

MA4198 PROJECT PROPOSAL (PROJECT CUM SEMINAR GROUP)

SUPERVISOR'S INFO

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PROJECT ID: PS2420-09

TITLE

Rational points on elliptic curves

BRIEF DESCRIPTION OF PROJECT

Rational points on elliptic curves are a beautiful and very classical topic in number theory, which are still a source of profound open questions today. There is a very excellent book on this subject, "Rational Points on Elliptic Curves" by Joe Silverman and John Tate, and the goal of this project will be for students ro read this book and learn this subject.

EXPECTATION/S

Students will be expected to read and internalize the material in Silverman-Tate. Basic knowledge of number theory and algebra will be assumed. By the end of the module, students should understand the proofs of the major theorems in ST, and they should be able to do computations with rational points on elliptic curves (both on paper and with the help of a computer).

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

MA2202, MA3201

READING REFERENCE/S

"Rational Points on Elliptic Curves" by Joe Silverman and John Tate