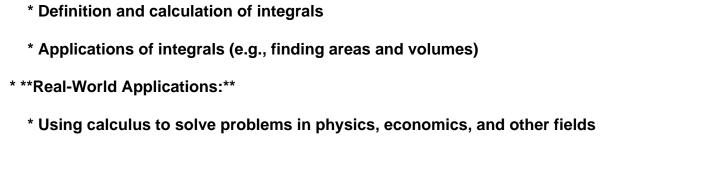
Course Title: Maths
Course Level: Undergraduate (Beginner)
Credit Value: 3
Duration: 12 weeks
Course Outline:
Module 1: Fundamentals of Mathematics
Objectives:
* To introduce students to the basic concepts and principles of mathematics.
* To develop students' critical thinking, problem-solving, and analytical skills.
Course Content:
* **Introduction:**
* Definition and scope of mathematics
* Importance of mathematics in various fields
* **Number Systems:**
* Real numbers, integers, rational numbers, irrational numbers
* Operations on different number systems
* **Algebra:**

* Basic algebraic concepts (variables, expressions, equations)
* Solving linear equations and inequalities
* Polynomials and their properties
* **Geometry:**
* Introduction to basic geometric shapes and their properties
* Measurement of angles, areas, and volumes
* **Statistics:**
* Collecting, organizing, and interpreting data
* Basic statistical concepts (mean, median, mode)
Module 2: Algebra and Trigonometry
Objectives:
* To develop students' understanding of algebraic and trigonometric concepts.
* To develop students' understanding of algebraic and trigonometric concepts. * To apply these concepts to real-world situations.
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* To apply these concepts to real-world situations. **Course Content:**
* To apply these concepts to real-world situations. **Course Content:** * **Algebra:**
* To apply these concepts to real-world situations. **Course Content:** * **Algebra:** * Systems of equations and inequalities
* To apply these concepts to real-world situations. **Course Content:** * **Algebra:** * Systems of equations and inequalities * Quadratic equations and their solutions
* To apply these concepts to real-world situations. **Course Content:** * **Algebra:** * Systems of equations and inequalities * Quadratic equations and their solutions * Exponents and logarithms
* To apply these concepts to real-world situations. **Course Content:** * **Algebra:** * Systems of equations and inequalities * Quadratic equations and their solutions * Exponents and logarithms * **Trigonometry:**

* Applications of trigonometry in real-world problems
* **Real-World Applications:**
* Solving word problems involving algebra and trigonometry
* Applications in science, engineering, and business
Interactive Element:
* Online simulations and interactive exercises to reinforce algebraic and trigonometric
concepts.
Module 3: Calculus
Objectives:
* To introduce students to the fundamental concepts of calculus.
* To develop students' understanding of functions, derivatives, and integrals.
Course Content:
* **Functions:**
* Definition and types of functions
* Graphing and analyzing functions
* **Derivatives:**
* Definition and calculation of derivatives
* Applications of derivatives (e.g., optimization, related rates)
* **Integrals:**



- **Assessment:**
- * Quizzes, assignments, and projects throughout the semester to assess understanding of concepts and application skills
- * Final exam to evaluate overall learning outcomes and analytical thinking abilities