## 519 MAC

## Contents

1	Introduction or 'What is statistics?'	1
2	The presentation of data	3
3	Probability, its meaning, real and theoretical popula- tions	15
4	Basic properties of the normal distribution	23
5	Some properties of sampling distributions	30
6	Applications of normal sampling theory; significance tests	38
7	Normal sampling theory: test for difference between several sample means, analysis of variance, design of experiments	52
8	Normal sampling theory: estimation of 'parameters' by confidence intervals, by maximum likelihood	63
9	The binomial distribution: laws of probability, applications of the binomial distribution, the multi- nomial distribution	72
10	The Poisson, negative exponential, and rectangular distributions	8 <b>9</b>
11	The $\chi^2$ test for 'goodness of fit': test for 'association'	95
12	Fitting lines and curves to data, least squares method	106
13	Regression curves and lines, correlation coefficient, normal bivariate distribution	116
14	Some distribution-independent (or 'distribution-free' or 'non-parametric') tests	126
15	Note on sampling techniques and quality control	132
16	Some problems of practical origin	135
Appendix		151
Answers		158
Index		171