MAT 5230: Complex Variables and Applications

Instructor: Dr. Sheng Zhang  
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Time: 4:00–5:50 pm. MW  
Room: 0328 State Hall  
Section: 001

Course Outline

Cauchy-Riemann equations; elementary functions; mappings by elementary functions; the Cauchy integral formula; Morera’s theorem; Taylor series; Laurent series; residues and poles; conformal mappings; the Schwarz-Christoffel transformations; potential theory; Fourier and Laplace transforms and applications in differential and integral equations.

Homeworks and Exams

Homeworks will be regularly assigned and some will be collected. They must be answered neatly and handed in on time to receive full credit. A 20% will be deducted after the due day and no credit after the graded homework/project has been returned.

There will be a midterm exam on Wednesday, March 5. Questions on the exam will be similar to homework problems.

There will be a final on Wednesday, April 23, which is comprehensive.

Grading Policy

Homework 30%, midterm exam 30%, final exam 40%.