

<u>Course Code</u>	<u>Course Title</u>	<u>Instructor</u>	<u>Undergrad Prerequisites</u>
MAT1060 F	Partial Differential Equations I	Ignacio Uriarte-Tuero	MAT354H1/MAT457H1 (concurrent accepted), MAT244 (80%)/ MAT267H1 (70%), strongly recommended MAT351Y1
MAT1061 S	Partial Differential Equations II	Tristan Collins	MAT1060H, MAT457H1
MAT110H F	Algebra I	Florian Herzig	MAT347Y1
MAT1101 S	Algebra II	Daniel Litt	MAT1100H
MAT1300 F	Differential Topology	Marco Gualtieri	MAT257, MAT240, MAT327, MAT347, MAT267
MAT1301 S	Algebraic Topology	Dror Bar-Natan	327H1, 347Y1
MAT1600 F	Mathematical Probability I	Benjamin Landon	MAT377H1
MAT1601 S	Mathematical Probability II	Giulio Tiozzo	MAT1600H
MAT1850 S	Linear Algebra and Optimization	Mary Pugh	APM462H1/(MAT337H1/MAT357H1, MAT224H1/MAT247H1), APM346H1/MAT351Y1
MAT1304 S	Topics in Combinatorics: Algebraic Gems in Theoretical Computer Science and Discrete Mathematics	Shubhangi Saraf	MAT344H1/MAT347Y1/CSC463H1/APM461H1
MAT1306 F	The Discrete Mathematics Toolkit: Expanders and pseudorandom graphs	Swastik Kopparty	APM461H1/ (MAT347Y1, MAT377H1)
MAT1500 S	Advanced Topics in Graph Theory - The Probabilistic Method	M. Molloy	permission of the instructor

MAT1045 S	Topics in Ergodic Theory: Randomness in Groups	Kasra Rafi	MAT327, MAT334/MAT354, MAT337/MAT357, at least 1 (one) prior graduate course
MAT1062 F	Topics in PDE I: Introduction to Nonlinear Evolution equations	Fabio Pusateri	MAT1060H, MAT457H1
MAT1103 F	Topics in Algebra I: Introduction to Algebraic D-modules	Alexander Braverman	TBD
MAT1126 S	Lie Groups and Hamiltonian PDEs	Boris Khesin	MAT367H1, MAT301H1
MAT1128 F	Topics in Probability: Gaussian random measures	Balint Virag	MAT1601H
MAT1191 F	Topics in Algebraic Geometry: Toric Geometry and Newton Polyhedra	Askold Khovanskii	MAT247H1/MAT347Y1, MAT401H1, MAT354H1
MAT1192 S	Advanced Topics in Algebraic Geometry: p-adic Motives	Elden Elmanto	MAT448H1
MAT1210 F	Topics in Number Theory: Class Field Theory	Ila Varma	MAT415H1/MAT347Y1/MAT1200H
MAT1210 S	Topics in Algebraic Geometry: Shimura curves, geometry and arithmetic	Stephen Kudla	MAT347Y1, MAT354H1
MAT1304 F	Topics in Combinatorics: Extremal combinatorics	Lior Gishboliner	MAT344H1
MAT1305 F	Topics in Geometric Topology: Geometry, Arithmetic, and Dynamics of Discrete	Nikolay Bogachev	MAT223H1/MAT240H1, MAT347Y1, MAT367H1, MAT402H1/MAT403H1, MAT336H1/MAT357H1
MAT1314 S	Introduction to Noncommutative Geometry	George Elliott	MAT436H1/MAT437H1/permission of the instructor
MAT1344 F	Symplectic Geometry	Eckhard Meinrenken	MAT367H1

MAT1347 F	Topics in Symplectic Geometry and Toplogy: Microlocal sheaf theory and symplectic topology	Nick Rozenblyum	MAT1300H, MAT1301H
MAT1351 F	Topics in Homotopy Theory: Rational homotopy theory with geometric applications	F. Manin	MAT1301H, MAT367H1
MAT1435 S	Topics in Set Theory: Forcing and it's Applications	Stevo Todorcevic	MAT409H1
MAT1510 F	Deep Learning: Theory & Data Science	Vardan Papyan	MAT223H1/MAT240H1, MAT235Y1/MAT237Y1/MAT257Y1, MAT244H1/MAT267H1, (STA237H1, STA247H1/STA257H1, STA261H1/MAT377H1)
MAT1525 S	Topics in Inverse Problems and Image Analysis: Variational Methods in Imaging and Generative Neural Networks	Adrian Nachman	TBD
MAT1800 F	Mehtods of Applied Mathematics	Kirill Serkh	MAT336H1/MAT337H1/MAT357H1
MAT1845 F	Dynamical Systems: Introduction to ergodic theory	Wenyu Pan	MAT357H1, MAT457H1, MAT458H1
MAT1845 S	Dynamical Systems: Topics in arithmetic dynamics	M. Mavraki	permission of the instructor
MAT1855 F	Mathematical Problems in Economics	Robert McCann	MAT357, APM346H1/MAT351Y1