Faculty of Science
Department of Mathematics

MA4198 PROJECT PROPOSAL (PROJECT CUM SEMINAR GROUP)

SUPERVISOR'S INFO

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PROJECT ID: PS2510-09

TITLE

Infinitesimal calculus

BRIEF DESCRIPTION OF PROJECT

Infinitesimals are often used to explain arguments in (differential and integral) calculus informally. Such explanations are usually not considered rigorous mathematical arguments. Nevertheless, they can actually be made rigorous. In this project, we see one way of doing so, using tools from mathematical logic.

EXPECTATION/S

Compare and contrast standard arguments in calculus with their nonstandard counterparts, which are phrased in terms of infinitesimals.

PREREQUISITE/S (at level 3000 or below, with at most one course at level 3000)

MA3210 Mathematical Analysis II

READING REFERENCE/S

H. Jerome Keisler. *Elementary Calculus: An Infinitesimal Approach*. Online edition, 2000. Available at https://people.math.wisc.edu/~hkeisler/calc.html.