

MATH 616A Additive Combinatorics 2015 Spring

Instructor: Jozsef Solymosi

Office: MATH 220

Schedule: TTh 12:30-14:00

Room: MATX 1118

Course book:

[Additive Combinatorics](#)

Notes (There are various notes available on the net, each has a focus on different subjects of Additive Combinatorics)

- [Soundararajan](#)
- [Ruzsa](#)
- [Laba](#)
- [Solymosi](#)
- [Spectral method.](#)
- [Szemerédi's Regularity Lemma](#)
- [wikipedia](#)

There will be HW-s, a take home midterm and a take home final.

Problem Sets

- Problem Set 1 (Due January 22)
 1. Find a good upper bound on the function, $F(k,n)$, where every subset of the first n natural numbers of size $F(k,n)$ contains a Hilbert cube of dimension k and $F(k,n)$ is the minimal such number.
 2. Find a good lower bound on the function $F(k,n)$.

For both questions you can redo what we sketched in class. Try to improve the bounds then.