznań 2010

Result of average student's workload	
Activity	**Time (working hours)**
1. Lectures	12
2. Preparation for lectures	8
3. Preparation for pass	8
4. Final pass	2

Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	30	2
Contact hours	14	1
Practical activities	0	0