

Mathcamp 2022 Tentative Four-Week Schedule

Time	Week 1	Week 2	Week 3	Week 4	
9 am	[HR] Computability theory 🌀🌀🌀 (Steve)	Algorithms for large primes 🌀 (Zach Abel)	2-adic computer science 🌀🌀 (Eric)	A curious connection between p-adic distances and triangulations of a square 🌀 (Charlotte)	
	Introduction to graph theory 🌀 (Narmada)	Extremal graph theory 🌀🌀 (Yuval)	Measuring fairness 🌀 (Moon Duchin)	[HR] Algebraic solutions to Painlevé VI 🌀🌀 (Aaron Landesman)	
	Machine geometry 🌀 (Misha)	On beyond i 🌀 (Steve)	Representation theory (week 1) 🌀🌀 (Mark)	[HR] Ancient Greek mathematics 🌀 (Yuval)	
	Number theory 🌀 (Mark)	Ring theory 🌀 (Kayla)	Schubert calculus 🌀 (Kayla)	[HR] Problem solving: cheating in geometry 🌀 → 🌀🌀 (Zack)	
	The answer is χ 🌀 (Assaf)	The residue theorem 🌀 (Kevin)	Some basic point-set topology and measure theory 🌀 (Zoe)	The distribution of prime numbers 🌀 (Viv)	
10 am	Cluster algebras from surfaces 🌀🌀 (Kayla)	Bonus group theory part 2 🌀 (Ben)	Diophantine approximation 🌀 (Travis)	Algebraic topology: homology 🌀 (Zoe)	
	Combinatorics 🌀 (Mark)	Equidistribution 🌀 (Viv)	Nonstandard analysis 🌀 (Aaron)	Combinatorial convex geometry 🌀 (Travis)	
	Complexity theory 🌀 (Linus)	Lehmer factor stencils 🌀 (Aaron and Eric)	On beyond on beyond i 🌀 (Assaf)	TBA i ? (Mark)	
	Introduction to linear algebra 🌀 (Eric)	Quantum computation 🌀 (Andrew Guo)	Special relativity 🌀 (Nic)	The abc's of polynomialland 🌀 (Eric)	
	The geometry of music 🌀 → 🌀 (Emily)	The Hales–Jewett theorem 🌀🌀 (Misha)	Szemerédi's {theorem, regularity lemma} 🌀🌀 (Yuval)	The satisfiability problem 🌀 (Misha)	
11 am	Degree theory 🌀 → 🌀🌀 (Zoe)	Counter? I hardly know 'er! 🌀 (Narmada and Travis)	Arrow's impossibility theorem 🌀 (Ben)	Buffon's needle 🌀 (Ben)	Cantor before set theory 🌀🌀 (Ben)
	Dynamical systems for the calculus-averse 🌀 (Travis)	Erdős' distinct distance problem in the plane 🌀 (Neeraja Kulkarni)	Commutative algebra and algebraic geometry 🌀 (Mark)	Finite fields 🌀 (Aaron)	
	[HR] Intro to real analysis: epsilons and deltas 🌀 (Charlotte)	My two favourite type of sets: Cantor sets and Kakeya sets 🌀 (Charlotte)	Curves that classify geometry problems 🌀 (J-Lo)	Knot theory 🌀 (Emily and Kayla)	
	Introduction to group theory 🌀 (Susan)	Teichmüller theory of the torus 🌀 (Arya and Assaf)	The 17 wallpaper patterns 🌀 (Emily)	Zero knowledge proofs 🌀 (Dan Zaharopol)	Mathematical billiards 🌀 (Arya)
	Overly convoluted plans 🌀 (Ben)	The continuum hypothesis (week 1) 🌀🌀 (Susan)	[HR] Ultrafilters and combinatorics 🌀🌀 (Steve)	Representation theory (week 2) 🌀🌀 (Mark)	
1 pm	Crash course 🌀 (Assaf)	Brouwer's fixed point theorem 🌀 (Zoe)	Hyperbolic geometry 🌀 (Arya)	Baire necessities for Banach–Tarski 🌀🌀 (Narmada)	
	[HR] Formal proof verification in Lean 🌀 (Aaron)	Hyperplane arrangements 🌀 → 🌀 (Emily)	Infinite groups are weird 🌀 (Narmada)	Chaotic dynamics and elephant drawing 🌀 (Ben)	
	Jacobi sums 🌀🌀 (Dave Savitt)	Information theory 🌀 (Linus)	Computer-aided design 🌀 (Elizabeth Chang-Davidson)	Machine learning (NOT neural networks) 🌀 (Linus)	Game theory, traffic, and the price of anarchy 🌀 (Assaf)
	Martingales 🌀 (Yuval)	Grammatical group generation 🌀 (Eric)	Problem solving: graph theory 🌀 (Misha)	Introduction to Galois theory 🌀 (Sim)	
	[HR] PL topology 🌀 (Arya)	[HR] The category of sets 🌀 (Nic)	The continuum hypothesis (week 2) 🌀🌀 (Susan)	Metric spaces 🌀 (Steve)	

Key: [HR]—Homework Required