

1. Complex analysis

Book: Complex Variables by Stephen Fisher
2-nd Edition, Dover
amazon.com price \$12

Chapters 1, 2, 3

- Complex numbers
- Complex plane
- Functions and limits
- Exp, Log, sin, cos
- Line Integrals & Green's theorem
- Analytic functions
- Harmonic functions
- Cauchy-Riemann equations
- Power series
- Cauchy's Theorem
- Cauchy's Formula
- The residue Theorem
- Maximum modulus Principle
- Linear Fractional transformations
- Conformal mappings

2. Topology

Book: Introduction to Topology by Bert Mendelson
3-rd Edition, Dover
amazon.com price \$9

- Theory of Sets
- Metric Spaces
- Topological Spaces
- Connectedness
- Compactness