Course Number	Title	Instructor	Textbook(s)	Subject Matter	Grade
00132341	Geometry	Zhiqiang Bao	*Analytic Geometry,* by Chengye You	Analytic geometry in R^{3} including quadratic curves and quadratic surfaces, basic projective geometry	98
00132321	Advanced Algebra(I)	Fuzheng Wang	*Advanced Algebra (Volume One)* , by Weisheng Qiu	System of linear equations, determinant, basic matrix theory including similarity and eigenvalues, quadratic forms	97
00132301	Mathematical Analysis(I)	Jiazhong Yang	*Mathematical Analysis (Volume One)* , by Shengjian Wu	Set of real numbers, sequence and limit, continuity, differential as well as mean value theorems, L'Hospital rule and Taylor series, indefinite integral	88
00131300	Probability Theory	Yanxia Ren	*Foundations of Probability Theory* , by Xianping Li	Event and sample space, conditional probability, random variables and distributions, moments, characteristic functions, introduction to law of large numbers and central limit theorem	98
00132302	Mathematical Analysis(II)	Jiazhong Yang	*Mathematical Analysis (Volume Two)* , by Shengjian Wu	Riemann integral, improper integral, number series, function sequence and function series, power series, Fourier series	97.5
00132323	Advanced Algebra(II)	Fuzheng Wang	*dvanced Algebra (Volume Two)* , by Weisheng Qiu	Polynomial ring, linear space, linear mapping as well as invariant subspace, Jordan normal form and dual space, linear space with metric including unitary space, orthogonal space and symplectic space	99.5
00135450	Abstract Algebra	Rongquan Feng	*Abstract Algebra I* , by Chunlai Zhao and Mingyao Xu	Group, ring, field, Galois theory	98
00132304	Mathematical Analysis(III)	Shaobo Gan	*Mathematical Analysis (Volume Three)* , by Shengjian Wu	Limit and continuity of multivariable functions, multivariable differential and integral, line integral and surface integral, parameter-dependent integral	95
00132370	Functions of Real Variables	Shiwu Yang	*Real Analysis: Measure Theory, Integration, and Hilbert Spaces* , by Elias M. Stein and Rami Shakarchi & *Theory of Real Variable Function* , by Minqiang Zhou	Basic set theory, Lebesgue measure, measurable functions including convergence of function sequence, Lebesgue integral including convergence theorems, differential and integral revisit, L^{p} spaces	99
00135460	Mathematical Statistics	Liping Liu	*Lecture Notes on Mathematical Statistics* , by Jiading Chen, Shanze Sun, Dongfeng Li and Liping Liu	Estimation including estimators and confidence interval, hypothesis testing, regression analysis and linear models, experiment design, Bayesian statistics	98
00133010	Measure Theory	Fuxi Zhang	*Measure theory and Foundations of Probability Theory* , by Shihong Cheng	Set family, measurable mapping and measurable function, measure and measure space, integral, signed measure including decomposition theorems and Radon-Nikodym theorem	100
00132340	Ordinary Differential Equations	Bin Liu	*Ordinary Differential Equations* , by Bin Liu	Using methods of integration to solve ODE, the existence and uniqueness of solution, the influence of initial value and parameters on the solution, system of linear ODEs, power series method, topics with respect to boundary values	91
00132320	Theory of Functions of Complex Variables	Houhong Fan	*A Concise Course on Functions of Complex Variables* , by Xiaojiang Tan and Shengjian Wu	Complex numbers and complex plane, holomorphic functions, Cauchy's integral theorem and related topics, Laurent series, residue, harmonic functions, analytic continuation, conformal mapping	96
00132330	Partial Differential Equations	Shulin Zhou	*Partial Differential Equations* , by Shulin Zhou	Laplace equations, heat equations, wave equations	97
00137990	Applied Stochastic Processes(Honor)	Jian Ding	*Applied Stochastic Processes* , by Minping Qian, Guanglu Gong, Dayue Chen and Fuxi Zhang	Markov chain, jump process, Brownian motion	98

00112630	Advanced Theory of Probability(Graduate)	Xinyi Li	*Probability: Theory and Examples* , by Rick Durrett & Probability with Martingales, by David Williams	Measure theory, laws of large numbers, central limit theorems, martingales	97
00130161	Topology	Wenyuan Yang	*Topology* , by James R. Munkres & *Lecture Notes on Foundations of Topology* , by Chengye You	Topological space and continuity, topological properties, quotient space and closed surfaces, homotopy and fundamental group, covering space	96
00132310	Differential Geometry	Huijun Fan	*Differential Geometry: Curves-Surfaces-Manifolds* , by Wolfgang Kuhnel & *Differential Geometry* , by Weihuan Chen	Curves in R^{n}, topics related to first fundamental form and second fundamental form, intrinsic geometry of surfaces, topics with respect to geodesics	P (due to COVID-19)
00112650	Stochastic Processes(Graduate)	Weijun Xu	*Probability* , by S.R.S. Varadhan & *Stochatic Processes* , by S.R.S. Varadhan	Martingales, stationary processes and ergodic theorems, Brownian motion	95
00132350	Functional Analysis	Zhifei Zhang	*Lecture Notes on Functional Analysis (Volume One)* , by Gongqing Zhang and Yuanqu Lin	Metric spaces, linear operators and linear forms, compact operators and Fredholm operators	94
00110400	Stochastic Analysis(Graduate) (Ongoing)	Yong Liu	*Brownian motion and Stochastic Calculus* , by Ioannis Karatzas and Steven E. Shreve		Pending