Clusters at a Glance: Mathcamp 2020

Cluster	Week 1 (9 AM – 12 PM)	Week 2 (9 AM – 12 PM)	Week 3 (9 AM – 12 PM)	Week 4 (9 AM – 12 PM)
Algebra and geometry	Cubic curves 🌶🌶🌶 (Mark)	Introduction to ring theory 🌶🌶🌶 (Eric)	Geometry of lattices 🌶🌶🌶 (*J-Lo*)	Solving equations with origami 🌶🌶 (Eric)
Counting things	Determinantal formulas 🌶🌶 (Kayla); Hyperplane arrangements 🌶 (Emily)	Combinatorics of tableaux 🌶🌶🌶 (Emily & Kayla)	Regular expressions and generating functions 🌶🌶 (Linus); Extremal set theory: intersecting families 🌶 (Neeraja)	
Graph theory	Introduction to graph theory 🌶🌶 (Misha)	Graphs on surfaces 🌶🌶 (Marisa); Ramanujan graphs and number theory 🌶🌶🌶🌶 (*Dan Gulotta*); Conflict-free graph coloring 🌶🌶 (Pesto)	Spectral graph theory 🌶🌶 (Ania)	Brooks' theorem blues 🌶🌶🌶 (Misha); Extremal graph theory 🌶🌶🌶 (Mia)
Group theory	An inquiry-based approach to group theory 🌶🌶 (Katharine)	The Rubik's cube group 🌶🌶 (Alan & Dennis)	Representation theory 🌶🌶🌶🌶 (TBA); Grammatical group generation 🌶 (Eric)	Representation theory 🌶🌶🌶🌶 (TBA)
Math and computers	Teaching math to computers 🌶🌶🌶 (Apurva); Fourier something something boolean functions 🌶🌶🌶 (Tim!)	Modeling computation 🌶🌶 (Mia)		Complexity theory 🌶🌶 (Linus)
Number theory		Introduction to number theory 🌶🌶🌶 (Mark)	Congruences of Bernoulli numbers and zeta values 🌶🌶🌶🌶 (Eric)	(Relatively) prime complex numbers 🌶🌶🌶 (Emily); Fair squares (mod p) 🌶🌶 (Maya)
Probability and statistics	The bell curve 🌶🌶🌶 (Mira)	Causal inference 🌶 (Mira); Markov chains and random walks 🌶🌶🌶 (Misha)	Information theory 🌶🌶🌶 (Mira)	
Real analysis	Integration on manifolds 🌶🌶🌶🌶 (Neeraja); Introduction to analysis 🌶🌶 (Alan)	Hilbert's space-filling curve 🌶🌶 (Ben); Weierstrass approximation 🌶🌶 (Neeraja); Cantor, Fourier, and the first uncountable ordinal 🌶🌶🌶🌶 (Ben)	Bairely complete 🌶🌶🌶 (Ben); Fourier analysis 🌶🌶 (Alan)	The Kakeya needle problem 🌶🌶 (Alan); Uncertainty principle 🌶🌶🌶🌶 (Neeraja)
Topology		Clopen for business: an inquiry-based approach to point-set topology 🌶🌶🌶 (Katharine)	FUNdamental groups and friends: an introduction to topological invariants 🌶🌶🌶 (Katharine)	So you like them triangles? 🌶🌶🌶 (Dennis)