

Table of Contents

Preface	vii
1. Differential Forms in \mathbf{R}^n	1
2. Line Integrals	17
3. Differentiable Manifolds	33
4. Integration on Manifolds; Stokes Theorem and Poincaré's Lemma	55
1. Integration of Differential Forms	55
2. Stokes Theorem	60
3. Poincaré's Lemma	66
5. Differential Geometry of Surfaces	77
1. The Structure Equations of \mathbf{R}^n	77
2. Surfaces in \mathbf{R}^3	82
3. Intrinsic Geometry of Surfaces	89
6. The Theorem of Gauss-Bonnet and the Theorem of Morse	99
1. The Theorem of Gauss-Bonnet	99
2. The Theorem of Morse	106
References	115
Index	117