Course Specifications

Course Title:	STATISTICAL PACKAGES
Course Code:	**STAT 3280**
Program:	**BACHELOR OF SCIENCE IN MATHEMATICS**
Department:	**MATHEMATICS**
College:	**COLLEGE OF SCIENCE AND HUMANITIES STUDIES**
Institution:	**PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY**

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A. Course Identification

1. Credit hours: 05 hours	

2. Course type

a. University ☐   College ☐   Department **x**   Others ☐

b.   Required **x**   Elective ☐

3. Level/year at which this course is offered: LEVEL6

4. Pre-requisites for this course (if any)**: Stat 2040**

5. Co-requisites for this course (if any)**: NIL**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	Weekly 5 hrs	100%
2	**Blended**	-	-
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture** (12 x 3)	36
2	**Laboratory/Studio (12 X 2**	24
3	**Tutorial**	
4	**Others** (specify) 5 office hours a week	60
	Total	120

B. Course Objectives and Learning Outcomes

1. Course Description Using Program Code in Statistical Software Package such as Excel, MINITAB, SAS, SPSS, R and MAPPLE Or MATLAB to write program for data analysis – topics include creating and managing data files, graphical representation and monte-carlo simulations

2. Course Main Objective

To provide elementary knowledge on use of statistical packages such as Excel, MINITAB, SAS, SPSS, R and MAPPLE Or MATLAB and to write simple programs for data analysis.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the use of statistical software	K1
1.2	Recognise the relationship of statistical packages with other branches of science and technology	K3
1.3	Describe appropriate method to solve problems using software	K4
2	**Skills :**	
2.1	Analyse the data using various tools	S1
2.2	Use statistical reports and prepare charts	S3
3	**Values:**	
3.1	Appreciate the contribution of statistics to the society in various fields	V1
3.2	Make Interpretations	V2

C. Course Content

No	List of Topics	Contact Hours
1	Review of Basic Statistical Concepts (Branches of Statistics-Types of Data- Data sources- Methods of data collection- Data presentation)- Measures of central tendency- Measures of Dispersion -Correlation – Regression)	6
2	Excel Program (Open the program -Data Entry)	6
3	Data analysis using Microsoft Excel (Frequency distribution-Histogram-Descriptive statistics)	6
4	Data analysis using Microsoft Excel (Select Random Sample- Generating random numbers- Correlation – Regression)	6
5	SPSS Program (Run the program- Entering data in SPSS)	6
6	Data analysis using spss (Frequency distribution- Descriptive statistics)	6
7	Data analysis using spss (Hypotheses tests)	6
8	Normality test- Normality test by graph- One Sample t-test	6
9	Independent t- test- Correlation – Regression	6
10	ANOVA	6
	Total	60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand the use of statistical software	1. Class Room Lectures	1. Two Internal Exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	Recognise the relationship of statistical packages with other branches of science and technology	2. Interactive sessions 3. Exclusive Office Hours for clearing doubts in small groups	2. Atleast two Quiz 3. End Semester Exam
1.3	Describe appropriate method to solve problems using software		
2.0	**Skills**		
2.1	Analyse the data using various tools	1. Application oriented exercises during tutorial session. 2. Homework to improve the analytical skills	1. Homework 2. Assignments 3. Quiz
2.2	Use statistical reports and prepare charts		
3.0	**Values**		
3.1	Appreciate the contribution of statistics to the society in various fields	Group Discussion during lectures and Interactive Session	Homework to be given so that the students discuss among themselves or refer materials from textbook to find solution
3.2	Make interpretations		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid Term Exam I	6	20%
2	Quiz	4 & 10	5%
3	Mid Term Exam II	13	20%
4	Continuous Assessment – Homework, Assignment, Attendance etc.	--	5%
5	End Semester Exam (Practical 10%, Theory 40%)	15	50%

Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

1. Exclusive Office Hours – 5 Hours per week
2. Academic Advising for Students – 1 Hour per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	1. Using IBM SPSS Statistics for Research Methods by William E. Wagner,lll. publishing by SAGE PUBLICATOINS,INC . Edition (2013). latest edition

	2.SPSS 13.0 Guide to Data Analysis by MarijaNorusis Minitan Guide, Desmond J. Higham and Nicholas J. Higham A-Jin Publishing Company, 2006.Second Edition (3) لـدكتور / . SPSS مبـادئـالاحصـــاءوالاحتمـالاتوتطبيقـاتهـابـاسـتخـدام عبدالرحمنالخضيريوالدكتورعبدالفتاحمصطفى .مطبعةالحمضي
Essential References Materials	• Minitab Hand Book updated for Release 14 with CD Rom by Barbara F. Ryan, Thomas Ryan and Jonathan Cryer. Duxbury Resource Canter, 2004. • SPSS 13.0 Guide to Data Analysis by MarijaNorusis. 2005 • Ready, Set, Run! A Student Guide to SAS Software for Microsoft Windows by LaroseT. Daniel and Jin Chun. Mayfield Publishing Company. 1998 • Minitan Guide, Second Edition Desmond J. Higham and Nicholas J. Higham A-Jin Publishing Company, 2006. • Introductory Statistics with R by Peter-Dalgaard. Springer (2002)
Electronic Materials	http://faculty.ksu.edu.sa/amustafa http://www.gigapedia.com http://www.wikapedia.com http://www.statistics.com/ourcourses/catalogue.php http://www3.imperial.ac.uk/stathelp/courses/spsscourses/onlinespssintrocourse
Other Learning Materials	Lecture Notes Prepared by the Department of Mathematics

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	.1 Classrooms with Smart boards with seating facilities for atleast 30 students
Technology Resources (AV, data show, Smart Board, software, etc.)	-Smartboard, Internet Connection for Blackboard -Computer Lab with SPSS package installed in 30 terminals (atleast(
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	NIL

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students, Graduates	Course Evaluation and Program Evaluation Survey (Indirect)
	Program Leaders	Peer Review (Direct)
Achievement of CLOs	Faculty and Quality Personnel	Direct (Tests and Quiz) and Review of Course Report
	Students	Course Evaluation (Indirect)

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Quality of **Learning Resources**	Graduates	Program Evaluation(Indirect)
Facilities	Students / Graduates	Course and Program Evaluation (Indirect)
	Faculty	Faculty Survey (Indirect), Course Reports (Direct)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	