



Course Specifications

Course Title:	Introduction to Probability and Statistics
Course Code:	stat 102
Program:	The track of scientific colleges
Department:	Department of Basic Sciences
College:	Common First Year for the first and second levels.
Institution:	King Saud University

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A. Course Identification

1. Credit hours:
2. Course type
a. University <input type="checkbox"/> College <input checked="" type="checkbox"/> Department <input type="checkbox"/> Others <input type="checkbox"/>
b. Required <input type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: Common First Year
4. Pre-requisites for this course (if any): No
5. Co-requisites for this course (if any): No

6. Mode of Instruction (mark all that apply)

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

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	60
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	60
Other Learning Hours*		
1	Study	
2	Assignments	
3	Library	40
4	Projects/Research Essays/Theses	
5	Others (specify)	
	Total	40

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description A course in applied mathematics aimed at giving the student some basic sciences in probability and statistics.
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2. Course Main Objective

The student will be able to understand statistical concepts and Probability, The student will be able to understand Organizing the Data and Graphical Representation of the Data, The student will be able to compute some measurements of central tendency, The student will be able to compute some measurements of dispersion, The student will be able to calculate simple linear correlation coefficient.

Definitions, Concepts in Probability Calculus and Concept of Probability Function ,The student will be able to understand the concept of the random variable and its probability distribution, Types of the random variables, Computing the mean and standard deviation of discrete random variable, the meaning of continuous random variable, Understanding applications of uniform, exponential and normal distribution ..

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Tabular representation of data	
1.2	Graphical representation of data, numerical properties of data	
1.3	Probability space for a random experiment, probability of accidents, random variables	
1.4	Simple correlation and simple regression analysis.	
2	Skills :	
2.1	Gain some skills in probability calculation	
2.2	Gain some skills in descriptive statistics	
2.3	Gain some skills in inferential statistics	
2...		
3	Competence:	
3.1	Ability to process raw and scheduled data.	
3.2	Ability to calculate the probability of accidents related to randomized trials.	
3.3	Ability to calculate the parameters of the community .	
3.4	Ability to calculate simple correlation coefficient and regression analysis.	

C. Course Content

No	List of Topics	Contact Hours
1	Basic concepts of mathematics	8
2	Descriptive statistics	24
3	Regression and linear correlation	4
4	Random experiment and probability of an event	12
5	Random variables and their probability distribution	12
...		
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		
1.1	Statistics: Recognizing the nature and usefulness of statistics, the frequency distribution of data, data presentations, calculation of some numerical measures of data. Estimation of the average and percentage of a population.	Student-centered collaborative learning and self-learning	Homeworks and Half tests and final tests
1.2	Probability: Includes calculation of probabilities for incidents related to randomized trials, random variables and their numerical characteristics and identification of some probability distributions.	Student-centered collaborative learning and self-learning	Homeworks, midterms and final exams
...			
2.0	Skills		
2.1	Schedule data and create graphs of frequency distributions. Test the statistical hypotheses	Manual drawing and use of statistical programs	Homeworks and self-learning
2.2	Calculate the probability of accidents following some famous probability distributions.	Student-centered collaborative learning and self-learning	Homeworks and self-learning
2.3	A description of interpersonal skills and the ability to assume responsibility to be developed.	Listen, speak, ask questions and work in a collaborative team. Cooperative learning and self-learning	Discussions
2.4	Methods of assessment of students interpersonal skills and ability to take responsibility	Perform the calculations necessary to build the frequency distributions.	Homeworks
2.5	Numerical and communication skills	Calculate probabilities for events and assign some probability distributions	Solve exercises and examples
2.6	Assess students' acquisition of communication and information technology skills.	Self-learning, collaborative learning and dealing with the Web.	Homeworks, midterms and final exams
2.7	Description of motor skills (psychogenic muscle skills)	No	not available
2.8	Develop motor skills	No	not available
3.0	Competence		
3.1			
3.2			

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
...			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Duties and self-learning	Every five weeks	10%
2	Mid-term test (pans and hematic)	Seventh and twelfth week	50%
3	Final test (essay and objective)	Sixteenth week	40%
4			
5			

*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 :

- Three office hours for each faculty member included in the weekly schedule.
- Two hours per week for students who fail to complete the course.
- Hour for review

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Introduction to Probability and Statistics, Third Fourth 2019
Essential References Materials	http://www.mcgraw-hill.co.uk/custom
Electronic Materials	http://ksu.edu.sa/sites/py/ar/mpy/departments/math/Pages/stat140_vedio.aspx http://www.mcgraw-hill.co.uk/custom http://www.mathzone.com/
Other Learning Materials	1- MINITAB Student Release 17 2- SPSS student Version for windows

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms equipped with electronic platform, smart board and projector for 30 students. -A computer lab equipped with technology and equipped with computers to accommodate 30 students per student.
Technology Resources (AV, data show, Smart Board, software, etc.)	Computers equipped with statistical programs smart board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Evaluation of teaching skills	Coordinator + Student assessmen	Periodic visits + student assessment questionnaire
Evaluation of the course	Trainers + students	Seminars + student assessment questionnaire
Evaluation for lecturers	Course Coordinator + Students	Periodic visits + student assessment questionnaire

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	Course Instructor: Dr. Mohammed Khashan	Signature
	The head of the department, Dr. Shaalan Al-Qarni	Signature
Reference No.	4	
Date	21/9/2020	