

Specification of the course for the Book of courses

Study program		Applied statistics		
Title of the course		Statistical quality control		
Teachers (for lectures)		Miomir Stanković		
Teacher/fellow teacher (for exercises)				
ESPB	6	Status of the course (obligatory (O) /elective (E))		E (O in Module Engineering)
Conditions				
Aim of the course		The aim of this course is to introduce students to the importance of quality control for successful operations and to enable students to apply complex statistical analysis for quality management.		
Course outcomes		<p>Following the successful completion of this course students will be able to</p> <ul style="list-style-type: none"> -Explain the importance of quality in business, -Explain the role of statistical quality control within the wider context, such as Total Quality Management -Apply methods and techniques of statistical quality control, -Conduct Studies or project in the field of statistical quality control and interpret the results -Demonstrate motivation and responsibility to advocate for quality in business 		
Content of the course				
Theoretical classes		Conclusions about process quality. Operating curve. Basic methods of statistical process control and analysis of the benefits. Methodology. Control charts for numeric features. Control charts for attribute feature. "CUSUM" charts for the mean. "EWMA" charts for the mean. Control chart of serial correlated data. Multivariate quality control process		
Practical classes		Practical classes include practicing of content from lectures, using the statistical software environment.		
References				
1	Montgomery, D. C. (2005). Introduction to Statistical Quality Control, Fifth Edition, John Wiley & Sons, Inc., USA			
2	Bass, I. (2007). Six Sigma Statistics with Excel and Minitab, Mc Graw Hill, New York			
3	Besterfield, D.H. (2009). Quality Control (8th Edition). Pearson / Prentice Hall			
4	E.L. Grant and R.S. Leavenworth: Statistical Quality Control, 6th edition, McGraw-Hill.			
The number of contact hours per week during the semester / trimester / year				
Lectures	Exercises	DON	Research work	Other classes
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Teaching methods		The introduction of the theory through lectures, practical work, exercises and independent work.		
Evaluation of knowledge (maximum score 100)				
Pre exam duties		points	Final exam	points
Activity during lectures		5	Oral exam	40
Activity during exercises		5		
colloquia		20		
seminars		30		