

Al-Nahrain University  
College of Science  
Department of Physics

Subject: Complex Analysis  
Year: Second year / 2<sup>nd</sup> semester

Week	Topic Details
1	Complex numbers ( properties and identities)
2	De Moivre's theorem and $n^{\text{th}}$ roots
3	Elementary functions
4	Elementary functions
5	Derivatives
6	Analytic functions
7	Harmonic functions
8	C-R differential equations
9	Integrals
10	Complex Integrals (Line Integrals)
11	Cauchy's Integral
12	Residues
13	Series (multiplication, addition ...etc.)
14	Taylor series and Laurent's series, Singularities

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