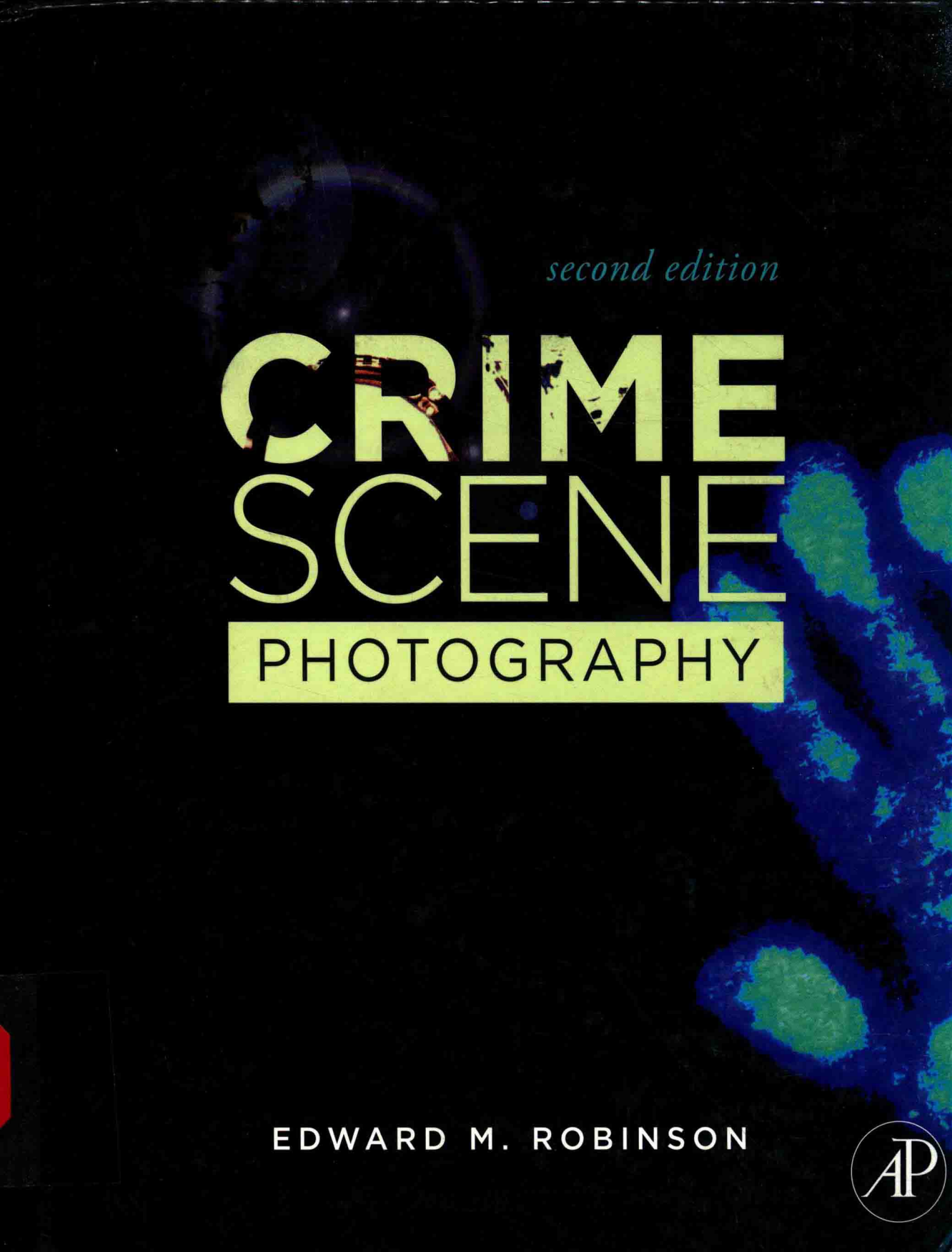
second edition
CRIME SCENE
PHOTOGRAPHY
EDWARD M. ROBINSON
AP

Crime Scene Photography

Second Edition

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With a Foreword by

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NEW YORK • OXFORD • PARIS • SAN DIEGO
SAN FRANCISCO • SINGAPORE • SYDNEY • TOKYO

Academic Press is an imprint of Elsevier

Academic Press is an imprint of Elsevier
30 Corporate Drive, Suite 400, Burlington, MA 01803, USA
525 B Street, Suite 1900, San Diego, California 92101-4495, USA
84 Theobald's Road, London WC1X 8RR, UK

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Library of Congress Cataloging-in-Publication Data
Crime scene photography/Edward M. Robinson; with a foreword by Gerald B. Richards. –2nd ed.
p.cm.
Includes bibliographical references and index.
ISBN 978-0-12-375728-9 (hard cover: alk. paper) 1. Legal photography. 2. Crime scenes. 3. Evidence, Criminal.
TR822.R63 2010
779'.936325–dc22

2009045479

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library.

ISBN: 978-0-12-375728-9

For information on all Academic Press publications
visit our Web site at www.elsevierdirect.com

Printed in China

10 11 12 9 8 7 6 5 4 3 2 1

Crime Scene Photography

Second Edition

Visit the *Crime Scene Photography* Website at:

http://www.elsevierdirect.com/companions/9780123757289

The *Crime Scene Photography, Second Edition* website contains hundreds of color images from the book, as well as another 600 images arranged as PowerPoint™ slideshows that demonstrate some of the key concepts covered in the text. These additional images are meant to aid students in their own practical experience by showing examples of successes and failures in crime scene photography.

This is still dedicated to my wife, Sue.
She knows all the reasons why.

Foreword to the Second Edition

Today's forensic photographer must possess much more knowledge and a wider range of skills than his/her counterpart of 20 or 30 years ago. We live in a wonderful new world in which the old traditional techniques of the silver halide wet photography process have been integrated with the dry bits and bytes of the modern day computer screen. In order to be successful in this integrated and innovative profession, the practitioner must have some degree of skill, but also command an exceptionally wide range of old and new knowledge. Crime Scene Photography, Second Edition, is by far the preeminent source for acquiring this knowledge.

The second edition of Crime Scene Photography has brought forth both significant additions and improvements. Each chapter has been thoroughly reviewed, reorganized and revised based on the quickly changing world of forensic imaging, but also, it appears, as a result of the many comments and suggestions provided by readers of the original text.

A most notable addition is the new first chapter by Bob Sanders delineating the History of Forensic Imaging. This chapter provides a succinct timeline regarding the history of photography, interspersed with major forensic events, milestones, and court citations. The new chapter also provides a rich and fact-filled description of how this profession encompasses all aspects of the photographic profession in one form or another.

The new Chapter Eleven is also a welcome addition. "Digital Image Processing of Evidentiary Photography," written by David "Ski" Witzke provides the reader with the guidelines, requirements and specific protocols for the application of digital processing techniques. Every forensic photographer should realize that understanding digital technology, computers and imaging software is as important today, and in the future, as understanding how to process film was just a few years ago. It's a new imaging world we live in, and it must be enthusiastically embraced.

As the author originally promised, more *Tips, Tricks and MacGyvers* would be forthcoming in subsequent revisions. Tina Young adds a pithy insight and explanation on how to use Darkfield Illumination while photographing a bullet hole in glass. In addition, King Brown and Dawn Watkins provide this second edition with a thorough description, and step-by-step instructions, regarding High Dynamic Range (HDR) imaging. This is a perfect example of the marriage of traditional forensic images with the wonders of the computer. If anyone has had the opportunity to photograph a fire scene, then they will be able to appreciate the benefits of understanding and implementing this valuable technique.

A major improvement to this second edition is the addition of 144 completely new, high quality images. Also, where appropriate, all images are now in full color. These two facts alone make this second edition of Crime Scene Photography worth procuring. As with the first edition, a Web site is available to owners of this book containing over 500 additional images, most with accompanying text, and in PowerPoint format. Again, this is an added value providing a wealth of additional information and knowledge for the teacher, current professional or beginning student.

In 2007, Ted Robinson set the benchmark for all texts on forensic photography and imaging, and by producing this second edition, he has significantly raised the bar for any other book of this kind. It is a worthy addition to any serious forensic photographer's library.

GERALD B. RICHARDS, FBI Special Agent (retired)
Former Chief, Special Photographic Unit, FBI Laboratory

Foreword to the First Edition

Since the introduction of photography in 1839 by Louis Daguerre this art and science has been vigorously applied to law enforcement and the justice system of every civilized nation. From its humble beginnings as a means of recording criminal faces, in the form of "mug shoots", to the twenty first century wherein almost all major cases depend heavily on photographic imaging, photography has become the silent archivist and witness in untold thousands of civil and criminal matters. We only have to look at the millions of images produced each year in recording accidents, crime scenes, evidence, and for demonstrative exhibits to understand why the forensic photographer is truly the "master of all photographic trades". The overall field of forensic photography covers a wide variety of photographic and imaging disciplines, each having a multitude of techniques, equipment and levels of experience. When we really think of "Forensic Photography" (photography as it applies to legal matters) it covers the entire gambit of imaging know-how, from the portrait (mug shoot) photographs to aerial, macro, micro, spectral, studio, field, underwater and many other facets of the photographic profession. In addition, the modern forensic photographer must be part chemist, physicist, color expert, mechanic, lighting technician, computer geek, artist, communicator and investigator, in order to be successful.

Crime Scene Photography is an extremely well organized book. At the beginning of each of the ten chapters are the Learning Objective and Key Terms that will be used for the remainder of the text. Within the text are tips and rules-of-thumb that highlight important aspects of the chapter. The chapters then conclude with a succinct Summary, Discussion Questions, Practical Exercises and a comprehensive list of Further Readings. What I found to be the most compelling attribute of this book is its abundance of well thought-out, high quality photographs that compliment the text and lessons being presented. The photographs not only show the reader how to do it, but just as important, how not to do it. After all, what is a text on photography without good photographs?

This literary work outlines the basic foundation of forensic picture-taking in substantial detail, making an ideal tutorial for a person just entering the field. It covers the basic crime scene scenario providing important details to guide the student, and professional, through the process in a step-by-step manner. Not only is the photographic aspect addressed, but the handling and care of evidence and maintenance of the crime scene are integrated into the process.

What I perhaps appreciate most about Crime Scene Photography is the in-depth explanation of subjects that seem to confound and confuse even many experienced practitioners, such as diffraction in close-up photography, inverse square law and ultraviolet/infrared imaging in which one entire chapter devoted. Good explanations of these subjects are difficult to find. Another important chapter that is non-existent in other forensic photography books is photogrammetry. The photogrammetry techniques discussed here are basic single-image graphical methods that can be implemented with little previous experience or equipment, and can provide a reasonable degree of accuracy if the underlying principles are followed. This chapter, along with the chapter covering lenses, further emphasizes important basic concepts regarding angle of view and perspective. Having a chapter devoted to Digital Imaging is perhaps one of the most valuable aspects of Crime Scene Photography. It is a wealth of succinct information that the forensic photographer will deal with on a daily basis and is, of course, the technology of the future.

Not since Charles C. Scott's, 1942 epic text, Photographic Evidence has there been a book this detailed and well written. Ted Robinson has taken a complex subject, strewn with technical jargon, detailed processes, both old and cutting edge technology, and wove it into a comprehensive authoritative work that well serves both the student and seasoned professional. Having taught this subject at the college level for many years, it most surely would be the text book I would select for my students. And if an experienced practitioner were to acquire only one book on forensic photography for their bookshelf this year, Crime Scene Photography should be their choice.

GERALD B. RICHARDS, FBI Special Agent (retired)
Former Chief, Special Photographic Unit, FBI Laboratory

Acknowledgments

I made a glaring mistake in the Acknowledgements for the First Edition. There, I indicated this book had its origin in 1989, when I began writing a crime scene photography 'how to' manual for the Arlington County Police Department in Virginia.

Actually, it began a year earlier, in 1988, when I attended the Virginia Forensic Science Academy. That was a ten-week residential program, where crime scene investigators from agencies around the state moved to a hotel in the Richmond area to study with examiners and analysts from the Central Laboratory of the Virginia Forensic Laboratory system, and trainers from the Virginia Forensic Science Academy. There, we learned how best to collect and process physical evidence so that when it was received by the lab, the evidence retained its full value. There, I met the Director of the Academy, Dan Grinnan, and Norm Tiller, our trainer in many subjects including crime scene photography. Without that solid foundation in photographic theory and practice, my current love of photography would not have been kindled. I suspect the Virginia Forensic Science Academy was the model used to create the University of Tennessee's National Forensic Academy.

For this Second Edition, I am indebted to my two friends, David (Ski) Witzke and Robert C. Sanders. Ski convinced me to let him add a chapter on Digital Image Processing. I believe many may consider his two chapters to be the best parts of this book. Bob acquiesced to my begging, and converted a presentation he had made at several IAI conferences into a truly excellent chapter on the History of Forensic Imaging. I agree with Bob: to be good at any craft, one needs to know one's roots.

I'd like to thank King Brown and Dawn Watkins for a great addition to the Appendix on Tips, Tricks and MacGyvers. Their High Dynamic Range images are a preview, I suspect, of the next generation of photography, where parts of multiple images are 'blended' to produce an extraordinary amalgam or combination. The fill-in flash technique now has an official rival.

Tina Young has also provided a very creative method of visualizing gunshot holes in glass in the Appendix. At a previous IAI conference, Tina coordinated a great workshop on Advanced Flash Techniques, which I attended, and I knew then that some of her material had to be part of my Second Edition.

Nancy Olds, USSS photographer, and Julius Wiggins, retired Metro Dade photographer, have provided some terrific additions to the section on Underwater Photography. This is one area I wish I had personal experience with. I envy them.

Cpl. Frank Carson, Prince George's County, MD, Accident Reconstructionist, provided images and many suggestions for the section on Accident Photography. Having input from current professionals increases the value of this text.

I returned to the ACPD, and requested images from three of my past working buddies: Marc Hackett, Lisa Haring and Keith Ahn. They came through for me again, and their images make this a much better book.

I want to thank Herb Blitzer, of the Institute for Forensic Imaging, for phone conversations related to the issue of the digital resolution necessary to capture examination quality images. When I was desperately seeking a foundation for some of the recommendations in this Second Edition, Mr. Blitzer gladly offered assistance.

I want to express a special thanks to Philip Sanfilippo, Training Coordinator of the Metro Dade/Miami Police Department. I've received many congratulations on the quality of the First Edition, and I have read some opinions which weren't so kind. But, Phil did what was most valued to me: he offered me constructive criticism. He took the time to go over each chapter and nit-pick the blatant errors, say 'ya almost got that right' and add an occasional 'nice job there.' This Second Edition is much better because I swallowed my pride, acknowledged Phil was almost always correct, and made many changes. Phil, a true friend doesn't lie to your face and tell you how pretty you are. A true friend tells you the truth. Thank you.

As always, many students assisted me with the images and data in this Second Edition. These students were: Kim Atkinson, Naila Bhatri, Jackie Britton, Tom Bush, Heather Calloway, Brian Carroll, Michelle Cobb, Cliff Cook, Ryan Costello, Daniel Cowen, Kim Criss, Jessica Dee, Atree Desai, Martin Eaves, Melinda Filman, Adam Garver, Matt Graves, Sylvia Greenman, Valerie Hart, Jason Keller, Chris Kinling, Katalin Korossy, Christina Marney, Cara McBrayer, Elizabeth Neuendorf, Devon Pierce, Brigid Reilly, Regan Scott, Denise Sediq, Benjamin Serinsky, Carolyn Sikorski, Pat Stewert, Lauren Stignitto, Rachel Stowens, Claudia Thomas, Martha Ward, Bianca Whitlock. Three students worked researching case cites for the last chapter on Legal Issues: Christina Verren, Joelle Duval and Alissa Ehr. I'd like to also thank Michelle Burns and Rachel Allen for help updating the Case Law Citations in Chapter 12. Kassandra Stockman provided Canadian Case Law Cites. Jerel Wright and Scott Perrygo helped to update the list of readings provided at the end of each chapter. Additional images were provided by Sarah Reeve, Carolyn Sikorski, David Schweizer, Melanie Towers, Derek Foote, Eric Speigel, Justin Labiosa, Shaina Byrnes, Lesley Grant, Brian Janysek, Hope Lester and Jackie Britton.

Craig Wineman, Manager of a local Penn Camera store, provided images of some of his Nikon cameras on display in his store, and some images of camera and flash LED screens.

Ray Malcom of JENOPTIK | Optical Systems, loaned GWU one of there great CoastalOpt UV-VIS-IR 60mm Apo Macro lenses to do research on reflective UV and IR photography. We used it with a Fuji IS Pro UV/IR cameras provide by Fujifilm USA.

Bill Pekala and Ron Taniwaki, with Nikon Professional Services, provided many images and the Nikon cameras, lenses and flash units to take some of my own images. A special thanks goes out to them for their help with this Second Edition.

Introduction

This textbook is designed for two principal photography student types. One group is the **student in an academic setting**. Students are expected to acquire a solid grasp of the theories and concepts of their various courses. This is the **K**nowledge point of the "KSAs" frequently required by employers. Students in an academic setting normally are expected to also learn the aspects of photography that have their foundation in physics and optics. But, to make students competitive in the real world when applying for their first jobs, it is also important to have them acquire the **S**kills and **A**bilities which are the remainder of the sought after triad of "KSAs." Current students will have to capture successful images at their future jobs.

A second student type is the **current practitioner** working within various law enforcement agencies. Techniques to get the job done are what they look for. These students will hopefully learn the basics of crime scene photography, and improve their skill set by reading this text, and eventually become recognized within their agencies as the go-to person when quality images are required.

This marriage of theory and practice is a fundamental aspect of this textbook.

Now, I am extremely excited to be able to produce this Second Edition. I have tried to update each of my chapters from the First Edition, and this Second Edition has additional material not originally in the First. This edition also has 144 new images.

Robert Sanders provides a new first chapter on the History of Forensic Imaging. This grounds the remaining chapters by giving the reader a sense of where we've come from. One should know one's roots to appreciate where one currently is and what one has. This new first chapter does this nicely.

David Witzke has added a new chapter on Digital Image Processing. This is a complementary chapter to his original chapter on Digital Imaging. I fear many may buy this book just for Ski's two chapters! Since Ski is already planning his third chapter, I expect he'll soon become the primary author. I'd be delighted and proud to submit proposed chapters to Ski when this happens.

Readers will quickly discover that this Second Edition is in full color! Academic Press agreed this photography book could only reach its full potential by being in full color. It makes everything so much easier to understand.

How can one judge the success of the First Edition? Gross sales do not tell the whole story. I personally knew that the true success of the First Edition would not be told by gross sales. Only if the professionals in the field accepted my book could it truly be regarded a success. When the IAI's Crime Scene Certification Board chose the First Edition as required reading for each of their three certification levels, then, and only then, did I know my book had been accepted by those who mattered. It is hoped that this Second Edition proves equally qualified.

EDWARD (TED) ROBINSON

Contents

FOREWORD TO THE SECOND EDITION xi
FOREWORD TO THE FIRST EDITION xiii
ACKNOWLEDGMENTS xv
INTRODUCTION xvii

CHAPTER 1 HISTORY OF FORENSIC IMAGING 1
Robert C. Sanders, M.A.

My Inspiration 1
The Practical Value 2
The History 3
Summary 17

CHAPTER 2 COMPOSITION AND CARDINAL RULES 19

Use-Once (or, Use One Time) Camera versus a Professional Camera System 20
Composition and Cardinal Rules 22
Cardinal Rules of Crime Scene Photography 46
Summary 47

CHAPTER 3 BASIC EXPOSURE (NON-FLASH) CONCEPTS 51

The Proper Exposure Triangle 52
Shutter Speed as Motion Control 76
Using Slow Shutter Speeds to Eliminate Rain and Snow 79
Reciprocal Exposures 82
The Reflective Light Meter 86
"Normal" and "Non-Normal" Scenes 90
Tools for Determining "Proper" Exposures with Tricky Scenes 98
Bracketing 103
The F/16 Sunny Day Rule 107
Causes for Complete Rolls of Film with Exposure Errors 111
Common Filters 112
The Eye Cup Cover 119
Summary 121

CHAPTER 4 FOCUS, DEPTH OF FIELD, AND LENSES 125
Focus 126
Depth of Field 156
Lenses 166
Summary 206

CHAPTER 5 ELECTRONIC FLASH 209
Guide Numbers 210
Flash Sync Speeds 213
Set the Flash for the Film Used (If Still Using a Film Camera) 217
Manual Flash Mode 217
The Inverse Square Law 237
Automatic and Dedicated Flash Exposure Modes 242
Built-in Flash Units 250
Fill-in Flash 251
Oblique Light, Both Flash and Non-Flash (Flashlight) 258
Bounce Flash 279
Painting with Light 286
Summary 300

CHAPTER 6 CRIME SCENE PHOTOGRAPHY 305
Photo Documentation Forms 306
Overall Photographs 313
Midrange Photographs 329
Close-Up Photographs 336
The Photographic Documentation of Bodies and Wounds 341
Summary 363

CHAPTER 7 ULTRAVIOLET, INFRARED, AND FLUORESCENCE 367
The Electromagnetic Spectrum (EMS) 368
Ultraviolet Light (UV) 373
Infrared Light (IR) on the Electromagnetic Spectrum 380
Visible Light Fluorescence 387
Summary 394

CHAPTER 8 PHOTOGRAMMETRY 399
Introduction to Photogrammetry 400
Perspective Grid Photogrammetry 402
Perspective Disc Photogrammetry 417
Natural Grid Photogrammetry 422
Reverse Projection Photogrammetry 428
Rhino Photogrammetry 432
Summary 436

CHAPTER 9 SPECIAL PHOTOGRAPHY SITUATIONS 441
Accident Photography 442
Surveillance Photography 459
Aerial Photography 468
Underwater Photography 474
Summary 484

CHAPTER 10 DIGITAL IMAGING TECHNOLOGIES 489
David "Ski" Witzke
In the Beginning 490
Expose Yourself to Digital Imaging Concepts: Bits, Bytes, Pixels, and Dots 500
Take a Picture! It Lasts Longer ... Or Does It? 511
Image S&M ... Storage and Management of Your Digital Images 518
Summary 530

CHAPTER 11 DIGITAL IMAGE PROCESSING OF EVIDENTIARY PHOTOGRAPHY 533
David "Ski" Witzke
Best Practices and Guidelines 537
General Guidelines and Requirements 537
The Order of Enhancements 540
Getting Started 541
The Imaging Process (The Act Formerly Known as "Enhancement") 549
Summary 580

CHAPTER 12 LEGAL ISSUES RELATED TO PHOTOGRAPHS AND DIGITAL IMAGES 583
Criteria of Photographs and Digital Images as Evidence 584
The Purpose of Crime Scene Photographs 594
Photographs of Suspects and Evidence 594
Legal Implications of Digital Imaging 596
International Association for Identification (IAI) Resolution 97-9 604
Case Law Citations Relevant to Film and Digital Images 605
Canadian Cases 642
Summary 648

APPENDIX 651

GLOSSARY 667
SUBJECT INDEX 685