

PURE MATH 945: ARITHMETIC DYNAMICS

- Professor: Jason Bell
- Office: MC 5057
- Office hours: M 11:30–1:30; Tu 10:30–11:30
- Email: jpbell@uwaterloo.ca
- Text: Course notes to be distributed
- Course website: <http://www.math.uwaterloo.ca/~jpbell/945.html>

MATERIAL

Overview of the dynamical Mordell-Lang problem, Linear recurrence sequences, Polynomial-exponential Diophantine equations, Background from Algebraic Geometry, Valuations, the Skolem-Mahler-Lech theorem, Étale maps and a geometric reformulation of the Skolem-Mahler-Lech theorem, Noetherian topological spaces, Automata and Derksen's positive characteristic analogue of the Skolem-Mahler-Lech theorem (Depending on how the course goes, some topics may be omitted or some additional topics may be added.)

DETERMINATION OF GRADES

Grades will be determined from the following data:

- assignments (60%);
- final project (40%).

Assignments will be posted on the course website. Your assignment grade will be determined by averaging the grades from *every* assignment. Assignments are to be handed in at the end of class on the day they are due. Late assignments will not be accepted. The final project will be due on the last day of class.