DESCRIPTION

This text is an accessible, student-friendly introduction to the wide range of mathematical and statistical tools needed by the forensic scientist in the analysis, interpretation and presentation of experimental measurements.

From a basis of high school mathematics, the book develops essential quantitative analysis techniques within the context of a broad range of forensic applications. This clearly structured text focuses on developing core mathematical skills together with an understanding of the calculations associated with the analysis of experimental work, including an emphasis on the use of graphs and the evaluation of uncertainties. Through a broad study of probability and statistics, the reader is led ultimately to the use of Bayesian approaches to the evaluation of evidence within the court. In every section, forensic applications such as ballistics trajectories, post-mortem cooling, aspects of forensic pharmacokinetics, the matching of glass evidence, the formation of bloodstains and the interpretation of DNA profiles are discussed and examples of calculations are worked through. In every chapter there are numerous self-assessment problems to aid student learning.

Its broad scope and forensically focused coverage make this book an essential text for students embarking on any degree course in forensic science or forensic analysis, as well as an invaluable reference for post-graduate students and forensic professionals.

Key features:

• Offers a unique mix of mathematics and statistics topics, specifically tailored to a forensic science undergraduate degree.

• All topics illustrated with examples from the forensic science discipline.
• Written in an accessible, student-friendly way to engage interest and enhance learning and confidence.

• Assumes only a basic high-school level prior mathematical knowledge.

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**ABOUT THE AUTHOR**

**Craig Adam** has over twenty years experience in teaching mathematics within the context of science at degree level. Initially this was within the physics discipline, but more recently he has developed and taught courses in mathematics and statistics for students in forensic science. As head of natural sciences at Staffordshire University in 1998, he led the initial development of forensic science degrees at that institution. Once at Keele University he worked within physics before committing himself principally to forensic science from 2004. His current research interests are focused on the use of chemometrics in the interpretation and evaluation of data from the analysis of forensic materials, particularly those acquired from spectroscopy. His teaching expertise areas within forensic science, apart from mathematics and statistics, include blood dynamics and pattern analysis, enhancement of marks and impressions, all aspects of document analysis, trace evidence analysis and evidence evaluation.

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