Course Blueprint Example

Course Title
Calculus 1

Define your Ideal Audience

Target Audience: First year University students pursuing Engineering, Physics, Computer Science, or Quantitative Economics

Prerequisite Knowledge: Strong pass in high school mathematics (e.g., NSC Maths at 70%+), proficiency in algebra, functions, and trigonometry. No prior exposure to limits or derivatives

Primary Goal: To master differential calculus concepts and techniques required to successfully pass the university Calculus 1 exam and apply these tools in concurrent and subsequent core science/engineering courses.

Please take some time to review Grid Learning's Policy Guidelines.

Create Your Learning Objectives

Techniques: Students will be able to calculate the derivative of any elementary function (algebraic, trigonometric, exponential, logarithmic) using the standard rules of differentiation.

Conceptual: Students will be able to interpret the limit, the derivative, and the definite integral as fundamental concepts underlying instantaneous change and accumulation.

Application: Students will be able to model and solve real-world problems involving optimization, related rates, and linear approximation using calculus tools.

Outline Your Course Structure

Chapter 1: Foundations: Functions and Limits
(Defining Continuity & Asymptotes)
Chapter 2: The Derivative
(Tangent Lines & Rate of Change)
Chapter 3: Rules of Differentiation
(Chain, Product & Quotient Rules)
Chapter 4: Advanced Differentiation
(Implicit, Inverse, & Logarithmic)
Chapter 5: Applications of Derivatives I
(Related Rates & Linearization)
Chapter 6: Applications of Derivatives II
(Optimization & Curve Sketching)
Chapter 7: Introduction to Integration
(Antiderivatives & L'Hopital's Rule)