University of the Punjab
Course Outlines
Associated Degree in Commerce (Specialization in Accounting & Finance)

Semester	1st
Course Name	Business Mathematics and Statistics
Course Code	ADC 303
Credit Hours	3 Credit Hours
Prerequisites	Basics Mathematics
Follow Up	-------
Objectives to achieve	After studying Business Mathematics course the students should understand a variety of contents related to businessand they should be able to know about the practical implications ofBusiness Mathematics in business field.
Teaching Strategies	i. Lectures ii. Handouts iii. Group discussions iv. Class-room presentations v. Projects and term paper vi. Quizzes vii. Case study, reading assignment

Assessment Criteria	Mid-term (Assessment by respective College)		Final Examination (Assessment by University of the Punjab)
	40 %		60 %
	Quizzes and Tests, Assignment and Presentations, Viva, Attendance, Class Participations and discipline etc.	Written Paper	Written Paper

Weekly Lecture Plan/Syllabus

Weeks	Topics	Detail
1	Equations-I	i. Introduction to Business Mathematics ii. Linear Equation in One Unknown Variable iii. Linear Equations in Two Unknown Variables (Simultaneous Equations) iv.
2	Equations-II	i. Linear Equations in Three Variables ii. Introduction to Quadratic Equations iii. Quadratic Formula
3	Matrix	i. Order of Matrix, Types of Matrices, Addition and Subtraction of Matrices, Multiplications of Matrices, Properties of Addition and Subtraction, Determinants of Matrix,
4	Logarithms, Permutation and Combination	i. Logarithms (with Applications). How to operate roots and powers in solving problem with help of logarithms. ii. Permutation, Combinations and Binomial Expansion with their application to business problems.
5	Sequences and Series	i. Introduction, Arithmetic Progression ii. Geometric Progression
6	Percentages, Discount and Commissions	i. Percentage, Basic Problems in Percentage, , Mark up, Discount, and Commission ii. Problems Relating to the above Topics
7	Mathematics of Finance-I	i. Simple Interest and Compound Interest ii. Future Value and Present Value of Single cash Flow by applying Simple and Compound Interest iii. Financial Tables Application in Calculating Future and Present Value of Single Cash Flow
8	Mathematics of Finance-II	i. Annuity, Ordinary Annuity and Annuity Due ii. Future Value And Present Value Calculation of Both Ordinary Annuity and Annuity Due iii. Present Value of Perpetuity iv. Financial Tables Application in Calculating Future and Present Value of Annuity
9	Introduction to statistics data, frequency distribution	1. Data and its types 2. Presentation of data 3. Frequency distribution
10	Measure of central tendency	1. Mean, median mode 2. G.M and H.M 3. Quartiles, deciles and percentiles
11	Measure of skewness and dispersion,	1. Standard deviation, range, Quartile deviation and mean deviation with their coefficients, 2. Measure of skewness 3.
12	Index number and square	1. All indexes (Price Quantity and Aggregate) 2. L.I, P.I, F.I and M.I 3. Weighted index

13	Testing of Hypothesis Chi-	1. Chi-square testing (Measure of dependency)
14	ANOVA,	i. ANOVA (analysis of variance)
15	Sampling	i. Sampling with and without replacement
16	Revision and preparation week	
Primary Recommended Book		1. Z A Bowra, Business Statistics and Mathematics. 2. Cheryl Cleaves, Margie Hobbs and Jaffrey Noble, Business Math, Pearson Education Inc. 3. Syed Hassan Mirza, Business Mathematic for Management and Finance.
Additional Readings		1. Sandra Peers, Business Mathematics, Elsevier 2. L W Stafford, Business Mathematics.