Class classifications

This is a rough classification of classes into areas of math. All the classes listed under a given topic are thematically related to each other, but they might appear under more than one heading! We made this list to help you see "class trajectories" in the schedule which might not be apparent at first glance, and we hope that it will be useful when you choose your classes.

Algebra

Abstract algebra

- (re)Intro to Polynomials ..... Week 1
- Linear Algebra ..... Week 1
- Problem Solving: Inequalities ..... Week 1
- Ring Theory ..... Week 1
- Galois Cohomology ..... Week 2
- Absolute Values ..... Week 3
- Lie Algebras ..... Week 3
- Number Theory Polynomials ..... Week 3
- Representation Theory ..... Week 3–4
- Advanced Linear Algebra ..... Week 4
- Galois Theory ..... Week 4
- Laurent Phenomenon ..... Week 4

Algebraic Geometry

- Ring Theory ..... Week 1
- Tropical Curves ..... Week 2

Group Theory

- Classifying Symmetry ..... Week 1
- Intro Groups ..... Week 1
- Abel's Theorem ..... Week 1–5
- Banach-Tarski Paradox ..... Week 2
- Fundamental Group ..... Week 2
- Galois Cohomology ..... Week 2
- Reflection Groups ..... Week 2
- Braid Group ..... Week 3
- Classifying Spaces ..... Week 3
- Representation Theory ..... Week 3–4
- Galois Theory ..... Week 4
- Homotopy Theory ..... Week 4
- Hyperbolic Geometry ..... Week 4
- Tiling Problems ..... Week 4

Number Theory

- Algorithms in Number Theory ..... Week 1
- Galois Cohomology ..... Week 2
- Continued Fractions ..... Week 2–3
- Absolute Values ..... Week 3
- Number Theory Polynomials ..... Week 3
- The Factorial Function ..... Week 3
- Apollonian Circle Packings ..... Week 4
- Galois Theory ..... Week 4

Analysis

- Differentiation under the Integral Sign ..... Week 1
- Infinitesimals ..... Week 1
- Measure and Martin's Axiom ..... Week 1
- Metric Spaces ..... Week 1
- Multivariable Calculus ..... Week 1
- Time-Frequency Analysis ..... Week 1
- Chromatic Numbers ..... Week 2
- Summing Series ..... Week 2
- Functions of a Complex Variable ..... Week 2–3
- Fundamental Theorem of Calculus in Dim n .. Week 3
- Lebesgue Measure ..... Week 3
- Normal Numbers ..... Week 4
- Shortest Distance ..... Week 4
- The Hidden Dance of PDEs ..... Week 4

Applied Math and Physics

- Geometric Optics ..... Week 1
- Special Relativity ..... Week 1
- Statistical Modelling ..... Week 1
- Time-Frequency Analysis ..... Week 1
- Markov Chains ..... Week 2
- Unsolved Problems in Astronomy ..... Week 2
- Network and Combinatorial Optimization ..... Week 3
- Many Facets of Optimization ..... Week 4
- Shortest Distance ..... Week 4

Combinatorics

Discrete Math

- Algorithms ..... Week 1
- Differentiation under the Integral Sign ..... Week 1
- Aperiodic Tiling ..... Week 2
- Counting the Faces of Cut-Up Spaces ..... Week 2
- Generating Functions ..... Week 2
- Problem Solving: Combinatorics ..... Week 2
- Summing Series ..... Week 2
- Tower of Hanoi ..... Week 2
- Mathematical Magic ..... Week 3
- Laurent Phenomenon ..... Week 4
- Voting Theory ..... Week 4

Graph Theory

- Coloring Maps ..... Week 2
- Problem Solving: Combinatorics ..... Week 2
- Szemeredi's Regularity Lemma ..... Week 3
- Graphs on Surfaces ..... Week 4
- Unlikely Maths ..... Week 4

Computer Science

- Algorithms ..... Week 1
- Algorithms in Number Theory ..... Week 1
- Intro Complexity ..... Week 2
- Turing and his Work ..... Week 2
- Automated Proofs in Geometry ..... Week 3
- Cryptography ..... Week 3
- Error-Correcting Codes ..... Week 3
- Exploring Equality ..... Week 3
- P vs NP ..... Week 4

Geometry and Topology

- Classifying Symmetry ..... Week 1
- Metric Spaces ..... Week 1
- Non-classical Constructions ..... Week 1
- Point-set Topology ..... Week 1
- Abel's Theorem ..... Week 1–5
- Banach-Tarski Paradox ..... Week 2
- Coloring Maps ..... Week 2
- Counting the faces of cut-up spaces ..... Week 2
- Fundamental Group ..... Week 2
- Ham Sandwich Theorems ..... Week 2
- Intro Knot Theory ..... Week 2
- Automated Proofs in Geometry ..... Week 3
- Braid Group ..... Week 3
- Classifying Spaces ..... Week 3
- Hyperbolic Geometry ..... Week 3
- Shortest Distance ..... Week 3
- Apollonian Circle Packings ..... Week 4
- Fundamental Theorem of Calculus in Dim n .. Week 4
- Graphs on Surfaces ..... Week 4
- Homotopy Theory ..... Week 4
- Tiling Problems ..... Week 4

History of Math

- Turing and his Work ..... Week 2
- History of Math ..... Week 3
- Development of Probability ..... Week 4

Logic and Foundations

- Compactness in Logic ..... Week 1
- Infinitesimals ..... Week 1
- Measure and Martin's Axiom ..... Week 1
- Banach-Tarski Paradox ..... Week 2
- Exploring Equality ..... Week 3
- Ordinal Arithmetic ..... Week 3
- Category Theory in Sets ..... Week 4
- Normal Numbers ..... Week 4
- Ultrafilters ..... Week 4

Miscellaneous

- Mathcamp Crash Course ..... Week 1
- Trail Mix ..... Week 4