**Calculus**

**Title:** Calculus – Course Overview  
**Duration:** 3 Months

**Course Description:**   
This course provides a conceptual and practical understanding of limits, derivatives, and integrals, essential for science and engineering fields.

**Topics Covered:**

* Limits and continuity of functions
* Differentiation rules and techniques
* Applications of derivatives (tangent, velocity, optimization)
* Integration: ant derivatives and definite integrals
* Area under curves and total accumulated change
* Fundamental Theorem of Calculus
* Introduction to differential equations (optional)

**Learning Outcomes:**

* Understand how functions change and how to model that change
* Apply calculus in motion, growth, economics, and physical sciences
* Solve basic real-world optimization and rate-of-change problems