

## *CONTENTS*

Preface	ix
1. Basic inequalities	1
2. Normed spaces and bounded linear operators	18
3. Linear functionals and the Hahn–Banach theorem	45
4. Finite-dimensional normed spaces	60
5. The Baire category theorem and the closed-graph theorem	75
6. Continuous functions on compact spaces and the Stone–Weierstrass theorem	85
7. The contraction-mapping theorem	101
8. Weak topologies and duality	114
9. Euclidean spaces and Hilbert spaces	130
10. Orthonormal systems	141
11. Adjoint operators	155
12. The algebra of bounded linear operators	167

viii	<i>Contents</i>	
13.	Compact operators on Banach spaces	186
14.	Compact normal operators	198
15.	Fixed-point theorems	213
16.	Invariant subspaces	226
	Index of notation	233
	Index of terms	235