

COURSE ANNOUNCEMENT

FALL 2008

MAT 598

Topics in Elliptic Curves

Instructor:	Andrew Bremner
Time:	12:00 - 1:15 Tuesday & Thursday
Location:	PSY 161
Class Number:	85347
Credits:	3

Course Description: This course will be an introduction to the theory of elliptic curves (essentially curves of genus 1). We shall work through chunks of Silverman's book "The Arithmetic of Elliptic Curves", to cover Algebraic Curves, Geometry, Curves over Finite Fields, Curves over Global Fields, Computing the Mordell-Weil Group, and the Birch and Swinnerton-Dyer Conjecture.

It is my intention also to cover a brief introduction to the theory of curves of genus 2, for which the reference will be the Cassels & Flynn book "Prolegomena to a middlebrow arithmetic of curves of genus 2". Topics will include Construction of the Jacobian, and hopefully some theory and examples in computing the Mordell-Weil group on such Jacobians.

Prerequisites: a first graduate course in Abstract Algebra.

It is likely the course will involve active student participation in presenting material from the text.