AT Multivariable Calculus

Overview

AT Multivariable Calculus covers topics found in a typical semester-long multivariable calculus course at university. The program focuses on multivariable calculus including visualising and working with functions of several variables, vectors and vector valued functions, differentiating functions of several variables, gradients, partial derivatives, and multiple integration of several variables. Students will finish the semester with an individual project that will connect multivariable calculus with new contexts, aligning their skills to real-world physical models.

Objectives

- Understand derivatives as rates of change, computed as a limit of ratios
- Understand integrals as a 'sum,' computed as a limit of Riemann sums

Structure

- Reflect on current knowledge of the range of topics that AT Multivariable Calculus covers and identify strengths and weaknesses
  - Develop a personalised curriculum
- Use critical thinking skills to solve complex multivariate calculus problems
- Improve time management throughout the projects
- Develop presentation skills that communicate in mathematical language

16 hour **PROGRAM**

Hour 0-1	Hour 1-6	Hour 6-10	Hour 10-15	Hour 15-16
Introduction & Reflection	Solve Calculus-Based Problems	Develop Logical Communication	Create & Develop Project	Present Final Project

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