

Table of Curriculum (Undergraduate Program)

Classification	Subject No.	Subject Code	Subject Name	Lecture : Lab : Credit (Homework)	Semester	Remark
Elective	MAS100	25.100	College Mathematics	3:1:3		
Mandatory Basic	MAS101	25.101	Calculus I	3:1:3(6)		
	MAS102	25.102	Calculus II	3:1:3(6)		
	MAS103	25.103	Honor Calculus I	3:1:3(6)		
	MAS104	25.104	Honor Calculus II	3:1:3(6)		
Elective Basic	MAS109	25.109	Introduction to Linear Algebra	3:1:3(6)		
	MAS110	25.110	Linear Algebra for Data Science	3:1:3(6)		→MAS109*
	MAS201	25.201	Differential Equations and Applications	3:1:3(6)		
	MAS202	25.202	Applied Mathematical Analysis	3:1:3(6)		
	MAS250	25.250	Probability and Statistics	3:1:3(6)		
Elective major courses	MAS210	25.210	Introduction to Number Theory	3:0:3(6)		
	MAS212	25.212	Linear Algebra	3:0:3(6)	Spring,Fall	
	MAS241	25.241	Analysis I	3:2:4(6)		
	MAS242	25.242	Analysis II	3:2:4(6)	Spring	
	MAS260	25.260	Applied Mathematics and Modeling	3:2:3(6)	Fall	
	MAS261	25.261	Computational Geometry and Computer Graphics	3:0:3(6)		
	MAS270	25.270	Logic and Set Theory	3:0:3(6)		
	MAS275	25.275	Discrete Mathematics	3:0:3(6)		
	MAS311	25.311	Modern Algebra I	3:2:4(6)	Spring	
	MAS312	25.312	Modern Algebra II	3:0:3(6)	Fall	
	MAS321	25.321	Introduction to Differential Geometry	3:2:4(6)	Fall	
	MAS331	25.331	Topology	3:2:4(6)	Spring	
	MAS341	25.341	Complex Variables	3:0:3(6)	Spring	
	MAS350	25.350	Elementary Probability Theory	3:0:3(6)		
	MAS355	25.355	Mathematical Statistics	3:0:3(6)		
	MAS364	25.364	Matrix Computation and Application	3:2:4(6)		
	MAS365	25.365	Introduction to Numerical Analysis	3:2:4(6)	Fall	
	MAS370	25.370	Information Mathematics	3:0:3(6)		
	MAS371	25.371	Introduction to Financial Mathematics	3:1:3(6)		
	MAS374	25.374	Optimization Theory	3:0:3(6)		
MAS410	25.410	Introduction to Cryptography	3:0:3(6)		◎	
MAS411	25.411	Introduction to Algebraic Geometry	3:0:3(6)		◎	
MAS412	25.412	Introduction to Commutative Algebra	3:0:3(6)		◎	
MAS420	25.420	Analysis on Manifolds	3:0:3(6)		◎	
MAS430	25.430	Combinatorial Topology	3:0:3(6)		◎	
MAS435	25.435	Matrix Groups	3:0:3(6)		◎	

◎: Course mutually recognized by undergraduate and graduate programs

※ Course classification, course title, and mutual recognition of credits may differ according to the effective year of the requirements.

*Taking MAS110 may replace the requirement of taking MAS109

Classification	Subject No.	Subject Code	Subject Name	Lecture : Lab : Credit (Homework)	Semester	Remark
Elective major courses	MAS440	25.440	Introduction to Partial Differential Equations	3:0:3(6)		⊙
	MAS441	25.441	Lebesgue Integral Theory	3:0:3(6)	Fall	⊙
	MAS442	25.442	Fourier Analysis and Applications	3:2:3(6)		⊙
	MAS443	25.443	Ordinary Differential Equations and Dynamical systems	3:0:3(6)		⊙
	MAS455	25.455	Linear Models	3:0:3(6)		⊙
	MAS456	25.456	Statistical Methods with Computer	2:3:3(6)		⊙
	MAS457	25.457	Random Process and Signal Processing	3:0:3(6)		⊙
	MAS458	25.458	Theory and Application of Transforms	3:0:3(6)		⊙
	MAS464	25.464	Mathematical Mechanics	3:0:3(6)		⊙
	MAS467	25.467	Introduction to Mathematical Biology	3:0:3(6)		⊙
	MAS470	25.470	Mathematical Modeling	3:2:3(6)		⊙
	MAS471	25.471	Financial Mathematics and Stochastic Models	3:0:3(6)		⊙
	MAS472	25.472	Computer Simulations in Financial Mathematics	3:0:3(6)		⊙
	MAS473	25.473	Introduction to Artificial Intelligence with Mathematics	3:0:3(6)		⊙
	MAS475	25.475	Combinatorial Theory	3:0:3(6)		⊙
	MAS476	25.476	Game Theory	3:0:3(6)		⊙
	MAS477	25.477	Introduction to Graph Theory	3:0:3(6)		⊙
	MAS478	25.478	Discrete Geometry	3:0:3(6)		⊙
	MAS480	25.480	Topics in Mathematics	3:0:3(6)		⊙
MAS481	25.481	Topics in Mathematics I	1:0:1		⊙	
MAS482	25.482	Topics in Mathematics II	2:0:2		⊙	
Advanced Major	MAS212	25.212	Linear Algebra	3:2:4(6)		
	MAS312	25.312	Modern Algebra II	3:0:3(6)		
	MAS430	25.430	Elementary Probability Theory	3:0:3(6)		⊙
	MAS440	25.440	Introduction to Partial Differential Equations	3:0:3(6)		⊙
Research	MAS490	25.490	Research in Mathematics	0:6:3		
	MAS491	25.491	Introduction to Contemporary Mathematics	2:0:2	Fall	
	MAS495	25.495	Individual Study	0:6:1		
	MAS496	25.496	Mathematics Seminar	1:0:1		

⊙: Course mutually recognized by undergraduate and graduate programs

※ Course classification, course title, and mutual recognition of credits may differ according to the effective year of the requirements.

Table of Curriculum (Graduate Program)

Classification	Subject No.	Subject Code	Subject Name	Lecture : Lab : Credit (Homework)	Semester	Remark
Mandatory General Courses	CC500	11.500	Scientific Writing	3:0:3(4)	Spring,Fall	
	CC510	11.510	Introduction to Computer Application	2:3:3(10)	Spring,Fall	
	CC513	11.513	Engineering Economy and Cost Analysis	3:0:3 (6)	Spring,Fall	
	CC530	11.530	Entrepreneurship and Business Strategies	3:0:3 (6)	Spring,Fall	
	CC532	11.532	Collaborative System Design and Engineering	4:0:4	Spring	
Elective Courses	MAS501	25.501	Applied Analysis and Probability for Engineers	3:0:3(6)		◎
	MAS502	25.502	Functional Analysis for Engineers	3:0:3(6)		◎
	MAS503	25.503	Algebra for Engineers	3:0:3(6)		◎
	MAS504	25.504	Applied Matrix Computation	3:0:3(6)		◎
	MAS510	25.510	Number Theory	3:0:3(6)		◎
	MAS511	25.511	Algebra I	3:0:3(6)	Spring	◎
	MAS512	25.512	Algebra II	3:0:3(6)	Fall	◎
	MAS520	25.520	Differential Geometry	3:0:3(6)		◎
	MAS530	25.530	Differential Topology	3:0:3(6)		◎
	MAS531	25.531	Algebraic Topology I	3:0:3(6)	Spring	◎
	MAS532	25.532	Algebraic Topology II	3:0:3(6)	Fall	◎
	MAS540	25.540	Real Analysis	3:0:3(6)	Spring	◎
	MAS541	25.541	Complex Function Theory	3:0:3(6)	Fall	◎
	MAS546	25.546	Wavelets and Applications	3:0:3(6)		◎
	MAS547	25.547	Approximation Theory	3:0:3(6)		◎
	MAS548	25.548	Symbolic Dynamics	3:0:3(6)		◎
	MAS550	25.550	Probability Theory	3:0:3(6)	Fall	◎
	MAS552	25.552	Queueing Theory with Applications	3:0:3(6)		◎
	MAS555	25.555	Advanced Statistics	3:0:3(6)		◎
	MAS556	25.556	Time Series Analysis	3:0:3(6)		◎
	MAS557	25.557	Theory and Application of Machine Learning	3:0:3(6)		◎
	MAS560	25.560	Methods of Applied Mathematics	3:0:3(6)		◎
	MAS565	25.565	Numerical Analysis	3:0:3(6)	Spring	◎
	MAS571	25.571	Stochastic Methods in Financial Mathematics	3:0:3(6)		◎
	MAS575	25.575	Combinatorics	3:0:3(6)		◎
	MAS580	25.580	Recent Progress in Applied Mathematics	2:0:2(6)		◎
	MAS581	25.581	Topics in Mathematics I	1:0:1		◎
MAS582	25.582	Topics in Mathematics II	2:0:2		◎	
MAS583	25.583	Topics in Mathematics	3:0:3		◎	

◎: Course mutually recognized by undergraduate and graduate programs

※ Course classification, course title, and mutual recognition of credits may differ according to the effective year of the requirements.

Classification	Subject No.	Subject Code	Subject Name	Lecture : Lab : Credit (Homework)	Semester	Remark
Elective Courses	MAS611	25.611	Algebraic Geometry I	3:0:3(6)		
	MAS612	25.612	Algebraic Geometry II	3:0:3(6)		
	MAS613	25.613	Lie Algebra	3:0:3(6)		
	MAS620	25.620	Lie Groups	3:0:3(6)		
	MAS621	25.621	Riemannian Geometry	3:0:3(6)		
	MAS622	25.622	Symplectic Geometry	3:0:3(6)		
	MAS623	25.623	Complex Geometry	3:0:3(6)		
	MAS630	25.630	Geometric Topology	3:0:3(6)		
	MAS631	25.631	Homotopy Theory	3:0:3(6)		
	MAS640	25.640	Harmonic Analysis	3:0:3(6)		
	MAS641	25.641	Functional Analysis	3:0:3(6)		
	MAS642	25.642	Generalized Functions	3:0:3(6)		
	MAS645	25.645	Partial Differential Equations	3:0:3(6)		
	MAS646	25.646	Nonlinear Differential Equations	3:0:3(6)		
	MAS647	25.647	Ordinary Differential Equations	3:0:3(6)		
	MAS650	25.650	Stochastic Differential Equations	3:0:3(6)		
	MAS651	25.651	Stochastic Processes	3:0:3(6)		
	MAS655	25.655	Graphic Models in Statistics	3:0:3(6)		
	MAS656	25.656	Multivariate Statistical Analysis	3:0:3(6)		
	MAS657	25.657	Computational Models of Neural Networks	3:0:3(6)		
	MAS660	25.660	Numerical Fluid Mechanics	3:0:3(6)		
	MAS661	25.661	Mathematical Fluid Mechanics	3:0:3(6)		
	MAS665	25.665	Numerical Partial Differential Equations	3:0:3(6)		
	MAS667	25.667	High Speed Computation	3:0:3(6)		
	MAS671	25.671	Computational Methods in Financial Mathematics	3:0:3(6)		
	MAS710	25.710	Representation Theory	3:0:3(6)		
	MAS711	25.711	Cryptography and Coding Theory	3:0:3(6)		
	MAS712	25.712	Algebraic Number Theory	3:0:3(6)		
	MAS730	25.730	Knot Theory	3:0:3(6)		
	MAS731	25.731	Transformation Group Theory	3:0:3(6)		
	MAS740	25.740	Ergodic Theory	3:0:3(6)		
	MAS760	25.760	Mathematical Methods for Mechanics	3:0:3(6)		
	MAS765	25.765	Finite Element Method	3:0:3(6)		
MAS771	25.771	Statistical Methods in Financial Mathematics	3:0:3(6)			
MAS880	25.880	Topics in Mathematics	3:0:3(6)			
MAS881	25.881	Topics in Mathematics (Ph.D.)	1:0:1	Spring,Fall		
MAS882	25.882	Topics in Mathematics (Ph.D.)	2:0:2	Spring,Fall		

©: Course mutually recognized by undergraduate and graduate programs

※ Course classification, course title, and mutual recognition of credits may differ according to the effective year of the requirements.

Classification	Subject No.	Subject Code	Subject Name	Lecture : Lab : Credit (Homework)	Semester	Remark
Research	MAS960	25.960	M.S. Thesis			
	MAS965	25.965	Independent Study in M.S.			
	MAS966	25.966	M.S. Seminar	1:0:1		
	MAS967	25.967	How to teach mathematics I (M.S.)	1:0:1		
	MAS968	25.968	How to teach mathematics II (M.S.)	1:0:1		
	MAS980	25.980	Ph.D. Thesis			
	MAS986	25.986	Ph.D. Seminar	1:0:1		
	MAS987	25.987	How to teach mathematics I (Ph.D.)	1:0:1		
	MAS988	25.988	How to teach mathematics II (Ph.D.)	1:0:1		

©: Course mutually recognized by undergraduate and graduate programs

※ Course classification, course title, and mutual recognition of credits may differ according to the effective year of the requirements.