



Pure Mathematics 421 Introduction to Complex Analysis

Complex numbers. Analytic functions. Complex integration and Cauchy's theorem. Maximum modulus theorem. Power series. Residue theorem.

Course Hours: H(3-1T)

Prerequisite(s): Both [Mathematics 349](#) and [353](#); or both [Mathematics 283](#) and [381](#).

Antirequisite(s): Not open to students with credit in [Pure Mathematics 521](#).

Text: "Introductory Complex Analysis and Applications", by Derrick, Academic Press.

Syllabus

<u>Topics</u>	<u>Number of Hours</u>
Complex Numbers	3
Analytic Functions	4
Elementary Functions	3
Line Integrals	2
The Cauchy Theorem	4
The Cauchy Integral Formula	3
Taylor-Series and Laurent Series	4
Singularities	3
The Residue Theorem	3
Evaluation of Improper Real Integrals	4
Elementary Conformal Mapping, Linear Fractional Transformation	3
TOTAL HOURS	36

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