

Topics for Midterm II

MATH 420

- Line/Contour Integrals
 - Parameterize a given curve C
 - Evaluate the integral of a given function f on C .
 - Properties of contour integrals
- Cauchy's Integral Theorem and its consequences
- Cauchy's Integral Formula and existence of derivatives of all order
- Theorems related to Cauchy's Integral Formula (Cauchy's Estimate, Liouville's Theorem, Fundamental Theorem of Algebra, Gauss Mean Value Theorem, Maximum Modulus/Minimum Modulus Theorem)
- Infinite series and region of convergence
 - Taylor series, Maclaurin series
 - Laurent Series
- Classification of singularities - isolated, non-isolated, removable, pole, essential
- Be familiar with all the HW problems and examples solved in class