

Contents

<i>Preface</i>	v
1. Quality Control with Multivariate Data	1
2. The Multivariate Normal Distribution in Quality Control	9
3. Quality Control with Externally Assigned Targets	27
4. Quality Control with Internal Targets—Multivariate Process Capability Studies	47
5. Quality Control with Targets from a Reference Sample	63
6. Analyzing Data with Multivariate Control Charts	75
7. Detection of Out-of-Control Characteristics	81
8. The Statistical Tolerance Regions Approach	91
9. Multivariate Quality Control with Units in Batches	101
10. Applications of Principal Components	113
11. Additional Graphical Techniques for Multivariate Quality Control	121
12. Implementing Multivariate Quality Control	135

Appendix 1. MINITAB TM Macros for Multivariate Quality Control	145
Appendix 2. The Data from the Case Studies	179
Appendix 3. Review of Matrix Algebra for Statistics with MINITAB TM Computations	195
References	201
<i>Index</i>	205