



KINGDOM OF SAUDI ARABIA
IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY
COLLEGE OF COMPUTER AND INFORMATION SCIENCES
INFORMATION SYSTEMS DEPARTMENT
MASTER OF SCIENCE IN INFORMATION SYSTEMS

المملكة العربية السعودية
جامعة الإمام محمد بن سعود الإسلامية
كلية علوم الحاسب والمعلومات
قسم نظم المعلومات
ماجستير العلوم في نظم المعلومات

SYLLABUS

Course Code: IS6234

Course Name: Statistical Control of Processes and Quality Tools

CREDIT HOURS	4
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PREREQUISITE	None
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Instructor:
Contact information and office hours
Office No: To be announced (TBA)
Office Hours: TBA
E-mail: _____@imamu.edu.sa

COURSE DESCRIPTION
Statistical Process Control (SPC) refers to the use of statistical techniques to control a process, production or manufacturing method through monitoring of process behavior, as a result discovering issues related to internal systems, and allowing for corrective actions to be taken before failure occurs. The best decisions are made using facts and data. The collection and interpretation of data is equally important in manufacturing and service environments. This course is focused on the concepts and practices of statistical process control.

COURSE LEARNING OUTCOMES (CLOs)		Aligned SOs
1	Knowledge and Understanding	
1.1	Outline the fundamental concepts of statistical control of processes.	K1
1.2	Describe the discipline and methodology of statistical control of processes	K2
1.3	Review state of art researches to comprehend modern developments in statistical control of processes and quality tools.	K3
2	Skills :	
2.1	Perform research to identify gaps in existing and standard systems in the field of statistical control of processes.	S1



2.2	Utilize advanced IS skills to develop innovative solutions for statistical control of processes of an enterprise.	S2
2.3	Align information systems planning with statistical control of processes strategy	S3
2.4	Utilize the technology needed to meet the organizational goals for statistical control of processes.	S4
3	Values:	
3.1	Demonstrate professionalism and responsibility for maximum impact to achieve desired goal.	V1
3.2	Write course project reports abiding all ethical standards using leadership and management talents.	V2
3.3	Function effectively individually as well as on teams to accomplish a common goal.	V3

TEACHING Strategies

Class lectures, Assignment, Project explanation session.

N o	List of Topics	Contact Hours	Self- Learning
1	Introduction to statistical control of processes	4	
2	Basic statistical concept and methods	8	
3	Univariate Shewhart charts and process capability	8	
4	Univariate control charts by change-point detection	8	
5	Multivariate statistical process control	8	
6	Project presentations	4	
Total		40	

TEXT BOOK

Introduction to statistical process control; 1st edition; Author: Peihua Qiu; 2013

REFERENCES

Introduction to Statistical Quality Control, 7th Edition by Douglas C. Montgomery, 2013, John Wiley & Sons, Inc., New York. ISBN : 978-1-118-14681-1



Course Assessment Methods			
No	Assessment Method	Due Week	% of Total Assessment
1	Quizzes	3	10
2	Assignments	5	10
3	Midterm	8	20
4	Project	10	20
5	Final Exam	11	40