INFO SHEET

November 30, 2010

QUEEN'S UNIVERSITY AT KINGSTON
Department of Mathematics and Statistics
http://www.mast.queensu.ca

CALENDAR		
Wednesday, December 1	**Department Meeting** **Time: 3:30 p.m.** **Place: Jeffery 234**	Minutes to be circulated
Wednesday, December 1	**Curves Seminar** **Time: 3:30 p.m. – 5:30 p.m.** **Place: Jeffery 319**	**Speaker:** Tony Geramita, Queen's University **Title:** Zero dimension non-reduced subschemes of P^n, called "fat points" **Abstract Attached**
Friday, December 3	**Number Theory Seminar** **Time: 11:30 a.m. – 12:20 p.m.** **Place: Jeffery 422**	**Speaker:** Montserrat Alsina, McGill and Catalunya **Title:** Binary forms, Shimura curves and Special CM points **Abstract Attached**
Friday, December 17	**Conference Room** **Time: 10:00 a.m.** **Place: Jeffery 521**	**Ph.D. Oral Student:** Elsa Hansen **Title:** Applications of Optimal Control Theory to Infectious Disease Modeling **Supervisor:** T. Day
Friday, December 17	**Conference Room** **Time: 2:00 p.m.** **Place: Jeffery 521**	**Ph.D. Oral Student:** Amy Hurford **Title:** The evolution of mimicry in parasites **Supervisors:** P. D. Taylor, T. Day
Tuesday, December 21	**Conference Room** **Time: 10:00 a.m.** **Jeffery 521**	**Ph.D. Student:** Patrick Reynolds **Title:** Hamiltonian Systems of Hydrodynamic Type **Supervisor:** O. I. Bogoyavlenskij

Items for the Info Sheet should reach Anne (burnsa@mast.queensu.ca) by noon on Monday. The Info Sheet is published every Tuesday.

To be included on the exam cover page: PLEASE NOTE: "Proctors are unable to respond to queries about the interpretation of exam questions. Do your best to answer exam questions as written."

Wednesday, December 1, 3:30 p.m. Jeffery 319 **Curves Seminar**
Speaker: Tony Geramita
Title: Zero dimension non-reduced subschemes of P^n, called "fat points"

Abstract: I will discuss some zero dimension non-reduced subschemes of P^n, called "fat points" and explain their connection to the solution of the 100 year old problem of Waring for Polynomials. This will involve a discussion of Macaulay's notion of Inverse Systems as well as come notions from commutative algebra. All of these notions will be defined and (partially) explained, hopefully enough so that an idea is clear about all the open problems that still remain in this area.

Friday, December 3, 11:30 a.m. Jeffery 422 **Number Theory Seminar**

Speaker: Montserrat Alsina

Title: Binary forms, Shimura curves and Special CM points

Abstract: In the talk we explore relationships between binary quadratic forms, Shimura curves and some special complex multiplication points, as a survey of our results. We use the arithmetic of quaternion algebras in order to develop a classification theory for primitive binary quadratic forms with semi-integer coefficients. In particular, the non ramified case corresponding to $\Gamma_0(N)$ recovers the known theory. We get hyperbolic uniformizations of Shimura curves, helpful to represent the special CM points and define a general concept of reduced binary quadratic forms, although they have non integer coefficients. Explicit examples on small ramified cases are shown.