

Program	BS Business Education
Semester	3 rd
Credit Hours	3
Pre-requisite	None
Course Title	Business Mathematics BSBE 304
Introduction	This course is built upon the mathematical concepts, principles and techniques that are useful in business management. The main objectives of the course are to enhance students' competency in application of mathematical concepts in solving business management problems and to improve their level of quantitative approach.
Learning Outcome	After completion of this course students will be able to: 1. Understand business mathematics. 2. Develop their numerical skills which can lead to getting better jobs 3. Develop ability for logical and structured problem analysis
Course Content	<p>Unit-1 Arithmetic Refresher 1.1 Number systems 1.2 Basic operations and order of operations 1.3 Fractions, decimals</p> <p>Unit-2 Algebra Refresher 3.1 Definition, rules 3.2 Formulating equations 3.3 Expansion of expressions 3.4 Factorization, powers</p> <p>Unit-3 Equations, Linear Programming 3.1 Introduction 3.2 Graphically, supply and demand analysis, simultaneous; Quadratic: solving (factorizing, formula), simultaneous, business application 3.3 Linear programming models 3.4 Solving algebraically</p> <p>Unit-4 Functions I 4.1 Definitions, 4.2 Polynomials 4.3 Inequalities, sign diagrams, applications</p> <p>Unit-5 Functions II 5.1 Geometric properties (increasing/decreasing, concave /convex), 5.2 Shifting graphs 5.3 Inverse functions,</p> <p>Unit-6 Differentiation I Difference quotient, rules of differentiation</p> <p>Unit-7 Differentiation II</p>

	<p>Optimization (with one independent variable), second derivative</p> <p>Unit-8 Economic Applications of Functions and Derivatives Total, average, marginal costs, relationships between cost functions, revenue functions, profit maximization</p> <p>Unit-9 Economic Applications II 9.1 Integration 9.2 Indefinite, definite, economic applications</p>								
References	<p>Budnick, F. S., Quinn, S., Bowser, K., & Flaherty, E. H. (2008). <i>Applied mathematics for business, economics, and the social sciences</i>. McGraw-Hill.</p> <p>Jacques, I. (2009). <i>Mathematics for Economics and Business</i>. Pearson Education.</p> <p>Renshaw, G. (2012). <i>Maths for economics</i>. Oxford University Press.</p> <p>Sydsaeter, K., & Hammond, P. J. (2015). <i>Essential mathematics for economic analysis</i>. Pearson Education.</p> <p>Tarasov, V. E. (2020). <i>Mathematical Economics: Application of fractional calculus</i>. Springer</p>								
Teaching/ Learning Strategies	<p>Lecture</p> <p>Multimedia presentations</p> <p>Cooperative Learning</p> <p>Non creditor workshops and seminars.</p> <p>Active Learning</p>								
Evaluation Criteria	<p>Course Evaluation</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;">Sessional</td> <td style="text-align: right;">25</td> </tr> <tr> <td style="text-align: right;">Mid Semester Test</td> <td style="text-align: right;">35</td> </tr> <tr> <td style="text-align: right;">Final Test</td> <td style="text-align: right;">40</td> </tr> <tr> <td style="text-align: right;">Total</td> <td style="text-align: right;">100</td> </tr> </table>	Sessional	25	Mid Semester Test	35	Final Test	40	Total	100
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