



DEPARTMENT OF BOTANY  
Tentative Course Plan

Class: BS Botany Semester- 2<sup>nd</sup> Session: Fall 2019-2023

Instructor	Dr Muhammad Saqib	Email: saqibgoraya@yahoo.com
Course Title	Statistical package	Program BS
Course Number	STAT-204	Credit Hours 3(3+0)

Lecture	.....day: .... period (00:00a.m to 00: 00a.m),Room#00
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**Course Objective:**

Objectives of the course are to aware the students about statistics its types, data, sampling and population. Presentation of data including frequency distribution, diagrams, graphs, bar charts pie charts and histogram. Introduction of measures of central tendency and measures of dispersion. Sampling and sampling distribution and hypothesis testing. This course will also include regression and correlation. In last phase of this course experimental statistics will be discussed along with ANOVA of completely randomized design, randomized complete block design factorial and split designs.

**Methods of Teaching**

- Assigned readings
- Group activities & Discussion
- Audiovisual aids lectures
- Web-assisted instruction
- Student-Directed Teaching

Resource Material	<b>1. Text Books</b>		
	i.	Probability & statistics for Engineers and Scientists Ronald, W. Myers, Y. 2008, 8 <sup>th</sup> edition. Prentice Hall Publisher	
	ii.	Probability & statistics for Engineerind and the Sciences.Lay, I. devore. 2003. Dexbury Publishers	
	<b>2.Reference Books</b>		<b>3.Research Papers</b>
	i	Statistical Data Analysis G. Cowan. 1998. Clarendon and oxford.	i
	ii		ii
	<b>4.Hot Research Papers</b>		<b>5.Web Resources</b>
	i		i <a href="http://www.investopedia.com">www.investopedia.com</a>
	ii		ii <a href="http://www.khanacademy.org">www.khanacademy.org</a>

Office Help Hours	
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Grading	Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)
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Problem Session	.....day: 00 and 00 periods (0:00-00:00am), Room# 00
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**SEQUENCE OF TOPICS TO BE COVERED**

Lecturer #	Topics (outline of main topics and subtopics)	Chapter#	Tutorial/Laboratory
1	Definition of Statistics, Descriptive and Inferential statistics, population, data and Sampling.		
2	Discrete and continuous variables, collection of primary and secondary data. Rounding of a number, sources and editing of data.		
3	Presenting of data, basic principles and frequency distribution.		
4	Diagrams, graphs, bar chart, pie chart and histogram.		
5	Measures of central tendency, mean mode and median.		
6	Measures of dispersion, range, standard deviation and variance.		
7	Introduction to sampling and sampling distribution, sample design and sample frame, bias sampling and non bias sampling errors.		
8	Sampling with and without replacement, probability and non probability sampling, sampling distribution for single mean and proportion difference of means and proportions.		
9	Hypothesis testing, statistical problem and null and alternate hypothesis.		

10	Type-I and type-II errors, level of significance, test statistics, acceptance and rejection regions and general procedure for testing of hypothesis.		
11	Testing of hypothesis single population and confidence interval about the population mean and proportion for small and large samples.		
	<b>Mid Term Exam</b>	Course/Discussion from session 1 to 16	
17	Testing of hypothesis two or more populations and confidence interval about the difference of population mean and proportion for small and large samples.		
18	Analysis of variance ANOVA table		
19	ANOVA for completely randomized design CRD		
20	ANOVA for randomized complete block design RCBD		
21	ANOVA for factorial designs.		
22	ANOVA for factorial designs in CRD.		
23	ANOVA for factorial designs IN RCBD.		
24	ANOVA for split designs.		
25	ANOVA for split- split design		-
26	.Interpretation of ANOVA		-
27	Regression and correlation		-
28	Cause and effect relationship, simple linear regression, estimation of parameters		-
29	Coefficient of linear correlation its estimation and interpretation.		-
30	Multiple regression and interpretation of its parameters		
	<b>Final Term Exam</b>	Course/Discussion from session 1- 30	

**StudentEvaluation criteria:**

Attendance	5%
Workshop / Assignments/Case study	5%
Surprise Test/Sudden Test , Quizzes	5%
Class Participation	5%
Mid Term Paper	30%
Final Term paper	50%
<b>Total</b>	<b>100%</b>

**Student Responsibilities:**

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior]adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in “F Grade”. Students may prepare Sketchbook for taking notes and for references.

**Instructor/Tutor**

**Approved by:**

**Chairman**