We explore quantitative arithmetic aspects, such as those considered in analytic number theory of the ring of integers, in the setting of the ring of polynomials in one variable over a finite field.

For example, we will be interested in questions on factorization statistics: how many of the elements in an arithmetic progression are prime? How many twin primes are there?

We will also take a look at counting problems of arithmetic objects such as quadratic function fields whose class group contains a given finite abelian group.

Proofs will combine techniques from basic algebra, analytic number theory, (algebraic) geometry, and topology.

I will try to assume as little background as possible throughout.

Zoom link to lectures (password is 761837):

https://harvard.zoom.us/j/95229776723?pwd=N1pXNERFRnhMYnNlWkptSWpud0Q1QT09

I am available at mshusterman@math.harvard.edu

Office hours are by appointment.

Lectures.pdf

HighMomentsSurvey.pdf

Video of first lecture