

Curriculum

☐ Undergraduate Course

Classification	Subject No.	Subject Name	Lecture:Lab.:Credit (Homework)	Semester	Remark
Mandatory Basic	MA 101	Calculus I	3:1:3 (6)	Spring	
	MA 103	Honor Calculus I	3:1:3 (6)	Spring	
	MA 102	Calculus II	3:1:3 (6)	Fall	
	MA 104	Honor Calculus II	3:1:3 (6)	Fall	
Elective Basic	MA 100	Mathematics with Computer Lab	1:6:3 (6)	Spring, Fall	
	MA 111	Introduction to Linear Algebra	3:1:3 (6)	Spring, Fall	
	MA 201	Differential Equations and Applications	3:1:3 (6)	Spring	
	MA 202	Applied Mathematical Analysis	3:1:3 (6)	Fall	
Elective Major	MA 212	Linear Algebra	3:0:3 (6)	Fall	
	MA 241	Analysis I	3:2:4 (6)	Spring	
	MA 311	Modern Algebra I	3:2:4 (6)	Spring	
	MA 321	Introduction to Differential Geometry	3:2:4 (6)	Fall	
	MA 331	Topology	3:2:4 (6)	Spring	
	MA 341	Complex Variables	3:0:3 (6)	Spring	
	MA 210	Introduction to Number Theory	3:0:3 (6)	Spring	
	MA 242	Analysis II	3:2:4 (6)	Fall	
	MA 250	Probability and Statistics	3:1:3 (6)	Spring, Fall	*AM250
	MA 260	Discrete Mathematics	3:0:3 (6)	Spring	
	MA 270	Logic and Set Theory	3:0:3 (6)	Fall	
	MA 271	Computational Geometry and Computer Graphics	3:0:3 (6)	Spring, Fall	
	MA 312	Modern Algebra II	3:0:3 (6)	Fall	
	MA 365	Introduction to Numerical Analysis	3:2:4 (6)	Fall	*AM321
	MA 370	Information Mathematics	3:2:4 (6)	Spring, Fall	
	MA 411	Introduction to Cryptography	3:0:3 (6)	Fall	
	MA 420	Analysis on Manifolds	3:0:3 (6)	Spring	
	MA 430	Combinatorial Topology	3:0:3 (6)	Fall	
	MA 440	Introduction to Partial Differential Equations	3:0:3 (6)	Fall	*AM432
	MA 441	Lebesgue Integral Theory	3:0:3 (6)	Spring	
	MA 450	Probability Theory and its Applications	3:0:3 (6)	Spring	
	MA 455	Mathematical Statistics	3:0:3 (6)	Spring	
	MA 460	Combinatorial Theory	3:0:3 (6)	Fall	
	MA 465	Matrix Computation and Application	3:2:4 (6)	Fall	
	MA 470	Matrix Groups	3:0:3 (6)	Spring	
	MA 471	Computational Mathematics of Financial Derivatives	3:0:3 (6)	Spring, Fall	
	MA 480	Topics in Mathematics	3:0:3 (6)	Spring, Fall	
Research	MA 490	Research in Mathematics	0:6:3 (6)	Spring, Fall	
	MA 495	Individual Study	0:6:1	Spring, Fall	
	MA 496	Mathematics Seminar	1:0:1	Spring, Fall	

※ Course of 400 and 500 level can be taken by students in either undergraduate or master's program

* These courses can be replaced by taking the marked course

□ Graduate Course

Classification	Subject No.	Subject Name	Lecture:Lab.:Credit (Homework)	Semester	Remark
Elective	MA 511	Algebra I	3:0:3 (6)	Spring	
	MA 520	Differential Geometry I	3:0:3 (6)	Fall	
	MA 531	Algebraic Topology I	3:0:3 (6)	Spring	
	MA 540	Real Analysis	3:0:3 (6)	Fall	*AM541
	MA 541	Complex Function Theory	3:0:3 (6)	Spring	*AM542
	MA 641	Functional Analysis	3:0:3 (6)	Spring	*AM641
	MA 500	Applied Algebra	3:0:3 (6)	Fall	
	MA 501	Applied Real and Complex Analysis	3:0:3 (6)	Fall	
	MA 510	Number Theory	3:0:3 (6)	Spring	
	MA 512	Algebra II	3:0:3 (6)	Fall	
	MA 513	Combinatorics	3:0:3 (6)	Fall	
	MA 521	Differential Geometry II	3:0:3 (6)	Spring	
	MA 530	Differential Topology	3:0:3 (6)	Fall	
	MA 532	Algebraic Topology II	3:0:3 (6)	Fall	
	MA 551	Applied Probability	3:0:3 (6)	Fall	*AM551
	MA 565	Numerical Analysis	3:0:3 (6)	Fall	*AM520
	MA 567	Approximation Theory	3:0:3 (6)	Spring	
	MA 568	Symbolic Dynamics	3:0:3 (6)	Fall	
	MA 569	Stochastic Analysis in Financial Market Models	3:0:3 (6)	Spring, Fall	
	MA 611	Algebraic Geometry I	3:0:3 (6)	Spring	
	MA 612	Algebraic Geometry II	3:0:3 (6)	Spring	
	MA 613	Lie Algebra	3:0:3 (6)	Spring	
	MA 620	Lie Groups	3:0:3 (6)	Spring	
	MA 621	Riemannian Geometry	3:0:3 (6)	Fall	
	MA 630	Geometric Topology	3:0:3 (6)	Spring	
	MA 631	Homotopy Theory	3:0:3 (6)	Spring	
	MA 640	Harmonic Analysis	3:0:3 (6)	Spring	*AM643
	MA 643	Theory of Generalized Functions	3:0:3 (6)	Fall	*AM644
	MA 650	Probability Theory	3:0:3 (6)	Spring	
	MA 665	Numerical Analysis of Partial Differential Equations	3:0:3 (6)	Spring	*AM620
	MA 710	Representation Theory	3:0:3 (6)	Spring	
	MA 711	Cryptography and Coding Theory	3:0:3 (6)	Spring	
	MA 712	Algebraic Number Theory	3:0:3 (6)	Spring	
	MA 730	Knot Theory	3:0:3 (6)	Fall	
	MA 731	Transformation Group Theory	3:0:3 (6)	Spring	
	MA 740	Ergodic Theory	3:0:3 (6)	Spring	
	MA 741	Advanced Complex Function Theory	3:0:3 (6)	Spring	
	MA 743	Theory of Partial Differential Equations	3:0:3 (6)	Spring	
	MA 744	Nonlinear Differential Equations	3:0:3 (6)	Spring	
	MA 745	Ordinary Differential Equations	3:0:3 (6)	Spring	
	MA 750	Theory of Stochastic Processes	3:0:3 (6)	Fall	
	MA 765	Finite Element Method	3:0:3 (6)	Fall	
	MA 880	Topics in Mathematics	3:0:3 (6)	Spring, Fall	
Research	MA 960	M.S. Thesis		Spring, Fall	
	MA 965	Independent Study in M.S.		Spring, Fall	
	MA 966	M.S. Seminar	1:0:1	Spring, Fall	
	MA 967	M.S. Thesis Seminar	1:0:1	Spring, Fall	
	MA 980	Ph.D. Thesis		Spring, Fall	
	MA 986	Ph.D. Seminar	1:0:1	Spring, Fall	
	MA 987	Ph.D. Thesis Seminar	1:0:1	Spring, Fall	

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