



Меѓународен Универзитет Визион - International Vision University  
 Universiteti Ndërkombëtar Vizion - Uluslararası Vizyon Üniversitesi

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## SYLLABUS

COURSE NAME	COURSE CODE	SEMESTER	COURSE LOAD	ECTS
STATISTICAL QUALITY CONTROL	2032	6	180	6

<b>Prerequisite(s)</b>	None
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<b>Course Language</b>	Turkish
<b>Course Type</b>	Elective
<b>Course Level</b>	First Cycle
<b>Course Lecturer</b>	
<b>Course Assistants</b>	
<b>Classroom</b>	
<b>Extra Curricular Office Hours and Location</b>	<b>Meeting:</b> <b>Consultancy:</b>

<b>Course Objectives</b>	To learn and apply the basic statistical tools for quality control quality improvement by applying statistical principles and techniques of data collected at each stage of production and control, to be used in the development of these principles and techniques.
<b>Course Learning Outcomes</b>	The students who successfully complete this course, will be able to; <ul style="list-style-type: none"> <li>• Basic principles and techniques of statistical quality control, development and use of skills.</li> <li>• Principles of statistical quality control students ISS tools and learn to process analysis and use, it is able to use them in real practice.</li> </ul>
<b>Course Contents</b>	Statistical process control, control charts qualitative, quantitative control charts, CUSUM and EWMA charts, multivariate quality control, process capability analysis, gage capability analysis.

**WEEKLY SUBJECTS AND RELATED PREPARATION STUDIES**

<b>Week</b>	<b>Subjects</b>	<b>Related Preparation</b>
1	Frequency distributions and histograms. Branch and leaf plot. Box diagram. Probability distributions	Related Chapters of Course Sources
2	Hypergeometric, binomial Poisson, Pascal and related distributions. Normal, exponential, gamma, Weibull distribution and access	Related Chapters of Course Sources
3	Random and can cause changes in quality. The principles of statistical control charts. The choice of border control. Sample size and frequency. Subgroups. rules for control charts	Related Chapters of Course Sources
4	Gangs table. Pareto diagram. Cause and effect diagram. scatter diagram	Related Chapters of Course Sources
5	P control chart. NP control chart. standardized (Z) control chart. Transaction-characteristic function and the average length of study	Related Chapters of Course Sources
6	C control chart. u control chart. . Standardized (Z) control chart. Transaction-characteristic function	Related Chapters of Course Sources
7	Mid-term Exam	Related Chapters of Course Sources
8	x- and R control charts. estimation of process capability. Default values based on diagrams. Transaction-characteristic function. The average length of study for X diagram	Related Chapters of Course Sources
9	X and S control charts. S2 control chart. charts control for the moving average and the only observations. Average working length	Related Chapters of Course Sources
10	Cusum control chart. The design of the V-mask. Unilateral Cusum	Related Chapters of Course Sources
11	EWMA- control chart and design. Moving average control chart	Related Chapters of Course Sources
12	Short production control diagrams to their work. rearranged control diagrams. Group control diagrams. EVOP account	Related Chapters of Course Sources
13	Histogram, control charts and process capability analysis with experiments designed	Related Chapters of Course Sources
14	economic design of the control model. economic models of x-control diagrams. economic design of non-conformities fraction control diagrams, designed experiments with quality and process development	Related Chapters of Course Sources
15	Final Exam	Related Chapters of Course Sources

## ECTS / WORKLOAD TABLE

Presentation / Seminar			
Hours for off-the-classroom study (Pre-study, practice)	14	3	42
Midterm Exam	1	12	12
Final examination	1	14	14
<b>Total Work Load</b>			
<b>ECTS</b>		<b>6</b>	

## GENERAL PRINCIPLE RELATED WITH COURSE

Dear students,

In order to be included, learn and achieve full success that you deserve in the courses you need to come well prepared by reading the basic and secondary textbooks. We are expecting from you carefully to obey to the course hours, not to interrupt the lessons unless is very indispensable, to be an active participant on the courses, easily to communicate with the other professor and classmates, and to be interactive by participating to the class discussions. In case of unethical behavior both in courses or on exams, will be acting in framework of the relevant regulations. The attendance of the students will be checked in the beginning, in the middle or at the end of the lessons. Throughout the semester the students who attend to all lectures will be given 15 activity-attendance points in addition to their exam grades.

## SOURCES

### COMPULSORY LITERATURE

No	Name of the book	Author's Name, Publishing House, Publication Year
1	İstatistiksel Kalite Kontrolü	Burak Birgören, Nobel Yayın Dağıtım
2	Introduction to Statistical Quality Control	D.C.,Montgomery, 2nd Ed., Wiley,1991
3	Статистички методи и техники во процесот на контролата и управувањето со квалитетот	Буцевска, В, Скопје 2002

### ADDITIONAL LITERATURE

No	Name of the book	Author's Name, Publishing House, Publication Year
1	İstatistiksel Kalite Kontrol	Prof.Dr. Şanslı Şenol, Nobel Yayın Dağıtım
2	Statistical Quality Control	E.L.Grant and R.S. Leavenworth7.th Ed., McGraw-Hill,1996
3	Статистика за бизнис и економија со ЦД-РОМ	Њуболд, П., Карлсон, В. Ј. и Торн, Б. М. Шесто издание, 2009

## EVALUATION SYSTEM

<b>Underlying the Assessment Studies</b>	<b>NUMBER</b>	<b>PERCENTAGE OF GRADE</b>
Attendance/Participation	15	%10
Project / Event	1	%20
Mid-Term Exam	1	%35
Final Exam	1	%35
<b>TOTAL</b>	<b>17</b>	<b>%100</b>

## ETHICAL CODE OF THE UNIVERSITY

In case of the students are cheating or attempt to cheat on exams, and in the case of not to reference the sources used in seminar studies, assignments, projects and presentations, in accordance to the legislations of the Ministry of Education and Science of Republic of Macedonia and International Vision University, will be applied the relevant disciplinary rules. International Vision University students are expected never to attempt to this kind of behavior.