[A-3]COURSE SYLLABUS

1. Course Description (Approximately 100 words)

This course introduces basic mathematical tools required for pharmaceutical sciences that will be needed for the later professional work of the students. Specifically, this course covers basic geometrical and algebraic skills; sets and real numbers; polynomial, logarithmic, exponential and trigonometric functions and their applications; derivatives of a function of single variable and several variables and their applications; optimization problems; integration and its applications; matrices & determinants.

2. Course Goals and Objectives (Approximately 100 words)

This course deals with the basic tools of mathematics, which will enable the students to apply these tools in pharmaceutical problems.

3. Textbook (Title, Author, Publisher, Year of Publication, etc.)

1. Harshbarger, R. J., & Reynolds, J. J. Mathematical Applications for the Management, Life, and Social Sciences. USA: Brooks Cole.
2. Goldstein, L. J., Lay, D. C., & Schneider, D. I. Calculus and its Application. New Jersey: Prentice Hall International, Inc.

4. Reference

1. Hoffmann, L. D, & Bradley, G. L. Calculus for Business, Economics, and the Social and Life Sciences. New Delhi: Tata McGraw Hill.
2. Gowda, D. H. P. Pharmaceutical Mathematics with Application to Pharmacy. Hyderabad: PharmaMed Press.

5. Course Requirements and Grades

This is a 3 credit hour course. The students are required to pass this subject with at least pass grade defined by the university.

6. Course Calendar

Week	Main Content
1	Cartesian Co-ordinate System, Straight Line, , Linear Equations and Inequal
2	Quadratic Equations (Factoring Methods, the Quadratic Formula), Quadratic
3	Number of Elements in a Set, Real Numbers, Domain and Range of Functio
4	Linear Functions, Quadratic Functions, Polynomial Functions, Exponential F
5	Logarithmic Functions and their Properties, Trigonometric Functions, Limit o
6	Average Rates of Change, Instantaneous Rates of Change: The Derivative,
7	Higher Order Derivatives, Applications Related to Rate Measures, Maxima a
8	First and Second Order Partial Derivatives, Maxima and Minima of Functions
9	Indefinite Integrals, Techniques of Integration
10	Definite Integrals, Ordinary Differential Equation
11	Laplace Transforms of Some Standard Functions, Matrix Operations
12	Matrix Equations, Determinant, Inverse of a Matrix, Cramer's Rule
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