MAT339 - THEORY OF COMPLEX FUNCTIONS I - Fen Edebiyat Fakültesi - Matematik Bölümü

General Info

Objectives of the Course

To teach the students complex numbers, complex valued functions defined on the set of complex numbers, limits and continuouty , differentiation, Cauch Riemann equationsanalytic and harmonic functions

Course Contents

Defination of complex numbers, complex numbers in polar coordinates, Topology of complex numbers, exponential, logarithmic and trigonometric complex numbers, Sequences in complex numbers, Complex functions, Continuity of Complex functions, Differentiation of Complex functions, Differentiability conditions of a Complex function, Cauchy-Riemann equations Analytic and harmonic functions

Recommended or Required Reading

Ders notları ve ders kitapları

Dersi Veren Öğretim Elemanları

Prof. Dr. Necdet Batır

Weekly Contents

Order	PreparationInfo	Laboratory	TeachingMethods	Theoretical	Practise
1				The reason for needing complex numbers, the addition and multiplication operations in complex numbers and the properties of these operations.	
2				The concepts of conjugate and modulus in complex numbers, representation of complex numbers in Cartesian coordinates	
3				The argument of a complex number, the polar coordinate representation of complex numbers, Euler's formula	
4				Finding the roots of certain types of algebraic equations using Euler's formula, with examples.	
5				Regions in the complex plane, open, closed, and connected regions	