MA 417 Applied Statistical Methods (76834)
This course offers a graduate-level treatment of applied statistical methods used in the physical sciences, social sciences, and business. Students examine basic statistical testing including sampling techniques; the theory of estimation and standard hypothesis testing; regression analysis techniques including multivariate regression and model building; correlation techniques; analysis of variance and factorial designs; chi-squared analysis; and other discrete data techniques. Three credits.
Professor: Laura McSweeney, Ph.D.
Thursday 6:30 – 9:00

MA 452 Probability and Statistics CANCELLED
This graduate-level treatment of the theory of probability and mathematical statistics includes probability spaces and finite counting techniques, random variables and distribution functions, density, mass functions, and expectation. The course also examines the standard random variables; multivariate distributions; functions and sums of random variables; limit theorems - weak and strong law of large numbers and the central limit theorem; theory of estimators, maximum likelihood techniques; theory of estimation; hypothesis testing theory - decision analysis; and Bayesian methods. The course also discusses the historical development of probability and statistics, and its place in the mathematical trichotomy - algebra, analysis, and geometry/topology - and is highly recommended for those wishing to specialize in quantitative analysis. Three credits.
Professor: Ben Fine, Ph.D.

MA 471 Real and Complex Analysis (76836)
This required, two-course sequence offers a graduate-level treatment of real and complex analysis, including the completeness of the real numbers; the complex number field and its properties; the topology of Euclidean n-space and its generalizations to metric and topological spaces; convergence and continuous functions; sequences of functions; general differentiability; the theory of integration and the Lebesgue integral; complex analytic functions and the differences with real functions; the complex integral; and Cauchy’s Theorem and consequences. The course also incorporates an overview of the relationship of real and complex analysis to the undergraduate calculus sequence, and a discussion of the historical development of real and complex analysis. Three credits.
Professor: Mark Demers, Ph.D.
Monday 6:30 – 9:00

MA 531 Applied Mathematics I (75966)
Topics in this two-course sequence include: mathematical modeling, ordinary differential
equations and their solutions; linear differential equations; linear systems; series methods; transform methods; Laplace transforms; partial differential equations; boundary value problems; Fourier series and Fourier analysis. Three credits.

Professor: Matthew Coleman, Ph.D.
Tuesday 6:30 – 9:00

MA 550 Classical Financial Mathematics (76476)
This course covers the basic mathematics of classical financial investments. It will include the basic formulas for compound interest and effective yields, infinite series and exponential functions, annuities and perpetuities, amortization and sinking funds, time value of money, and bond and stock discounts. Three credits.

Professor: Alan Anderson, Ph.D.
Monday 6:30 – 9:00

MA 583 Geometry (76837)
This course offers a graduate-level treatment of Euclidean and non-Euclidean geometry and is highly recommended for teachers. Three credits.

Professor: Shawn Rafalski, Ph.D.
Monday/Wednesday 5:00 – 6:15