MTH 360: Introduction to Complex Variables

Course catalog description
An introductory survey of complex numbers, analytic functions, properties of elementary functions, integrals, series, residues and poles, with a focus on practical applications.

Credit hours
3 hours

Prerequisites
A grade of C or higher in MTH 231

Course objectives

- Explore the properties of the complex number system algebraically, geometrically, and topologically.
- Learn functions and mappings in the single variable complex setting.
- Apply and expand knowledge of real variable calculus to complex variables.
- Learn fundamental concepts, such as analyticity, residues, and singularities, which make complex variables a unique branch of mathematics.

Learner outcomes
Students will:

- Demonstrate an ability to interpret and utilize complex numbers algebraically, geometrically, and topologically.
- Demonstrate an ability to apply concepts of real variable calculus to the complex variable setting.
- apply their knowledge of complex functions to create images of important sets and interpret complex functions and their applications
• Apply Residue Theory to find real solutions to real integrals using complex integrals.

**Suggested textbook**


**Last updated**

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