MATHEMATICS-ANALYSIS (MAA)

MAA 4226 - Analysis I (3 Credits)
Rigorous development of the key concepts and theorems of differential calculus. Topics include sequences, series, limits, continuity, differentiability, properties of derivatives, and uniform notions of convergence and continuity.
Prerequisite(s): MAC 2313 and MHF 2191

MAA 4227 - Analysis II (3 Credits)
Rigorous development of the key concepts and theorems of integral calculus. Topics include the Riemann integral and its properties, a restatement of the key concepts of real analysis in the context of metric spaces and function spaces, and an introduction to measure theory and the Lebesgue integral.
Prerequisite(s): MAA 4226

MAA 4402 - Complex Variables (3 Credits)
Introduction to the general theory of functions of one complex variable. Topics include algebra of complex numbers, analytic functions, Cauchy-Riemann equations, Taylor and Laurent series, line and contour integral, poles of functions, integration theorems, residues and the Residue Theorem, conformal mappings and Riemann surfaces, Riemann mapping theorem.
Prerequisite(s): MAC 2313 and MAP 2302

MAA 5201 - Introductory Analysis (3 Credits)
This course is an intensive review of sequences, functions, limits, continuity, and analysis of the real line. It is intended as refresher course for students in the Mathematics Certificate program prior to enrolling in MAA 5228 Modern Analysis I. It is not available for credit to students enrolled in the M.S. in Mathematics program.

MAA 5228 - Modern Analysis I (3 Credits)
Basics of classical real analysis. Topics include the real number system, metric spaces, sequences and series, continuity, differentiability, and Riemann-Stieltjes integral.

MAA 5406 - Complex Analysis I (3 Credits)
Graduate level introduction to the classical theory of functions of one complex variable. Topics include analytic functions, maximum principle, Cauchy integral formula, residue theorem and applications.