

Hailey College of Banking and Finance
University of the Punjab, Lahore.

COURSE OUTLINE

(Core Course/~~Auxiliary Course~~/~~Special Course~~)

Program	BBA	Course Instructor	
Year/Semester		E-Mail	
Code	BBAH104		
Name of the Course	Business Mathematics		
Credit Hours	3		
Type	Compulsory		
Pre requisites	Students attending this course should have basic knowledge about Arithmetic and Algebra.		
Introduction			
Objectives	To acquaint the students with the techniques of Mathematics that helps in making business related decision After attending this course the students will be able to apply their knowledge of Mathematics in future: (i) Courses of Banking and Finance (ii) Business dealings.		
Contents	--		
Outcome	--		
Teaching Methodology	Lectures and Discussions		
Recommended Books	Applied Mathematics for Business and Economics and the social sciences: Frank S Budnuick		

Syllabus (Weekly Scheme) Before Mid-Term Examination

Week	Topic
1 st	<p>Introduction to the Mathematics History, Natural Numbers, Whole Numbers, Integers, Real Numbers, Rational and Irrational Numbers Variables, constants, algebraic expression, equation, roots, rectangular coordinate system</p>
2 nd & 3 rd	<p>Linear equations: Linear equations in single variable, Types of equations in single variable Graphical presentation Linear Equations involving two variables Characteristics of Linear equations Graphical characteristics, Writing the linear equation in slope-intercept form, slope and point formula and two point formula, Determining the equation of a straight line</p> <p>Quadratic Equations Solution of Quadratic Equations different method</p>
4 th	<p>Systems of linear equations and their applications Introduction Two variables Systems of Equations Elimination method, slope intercept relation & mapping Three variable system of Equations Elimination method & its graphical presentation Application</p>
5 th	<p>Linear Inequalities Introduction, types, interval notations Solution & graphical presentation Practical application</p>
6 th	<p>Quadratic Inequalities Solution of Quadratic inequalities & its mapping Applications of quadratic inequality</p>
7 th	<p>Functions Concept Simple function, solution Multivariate function, solution</p> <p>Types of function and application Constant, linear, quadratic, cubic, polynomial, rational, combination of functions, composite function, solution, application and graphical presentation</p>
8 th	<p>Application of Linear and quadratic functions: Cost and revenue function, profit function, depreciation equation, demand and supply function, equilibrium, tax function and break-even analysis</p>

Mid-Term Examination

Syllabus (Weekly Scheme) After Mid-Term Examination

Week	Topic
9 th and 10 th	Basic calculus Introduction to Basic calculus Introduction to limits & continuity Average rate of change & slope Instantaneous rate of change- an introduction to derivatives
11 th	Differentiation Basic differentiation rules Solution, interpretation and application
12 th and 13 th	Optimization methodology Higher order derivatives Additional interpretation of derivatives Concavity & inflection Maxima & minima; concept & identification Critical points; 1 st & 2 nd derivative test
14 th	Application of Optimization methodology Revenue, cost, profit and other applications
15 th and 16 th	Problems and discussion

Final Examination

Instructional Aids/Resources		<ul style="list-style-type: none"> Financial Calculator Smart Projector Video Lectures Online Case Study Database Access 			
Teaching strategies		<ul style="list-style-type: none"> Class Lectures Group Discussion Case Studies Field Surveys Assignments 			
Assessment	Marks in %	Sessional	Mid	Final	Total 100%
	Criteria	25	35	40	100
Governing Rules		<ul style="list-style-type: none"> There will be a closed-book mid-term exam (minimum duration 1 hour) and final-term exam (minimum duration 1.5 hours) in which material from lectures, assigned readings/handouts, and the textbook will be covered. The exams will test your understanding of the course material and your ability to apply the concepts learned. Prior Preparation, Regular Attendance, and Professional Participation in all classes is expected and rewarded. Come to the Class prepared to lead the class discussion for analytical interpretations, alternative strategies, and persuasive solutions. 			

Attendance Requirements	<ul style="list-style-type: none">• Students failing to maintain a minimum attendance of 75% will not be allowed to sit in Exams• It is strongly recommended that students attend every class session.
Classroom Behavior	<ul style="list-style-type: none">• In class all cell phones must be turned off or set on "silent mode." During lectures use of mobile phone or other gadgets without the permission of instructor is not allowed
Honesty Policy	<ul style="list-style-type: none">• A Participant found in cheating on any exam/ assignment/ project will receive no credit (i.e. no grade) for that exam/ assignment/ project