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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Formerly CIP.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Forensic Science -- Contents -- Preface -- Preface to the second edition -- Preface to the first edition -- Acknowledgements -- Introduction to forensic science -- The role of forensic science in the investigation of crime -- The recovery of evidence from the crime scene -- Laboratory work on evidence recovered from the crime scene -- The interpretation and evaluation of scientific evidence and the presentation of scientific test results in court -- The scientific investigation of forensic evidence -- The comparison of evidence -- Establishing what occurred during a crime: crime reconstruction and simulation experiments -- Intelligence information -- The provision of

forensic science services in England and Wales -- Scientific support within the police service -- The Forensic Science Service (FSS) and other large-scale agencies -- Small-scale forensic practitioners -- The accreditation of forensic science in the UK -- Laboratory accreditation -- Individual accreditation -- Course accreditation -- Quality assurance in forensic science -- The crime scene -- Chapter objectives -- Introduction -- An overview of crime scene processing -- The first police officer attending and the preservation of the crime scene -- Recording the crime scene -- Note-taking at scenes of serious crime -- The sketching and virtual reconstruction of scenes of serious crimes -- Recording photographic still and video images of scenes of serious crimes -- The recovery of physical evidence -- The recovery of digital evidence -- An introduction to digital devices and their potential relevance -- Overview of a digital forensics investigation -- The crime scene in relation to digital evidence -- Transportation -- Basic triage -- Summary -- Problems -- Further reading -- Trace and contact evidence Part I: Recoverable materials -- Chapter objectives -- Introduction.

Hairs and other fibres -- The recovery of fibre evidence -- An overview of the examination and characterisation of hairs and other fibres -- Glass -- Information from patterns of glass fragmentation -- Information from glass fragments -- Soils -- Plant material -- Paint -- Others -- A Bayesian approach to the interpretation and evaluation of recoverable trace evidence -- Summary -- Problems -- Further reading -- Trace and contact evidence Part II: Fingerprints and other marks and impressions -- Chapter objectives -- Introduction -- Fingerprints -- The basis of fingerprints as a means of identification -- The classification of fingerprints -- The comparison and identification of fingerprints -- The different types of fingerprints -- The development of latent fingerprints -- Footwear impressions -- Types of footwear impression, and their detection and recovery -- The creation of test impressions and their comparison with scene prints -- Bite marks -- Tool marks -- Tyre marks -- Textile products -- Damage to textile fabrics -- Summary -- Problems -- Further reading -- The examination of body fluids -- Chapter objectives -- Introduction -- Blood -- The composition and function of blood -- Presumptive tests for blood -- Serological tests for blood -- Bloodstain pattern analysis -- Active bloodstains -- Passive bloodstains -- Transfer bloodstains -- Saliva -- The composition and function of saliva -- Presumptive test for saliva -- Semen -- The composition and function of semen -- Tests for semen -- Summary -- Problems -- Further reading -- The analysis of deoxyribonucleic acid (DNA): DNA profiling Guest chapter by Harry Mountain -- Chapter objectives -- Introduction -- The forensic value of DNA profiling -- DNA profiles -- DNA, genes and their relationship to individuality -- Individuality and genes -- Genes and DNA -- The hierarchy of DNA organisation.

Genetic differences: mutations and alleles -- DNA sequence variation among individuals -- Inheritance of alleles -- Forensic DNA analysis and DNA profiling -- Collection and storage of DNA samples -- Extraction of DNA -- The polymerase chain reaction -- Measuring the length of DNA molecules: gel electrophoresis -- Modern DNA profiling -- The National DNA Database -- Interpretation of DNA profiles -- Single-locus data: simple population genetics -- Interpreting full, multiloci DNA profiles -- DNA profiling in paternity testing -- Familial testing -- Quality control and complications in DNA profile data -- Y chromosome analysis -- Summary -- Analysis not involving STRs: single-nucleotide polymorphism analysis -- Analysis of SNPs -- Mitochondrial DNA analysis -- mtDNA -- Applications of mtDNA

analysis -- Current and future developments -- Low Copy Number or Low Template DNA and sensitivity -- Technical developments -- Wider application of DNA profiling -- Increasing the number of STR loci analysed -- Interpreting DNA: predicting phenotypic features -- DNA databases -- Next-generation sequencing -- Summary -- Problems -- Further reading -- Forensic toxicology and drugs of abuse -- Chapter objectives -- Introduction -- Common poisons -- Anions -- Corrosive poisons -- Gaseous and volatile poisons -- Metal and metalloid poisons -- Pesticides -- Toxins -- Drugs of abuse -- The legal classification of drugs of abuse within the UK system -- Commonly abused drugs -- Factors affecting toxicity -- Routes of uptake and elimination of drugs and other toxic substances -- The analysis of drugs and other poisons -- The information sought by analysis -- The types of sample that are analysed -- Methods of analysis -- Summary -- Problems -- Further reading -- Questioned documents -- Chapter objectives -- Introduction -- Handwriting investigation. The development of handwriting -- The comparison of handwriting -- Signature investigation -- Methods of signature forgery -- The detection of forged signatures -- Typed, word-processed and photocopied documents -- Typed documents -- Word-processed documents -- Photocopied documents -- Printed documents -- The analysis of handwriting inks -- Comparison of inks -- Dating of inks -- Paper analysis -- Comparison of paper -- Dating of paper -- Tears, folds, holes, obliterations, erasures and indentations -- Tears -- Folds -- Holes -- Obliterations -- Erasures -- Indentations -- Summary -- Problems -- Further reading -- Firearms -- Introduction -- Chapter objectives -- Types of firearm and ammunition -- Internal, external and terminal ballistics -- The examination of suspect firearms -- With whom or what has this firearm been in contact? -- Could this firearm be responsible for firing the shots that were discharged at a given shooting incident? -- Could this firearm have been unintentionally discharged? -- Could the intentional discharge of this firearm have caused unintentional injury? -- Could this firearm have been used in the commission of an act of suicide? -- The examination of spent cartridge cases, bullets and wads -- The examination of spent cartridge cases -- The examination of fired bullets -- The examination of shotgun plastic cup wads -- Gunshot residues -- Summary -- Problems -- Further reading -- Fires -- Chapter objectives -- Introduction -- The nature of fire -- The behaviour of fire -- Fires in rooms and similar compartments -- Outdoor fires -- Fire scene investigation -- Witnesses and background information -- Processing the scene -- Finding the seat of a fire -- Establishing the cause of a fire -- The analysis of fire accelerants -- Summary -- Problems -- Further reading -- Explosions and explosives -- Chapter objectives. Introduction -- The classification of explosions and explosives -- Explosion scene investigation -- The analysis of explosives -- Summary -- Problems -- Further reading -- The recovery and forensic examination of human remains -- Chapter objectives -- Introduction -- The role of the forensic archaeologist in the location, excavation and recovery of human remains -- The search for human remains -- Excavation of graves and the recovery of human remains -- Early post-mortem changes and the estimation of time of death -- Changes in body temperature -- Hypostasis -- Rigor mortis -- Changes in the eyes -- Post-mortem decomposition and related phenomena -- The process of post-mortem decomposition -- Skeletalisation -- Mummification and the formation of adipocere -- The establishment of cause of death -- The circumstances under which deaths are reported by medical practitioners to the coroner -- The role of the coroner in

the investigation of reported deaths -- Post-mortem examination --
The identification of human remains -- The identification of non-
skeletalised bodies -- The identification of skeletalised remains --
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interpretation and evaluation of evidence -- Chapter objectives --
Introduction -- Data -- Types of data -- Normally distributed data --
Confidence limits and confidence intervals -- Precision, accuracy and
error -- Regression analysis -- Hypothesis testing using -- Hypothesis
testing using t-tests -- Parametric and non-parametric tests --
Likelihood ratios and the Bayesian approach -- The choice of
hypotheses and the hierarchy of propositions -- The Case Assessment
and Interpretation model -- The prosecutor's fallacy and the defence
attorney's fallacy -- The use of the Bayesian approach in jury trials --
Summary -- Problems -- Further reading -- Forensic science in court.
Chapter objectives.

Sommario/riassunto

This text aims to provide a broad, scientifically rigorous introduction to forensic science. It covers processes from the crime scene to presentation of forensic science in court and focuses on the chemical, biological and physical methods used in forensic examination.
