



## QURTUBA UNIVERSITY

Of Science and Information Technology

D.I Khan, Peshawar Khyber Pakhtunkhwa, Pakistan.

<b>Course Name</b>	<b>Business Statistics</b>
<b>Course Code</b>	<b>STA106</b>
<b>Semester</b>	<b>Second</b>
<b>Credit Hours</b>	<b>03</b>
<b>Total Weeks</b>	<b>16/18</b>
<b>Total Hours</b>	<b>48/54</b>
<b>Total Marks</b>	<b>100</b>
<b>Pre-requisite</b>	<b>None</b>

### Course Objectives

- Starting with the basic concepts of data and its types, the course introduces the various methods and procedures of collecting, organizing, summarizing, presenting and analyzing the data.
- The regression and correlation analysis is used to evaluate the relationship between two or more variables. The second portion of the course focuses on the probability theory.
- From the basic probability rules to the construction of all the well-known probability distributions like binomial, hyper geometric, uniform and normal distributions are discussed in this part.
- The course will finally introduce the inferential statistics which is further divided into estimation and hypothesis testing. It deals with the drawing of conclusions about various phenomena on the basis of real data collected on sample basis. The use of appropriate methods like Z-test, T-test, F-test, Chi-square test and ANOVA are explained with examples.

### Grading Criteria

<b>Distribution</b>	<b>Weight</b>
Quizzes, Assignments, and class participation	10
Mid Term	20
Final Term	70
Total	100

### Recommended Books

- “Statistical Theory Part – I and Part – II by Sher Mohammad by Chaudary Publisher.
- Statistics 4<sup>th</sup> Edition, “Schaum’s Outline Series, McGRAW-HILL

## WEEK WISE BREAKDOWN

<b>Week</b>	<b>Description</b>
<b>1</b>	<ul style="list-style-type: none"> <li>◇ Introduction to statistics</li> <li>◇ Meaning of statistics</li> <li>◇ Main division of statistics/main objects of statistics</li> </ul>
<b>2</b>	<ul style="list-style-type: none"> <li>◇ Population and samples parameters, statistics</li> <li>◇ Discrete and continuous variables</li> <li>◇ Data and types of data</li> <li>◇ Collection of data</li> <li>◇ Collection of primary data</li> </ul>
<b>3</b>	<ul style="list-style-type: none"> <li>◇ Collection of secondary data</li> <li>◇ Frequency distribution</li> </ul>
<b>4</b>	<ul style="list-style-type: none"> <li>◇ Class limits</li> <li>◇ Class marks</li> <li>◇ Class width or interval</li> <li>◇ Class boundaries</li> <li>◇ Construction of a grouped and ungrouped frequency distt</li> </ul>
<b>5</b>	<ul style="list-style-type: none"> <li>◇ Diagrams</li> <li>◇ Simple bar chart</li> <li>◇ Multiple bar chart</li> <li>◇ Graphs</li> <li>◇ Histogram</li> </ul>
<b>6</b>	<ul style="list-style-type: none"> <li>◇ Introduction to measure of central tendency or average types of average</li> <li>◇ The arithmetic mean and properties of arithmetic means</li> </ul>
<b>7</b>	<ul style="list-style-type: none"> <li>◇ The weighted arithmetic mean, median</li> </ul>
<b>8</b>	<ul style="list-style-type: none"> <li>◇ Quartiles,percentiles, deciles, mode</li> </ul>
<b>Two Assignments + Two Test                      Mid Term Exam</b>	
<b>9</b>	<ul style="list-style-type: none"> <li>◇ The geometric mean</li> <li>◇ The harmonic mean</li> <li>◇ Relationship b/w mean, median, mode</li> </ul>
<b>10</b>	<ul style="list-style-type: none"> <li>◇ Introduction to measure of dispersion and its types</li> <li>◇ Range</li> <li>◇ Quartile deviation</li> <li>◇ Mean deviation</li> </ul>
<b>11</b>	<ul style="list-style-type: none"> <li>◇ Mean deviation</li> <li>◇ Variance and standard deviation</li> <li>◇ Coefficient of mean deviation and standard deviation</li> </ul>
<b>12</b>	<ul style="list-style-type: none"> <li>◇ Simple regression</li> <li>◇ Introduction of simple linear regression model</li> </ul>
<b>13</b>	<ul style="list-style-type: none"> <li>◇ The principle of least square</li> <li>◇ Lest square estimation</li> <li>◇ Properties of least square</li> </ul>
<b>14</b>	<ul style="list-style-type: none"> <li>◇ Introduction to correlation</li> <li>◇ Types of correlation</li> <li>◇ How to find correlation b/w two variables</li> </ul>
<b>15</b>	<ul style="list-style-type: none"> <li>◇ Introduction to regression</li> </ul>

	◇ Concept of simple linear regression line
<b>16</b>	◇ Fitting of regression line to the data
<b>Two Assignments + Two Test+ Presentation</b>	
<b>Final Term</b>	

**Learning Outcomes:**

- Explain basic statistical concepts such as statistical collection, species characteristics, statistical series, tabular and graphical representation of data, measures of central tendency, dispersion and asymmetry, correlation and regression analysis, time series analysis
- Independently calculate basic statistical parameters (mean, measures of dispersion, correlation coefficient, indexes)
- Based on the acquired knowledge to interpret the meaning of the calculated statistical indicators
- Choose a statistical method for solving practical problems