SHORT COURSE DETAILS

1. **Name of Series**
   Diploma programme for Business

2. **Name of Course**
   Micro Award in Business Mathematics

3. **Synopsis of Course (60-word limit)**
   The module introduces participants to the fundamental aspects related to basic business mathematics

4. **For Whom?**

   - Students who are waiting for their SPM results or its equivalent
   - Students from other institutions
   - Students who have completed SPM/Certificate

5. **Course Outcomes (100-word limit)**
   By the end of the course, students will be able to:
   - Recall basic mathematical contents and analyze profit maximization and cost minimization using the basic linear programming method.
   - Recall basic operations of matrices, theory of set, and business mathematical tools.
   - Carry out basic differentiation and Integration.

6. **Delivery Mode**

   Online Lecture and tutorials. Online assessment.

7. **Duration of Course**

   Minimum 7 weeks and Maximum 14 weeks
   3 hours per week.
   Cumulative learning 1 credit hr for the total course

8. **Level of Course & Microcredential Credit Value, if any**

   Diploma/1 credit hour per subject

9. **Course Outline**

   - Basic Algebra - Real Numbers, Operations and Factoring Polynomials, Operations on Rational Expressions, Integer Exponents, Rational Exponents and Radicals and Polynomial Equations and graphs. Earth and sphere, Plans and Elevations.

- Introduction to Linear programming - Linear Inequalities in Two Variables, Linear Programming using Geometric Approach, The Simplex Method, Maximization and Minimization Problem with Constraint
- Basic Matrix Algebra-Systems of linear equations, Basic operations &Gauss-Jordan elimination
- Theory of set - Logic, Sets, Basic Counting Principles, Permutations & Combinations
- Introduction to Payroll and Commissions-Yearly salary, Hourly wages, Piece work wages, Commission, payroll deductions
- Introduction to Markup-Markup on cost, mark-up of selling price, Relationship between the Mark-ups, Markdown and shrinkage
- Introduction to Simple Interest and Compound Interests – Simple interest, Finding principle, Rate and Time, Compound interest, Effective Rate, Present value
- Introduction to Annuities and Sinking Funds – Annuities, Sinking Funds
- Basic Differentiation- Understand the idea of the gradient of a curve, use the derivative together with constant multiples, sums, differences of functions and of composite functions using the chain rule, apply differentiation of gradients, tangents and normal, increasing and decreasing functions and rate of change, locate stationary points and use it to sketch graphs.
- Basic Integration- understand integration as the reverse process of differentiation and integrate together with constant multiples, sums and differences, solve problems involving the evaluation of a constant of integration.

10. <u>Short Bio of Trainer/s (50-word limit)</u>

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