

List of Courses

Track A: Algebra

Code	Name	Credit hours
MATH541	Group Theory (I)	3
MATH 542	Linear Algebra	3
MATH 543	Galois Theory	3
MATH 544	Ring Theory (I)	3
MATH 545	Representation Theory of Finite Groups	3
MATH 546	Homological Algebra	3
MATH 547	Commutative Algebra	3
MATH 548	Fuzzy Algebraic Systems	3
MATH 549	Finite Fields	3
MATH 590	Selected Topics in Algebra	3
MATH 530	Introduction to Discrete Structures	3
MATH 531	Graph Theory	3
MATH 532	Ordered Sets	3
MATH 551	Numerical Linear Algebra	3
MATH 555	Mathematical Programming	3
MATH 571	Singular Homology and Cohomology Theory	3
MATH 573	Differentiable Manifolds	3
MATH 581	Functional Analysis (I)	3

Track B: Geometry and Topology

Code	Name	Credit hours
------	------	--------------

MATH 571	Singular Homology and Cohomology Theory	3
MATH 572	Vector Bundles and K Theory	3
MATH 573	Differentiable Manifolds	3
MATH 574	Geometry of Manifolds	3
MATH 575	Geometry of Submanifolds	3
MATH 576	Selected Topics in Geometry and Topology	3
MATH 522	Partial Differential Equations (I)	3
MATH 546	Homological Algebra	3
MATH 547	Commutative Algebra	3
MATH 581	Functional Analysis (I)	3
MATH 585	Complex Analysis	3

Track C: Analysis

Code	Name	Credit hours
MATH 581	Functional Analysis (I)	3
MATH 582	Functional Analysis (II)	3
MATH 583	Topological Vector Spaces	3
MATH 584	Measure Theory (II)	3
MATH 585	Complex Analysis	3
MATH 586	Potential Theory	3
MATH 587	Summability Theory	3
MATH 588	Holomorphy and Calculus in Normed Spaces	3
MATH 589	Selected Topics in Analysis	3
MATH 520	Ordinary Differential Equations	3
MATH 522	Partial Differential Equations (I)	3
MATH 523	Partial Differential Equations (II)	3

MATH 542	Linear Algebra	3
MATH 547	Commutative Algebra	3
MATH 554	Approximation Theory	3
MATH 573	Differentiable Manifolds	3

Track D: Computational and Discrete Mathematics

Code	Name	Credit hours
MATH 530	Introduction to Discrete Structures	3
MATH 531	Graph Theory	3
MATH 532	Ordered Sets	3
MATH 533	Mathematical Logic	3
MATH 534	Formal Languages and Complexity	3
MATH 535	Combinatorial Design	3
MATH 536	Coding Theory	3
MATH 537	Cryptography	3
MATH 538	Selected Topics in Discrete Mathematics	3
MATH 550	Numerical Analysis	3
MATH 551	Numerical Linear Algebra	3
MATH 552	Numerical Solutions Of Ordinary Differential Equations	3
MATH 553	Numerical Solution of Integral Equations	3
MATH 554	Approximation Theory	3
MATH 555	Mathematical Programming	3
MATH 556	Non-linear Optimization Techniques	3
MATH 557	Selected Topics in Numerical Analysis	3
MATH 541	Group Theory (I)	3
MATH 542	Linear Algebra	3

Code	Name	Credit hours
MATH 549	Finite Fields	3
MATH 581	Functional Analysis (I)	

Track E: Applied Mathematics

Code	Name	Credit hours
MATH 511	Quantum Mechanics I	3
MATH 512	Fluid Dynamics	3
MATH 513	Perturbation Theory	3
MATH 514	Calculus of Variations	3
MATH 515	Selected Topics in Mathematical Modeling	3
MATH 516	Selected Topics in Applied Mathematics	3
MATH 520	Ordinary Differential Equations	3
MATH 521	Applied Partial Differential Equations	3
MATH 522	Partial Differential Equations (I)	3
MATH 523	Partial Differential Equations (II)	3
MATH 530	Introduction to Discrete Structures	3
MATH 531	Graph Theory	3
MATH 541	Group Theory (I)	3
MATH 542	Linear Algebra	3
MATH 550	Numerical Analysis	3
MATH 555	Mathematical Programming	3
MATH 573	Differentiable Manifolds	3
MATH 581	Functional Analysis (I)	3
MATH 582	Functional Analysis (II)	3
MATH 586	Potential Theory	3

