

MAT 5230: Complex Variables and Applications

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Textbook: Complex variables and Applications, 7th ed. by James Ward Brown and Ruel V. Churchill, McGraw-Hill, Higher Education, ISBN 0-07-287252-7.

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 two midterm exams on Monday, Feb. 16, and Monday, April 6, respectively. There will be a final on Monday, May 4, which is comprehensive.

Grading Policy

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