

# Contents

Section 1	Gauges and integrals .....	1
Section 2	Some examples .....	3
Section 3	Basic properties of the integral .....	5
Section 4	The Fundamental Theorems of Calculus .....	7
Section 5	The Saks-Henstock lemma .....	11
Section 6	Measurable functions .....	12
Section 7	Absolute integrability .....	15
Section 8	Convergence theorems .....	17
Section 9	Integrability and mean convergence .....	21
Section 10	Measure, measurability and multipliers .....	24
Section 11	Modes of convergence .....	28
Section 12	Applications to calculus .....	34
Section 13	Substitution theorems .....	40
Section 14	Absolute continuity .....	47
Section 16	Infinite intervals .....	51
Section 18	Measurable sets .....	56
Section 19	Measurable functions .....	60
Section 20	Sequences of functions .....	67