CO 739 Arithemetic and Geometric Combinatorics

Instructor: Peter Nelson

1:30-2:20 MWF QNC 1507

We will discuss a range of topics related to finding nice geometric and arithmetic structures, such as lines and solutions to linear equations, inside unstructured subsets of nice objects such as groups, finite vector spaces and sets of words. Topics covered will include the Hales-Jewett Theorem, Kneser's Theorem, geometric Erdos-Stone and Ramsey theorems, applications of the polynomial method, and discrete Fourier analysis. Students will be expected to read recent papers on these topics and others, and to present them to the class.