

THE FIREFIGHTER'S HANDBOOK

ESSENTIALS OF FIREFIGHTING AND EMERGENCY RESPONSE

Second Edition



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Second Edition



The Firefighter's Handbook: Essentials of Firefighting and Emergency Response, Second Edition

Thomson Delmar Learning

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DEDICATION

Dedicated to the courageous firefighters and emergency responders who have given of themselves the greatest sacrifice, their lives. On September 11, 2001, the fire and emergency service community changed forever, and as we continue on we are left with the scar of this day and the tears of many loved ones left behind. We share in the heartache of the loss of every single firefighter and emergency responder on that day and others. Let their lives shine on in the dedication and bravery of those left to respond when the tones drop, the bells ring, and the sirens blare.

This text is also dedicated to the driving force behind the continuation of firefighter heritage, the sharing of wisdom and experience, and the art of discovery and learning—trainers and educators. Every single classroom session, practical scenario, and review session directly affects the quality of response the fire service provides. Never underestimate the power of positive change the training and education community holds.

In honor and support of all Fire Service Educators, we are privileged to announce that Delmar Learning, a Thomson company, will donate a portion of the proceeds to the National Fire Academy Alumni Association (NFAAA) for every copy of *The Firefighter's Handbook* we sell. The NFAAA was selected as the sole recipient of this contribution because of the similarities of our missions and our belief that NFAAA makes a positive difference in the education, safety, and welfare of firefighters.

And to every firefighter who has touched the life of someone in need and made a positive difference—you are truly the epitome of human compassion and selflessness. Don't ever stop caring.

THOMSON
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FOREWORD



So much has changed in our country and our world since the first edition of *The Firefighter's Handbook* was published back in 2000. Of course the tragic events of September 11, 2001, have caused many changes in the lives of America's firefighters and how we do business. Sure, we used to talk about terrorism—but not with the urgency and realism that permeates today's discussions. The study of weapons of mass destruction (WMD)

was an emerging specialty and today is mandatory reading for every firefighter. The changes are not limited to terrorism and WMD but have spilled over into rapid intervention team tactics, firefighter survival, and the value and hazards of live fire training.

However, some things have not changed. The value and importance of preparedness and training for every possible scenario has not changed. The principle of treating and serving the people who rely on us with respect and dignity has not changed. The idea that firefighters are held to a higher standard of service and duty has not changed. Even in the face of widespread changes in the world and in firefighting, there are some key principles that stay the same. These principles make firefighting a proud and honorable tradition and tie firefighters to the communities they serve.

This second edition of *The Firefighter's Handbook* is a reflection of the new world that today's firefighters live in. We have updated and revised many chapters and sections relating to the new threat of terrorism and the part that the fire service plays in handling this heightened threat. Other areas of study have also been improved and expanded such as self-contained breathing apparatus, firefighter safety, rescue procedures, and firefighter survival. All of the areas that we all deal with on a much more frequent basis than terrorism have received the same attention and have been noticeably improved. All of this has been done to keep you, the first line of defense, as technically prepared and tactically ready as possible. It has become apparent that every firefighter in every city and town in America must be able to respond quickly and effectively to any and every emergency that arises there. Every effort has been made to create a new and updated handbook that can be used as a reference for chief and company officers, training manual for company officers and firefighters, and textbook for candidates preparing to enter the most difficult and rewarding profession, firefighting.

John Salka, Jr.
Battalion Chief
New York City Fire Department



ABOUT OUR AUTHORS

The expertise, dedication, and passion of our contributing authors have created a text that determines a standard of excellence in the education of our nation's firefighters.

To continue in this standard of excellence for the second edition of *The Firefighter's Handbook: Essentials of Firefighting and Emergency Response*, our authors have dedicated their time to ensure that the book remains current to the 2002 edition of *NPFA Standard 1001*, as well as the changing landscape of the fire service world. Thanks to our revising authors Andrea Walter, David Dodson, Dennis Childress, Chris Hawley, and Marty Rutledge, as well as to the outstanding authors who provided the foundation of this textbook: Ron Coleman, Thomas J. Wutz, Willis T. Carter, Frank J. Miale, T. R. (Ric) Koonce III, Robert F. Hancock, Robert Morris, Geoff Miller, and Donald C. Tully.



Andrea A. Walter

Author of Chapter 22, Emergency Medical Services. Revising author of 1, 2, 3, and 4.

Andrea A. Walter is a firefighter with the Washington Metropolitan Airports Authority and a member and former officer of the Sterling Volunteer Rescue Squad. Walter has been active in the fire and emergency services community for many years, serving as the Manager of the Commission on Fire Accreditation International for the International Association of Fire Chiefs and assisting in a variety of projects with the National Volunteer Fire Council, Women in the Fire Service, and the United States Fire Administration. She has over fifteen years of experience in the fire and emergency services. In addition to being an author for this text, Walter also took on the expanded role of serving as the project's Content Editor. She is also an author and the Content Editor for Delmar Learning's *First Responder Handbook: Fire Service Edition* and the *Law Enforcement Edition*.



Ronny J. Coleman

Author of Chapter 1, Overview of the History, Tradition, and Development of the American Fire Service.

Chief Coleman is a nationally and internationally recognized member of the fire service who formerly served as the Chief Deputy Director, Department of Forestry and Fire Protection, and as California State Fire Marshal. He has served in the fire service for thirty-eight years. Previously he was Fire Chief for the Cities of Fullerton and San Clemente, California, and was the Operations Chief for the Costa Mesa Fire Department. Chief Coleman possesses a Master of Arts Degree in Vocational Education from Cal State Long Beach, a Bachelor of Science Degree in Political Science from Cal State Fullerton, and an Associate of Arts Degree in Fire Science from Rancho Santiago College. He has served in many elected positions in professional organizations, including President, International Association of Fire Chiefs; Vice President, International Committee for Prevention and Control of Fire; and President, California League of Cities, Fire Chiefs Department. He is the author of *Going For Gold*, Delmar Thomson Learning.



Thomas J. Wutz

Author of Chapter 2, Fire Department Organization, Command, and Control; Chapter 7, Self-Contained Breathing Apparatus.

Chief Wutz has been involved in the fire service for more than thirty years in both volunteer and military fire departments. He is currently Chief of Fire Services, New York State Office of Fire Prevention and Control. In this position, his duties include supervision and management of the state's outreach training program, delivered by 230 instructors assigned to fifty-seven counties. In addition, he is responsible for curriculum development and implementation of new training programs, New York State's Wireless 9-1-1 program, and state fire mobilization and mutual plan and response. On completion of a twenty-eight-year career, he recently retired as Fire Chief of the 109th Airlift Wing, New York Air National Guard. Chief Wutz is also a member of the faculty in the Fire Science Program at Schenectady County Community College, Schenectady, New York, and a firefighter with the Midway Fire Department, Town of Colonie, New York.



Willis T. Carter

Author of Chapter 3, Communications and Alarms.

Chief Willis Carter has been a member of the fire service for over thirty years. He began his career in 1972 as a firefighter with the Shreveport Fire Department, and for the past twenty-five years has served as the Chief of Communications for the department. Carter is responsible for the management and operations of the Fire Communications Center, which serves as the Primary Public Safety Answering Point (PSAP) for the Caddo Parish, Louisiana, 9-1-1 system.

In addition to his work in the fire service, he is active at the national level. He has served as past president of the Louisiana Chapter of the Association of Public Safety Communications Officials (APCO) and currently serves as Executive Council representative for the state of Louisiana. His other work with APCO includes serving as Chairperson for the Membership Task Force, and as a member of APCO Project 37 Team (Telecommunicator

Certification Program). He also serves as a member of APCO Bulletin Editorial Advisory Board. In addition to his work with APCO, he is a member of the International Fire Chief's Association and the National Emergency Number Association. He is also an Assessment Team Leader for the Commission on Law Enforcement Accreditation (CALEA). Carter led the effort by the Shreveport Fire Department Communications Center to become the first Public Safety Communications Center in the state of Louisiana to achieve accredited status through CALEA.



Frank J. Miale

Author of Chapter 4, Fire Behavior; Chapter 14, Ladders; and Chapter 18, Ventilation.

Miale, a Battalion Chief with over thirty years in the FDNY, recently retired. A twenty-five-year active member in his local Volunteer Lake Carmel Fire Department, he maintains a busy role as treasurer and training instructor. A former high school teacher, he holds two Bachelor of Science degrees with several concentrations in Education, Biology, and Fire Administration. During his career in the FDNY, he taught at the NYC fire academy, participated in the introduction of a communication system using apparatus-mounted computers, and headed a special Emergency Command Unit while an active line officer. Formerly the Training Officer for the 27th Battalion in the FDNY, he taught many ladder company and ventilation courses throughout the country. His career was spent primarily in busy ladder companies in Brooklyn, Harlem, and the South Bronx sections of New York City prior to promotion to Chief Officer. He is the recipient of nine awards for courage and valor, including two department medals from the FDNY, and has been published many times in *WNYF, Fire Command*, and *Fire Service Today*.



David W. Dodson

Author of Chapter 5, Firefighter Safety; Chapter 6, Personal Protective Clothing and Ensembles; and Chapter 23, Firefighter Survival. Revising author of Chapters 5, 6, 9, 10, 11, 12, 13, 16, and 23.

Dodson is a twenty-four-year fire service veteran. He started his fire service career with the U.S. Air Force. He served at Elmendorf AFB in Alaska and spent two years teaching at the USAF Fire School. After the USAF, Dodson spent almost seven years as a Fire Officer and Training/Safety Officer for the Parker Fire District in Parker, Colorado. He became the first Career Training Officer for Loveland Fire and Rescue in Colorado and rose through the ranks, including time as a HAZMAT Technician, Duty Safety Officer, and Emergency Manager for the city. He accepted a Shift Battalion Chief position for the Eagle River Fire District in Colorado before starting his current company, *Response Solutions*, which is dedicated to teaching firefighter safety and practical incident handling. Chief Dodson has served on numerous national boards including the NFPA Firefighter Occupational Safety Technician Committee and the International Society of Fire Service Instructors (ISFSI). He also served as president of the Fire Department Safety Officers' Association. In 1997, Dodson was awarded the ISFSI "George D. Post Fire Instructor of the Year." He is also the author of *Fire Department Incident Safety Officer*, published by Delmar Learning, a Thomson Company.



T. R. (Ric) Koonce, III

Author of Chapter 8, Portable Fire Extinguishers; Chapter 9, Water Supply; Chapter 10, Fire Hose and Appliances; Chapter 11, Nozzles, Fire Streams, and Foam; and Chapter 12, Protective Systems.

Koonce is an Assistant Professor and Program Head of Fire Science Technology at J. Sargeant Reynolds Community College in Richmond, Virginia. He is a retired Battalion Chief with the Prince George's County (Maryland) Fire Department and has over thirty years of fire service experience. He is an adjunct instructor for the Virginia Department of Fire Programs. He holds two associate degrees, a Bachelor of Science degree in Fire Service Management from University College of the University of Maryland, and a Certificate of Public Management from Virginia Commonwealth University.



Robert F. Hancock

Author of Chapter 15, Ropes and Knots; and Chapter 16, Rescue Procedures.

Hancock is Assistant Chief/Administration with Hillsborough County Fire Rescue in Tampa, Florida, a department that services an area of 931 square miles and a population of over 600,000 with 615 career personnel and 205 volunteers and a \$42.7 million budget. He was hired in November 1974 as a firefighter and was promoted through the ranks to his present position in October 1993. He was awarded an Associate of Science Degree in Fire Science, with honors, from Hillsborough Community College. He graduated from the Executive Fire Officers Program at the National Fire Academy and has been certified as an instructor with the State of Florida since 1983. Hancock is chairman of the Florida Fire Chiefs' Disaster Response Communications Sub-Committee, charged with identifying short- and long-term solutions to the disaster response communication issue statewide. He is Rescue Series Editor, a contributing author for Delmar Thomson Learning, and a member of Florida EDACS PS User's Group, serving as President for 1999.



Robert Morris

Author of Chapter 17, Forcible Entry.

Morris is a thirty-year veteran of the New York City Fire Department and has been assigned to some of the busiest fire companies in New York City, including Ladder Company 42, Engine 60 in the Bronx, and Rescue Company 3 in Manhattan. After serving in the Bronx and Harlem, he served as Company Commander of Ladder Company 28. Captain Morris is currently Company Commander of Rescue Company 1 in Manhattan. He is an Instructor with the Connecticut State Fire Academy, the New York City Fire Department Institute, a national lecturer, and a Contributing Editor for *Firehouse Magazine*. Captain Morris is the recipient of seventeen meritorious awards, including three department medals.



Dennis Childress

Author of Chapter 19, Fire Suppression.

Childress is with the Orange County Fire Authority in Southern California and has been in the fire service for just over thirty-five years. He is a Certified Chief Officer with the state of California, and he holds an Associate of Arts degree in Fire Science and a Bachelor of Science degree in Fire Protection Administration. He holds a seat on the Board of Directors for the Southern California Fire Training Officers Association, chairs the California State Firefighters Association Health and Safety Committee, and sits on the Statewide Training and Education Advisory Committee for the State Fire Marshal's office. He is a principal member of the NFPA 1500 Fire Service Occupational Safety and Health Committee and the NFPA 1561 Standard for Emergency Services Incident Management System Committee. He has authored a number of articles in fire service publications over the years, and he has also been an instructor in Fire Command and Management in the California State Fire Training System for over twenty years as well as an instructor for the National Fire Academy. He is the original author of the *Workbook to Accompany Firefighter's Handbook: Essentials of Firefighting and Emergency Response*.



Geoff Miller

Author of Chapter 20, Salvage, Overhaul, and Fire Cause Determination.

Miller is a twenty-nine year veteran of the fire service and is currently a line Battalion Chief with the Sacramento Metropolitan Fire District in California. Previous assignments have included four years as the district's Training Officer, ten years as a line Captain, and two years as an Inspector. He has been involved in several California Fire Fighter I and II curriculum development workshops as well as participating on the rewrite of Fire Command 1A and 1B. He was also on the IFSTA Material Review Committee for Fire Department Company Officer, third edition. He is happily married, has two daughters, and lives in El Dorado Hills, California.



Donald C. Tully

Author of Chapter 21, Prevention, Public Education, and Pre-Incident Planning.

Tully is a member of the Orange County, California, Fire Authority. With thirty years in the fire service, he has also been a Division Chief/Fire Marshal in Buena Park and Westminster, California, for ten years, and a Fire Technology Instructor at Santa Ana College, California. He is Past President of the Orange County Fire Prevention Officers' Association and was a member of IFSTA's Fire Investigation Committee. He also served as a member of NFPA Committees 1221 (CAD Dispatch and Public Communications) and 72 (Fire Alarms), and as a member of the California State Fire Marshal Committees on Fire Sprinklers and Residential Care Facilities (ad hoc committees). He is a California State Certified Chief Officer, Fire Officer, Fire Investigator, Fire Prevention Officer, and Fire Service Instructor and Technical Rescue Specialist.



Chris Hawley

Author and revising author of Chapter 24, Hazardous Material: Laws, Regulations, and Standards; Chapter 25, Hazardous Materials: Recognition and Identification;

Chapter 26, Hazardous Materials Information Resources; Chapter 27, Hazardous Materials: Personal Protective Equipment; Chapter 28, Hazardous Materials: Protective Actions; Chapter 29, Product Control and Air Monitoring; and Chapter 30, Terrorism Awareness.

Hawley is a retired Fire Specialist with the Baltimore County Fire Department. Prior to this post, he was assigned as the Special Operations Coordinator and was responsible for the coordination of the Hazardous Materials Response Team and the Advanced Technical Rescue Team along with the team leaders. He has served on development teams for local, state, and federal projects, including the National Fire Academy, and provides HAZMAT and terrorism response training nationwide. Hawley is also the author of four Delmar Learning textbooks, including *Hazardous Materials Response and Operations*, *Hazardous Materials Incidents*, *Haz-Mat Air Monitoring and Detection Devices*, and *Fire Department Response to Sick Buildings*. He is currently the owner of FBN Training, which provides a wide variety of emergency response training, including hazardous materials, confined space, technical rescue, and emergency medical services, as well as consulting services to emergency services and private industry.



Marty L. Rutledge

Revising author of Chapters 7, 8, 14, 15, 20, and 21.

Rutledge is a Firefighter/Engineer, ARFF Specialist, and EMS Program Manager for Loveland Fire and Rescue in Loveland, Colorado. He is a member of the Fire Certification and Advisory Board to the Colorado Division of Fire Safety, as well as serving as the State First Responder program coordinator. He is also a member of the Colorado State Fire Fighter's Association and has over thirteen years of fire and emergency services experience in both volunteer and career ranks. Rutledge has authored and served as technical expert for a supplementary firefighter training package for Delmar Learning's *The Firefighter's Handbook* and as co-author for Delmar Learning's *First Responder Handbook: Fire Service Edition* and *First Responder Handbook: Law Enforcement Edition*.



PREFACE

Welcome new recruits, volunteers, and experienced firefighters to the second edition of *The Firefighter's Handbook: Essentials of Firefighting and Emergency Response*. Within the pages of this textbook you will find all the information you need to successfully complete the Firefighter I and II certification courses, as well as a guide to refresh your knowledge and skills as you continue on as a firefighter.

The Firefighter's Handbook is a comprehensive guide to the basic principles and fundamental concepts involved in firefighting, emergency medical services, and hazardous materials operations, as defined by the 2002 edition of the *National Fire Protection Association 1001 Standard for Firefighter Professional Qualifications*. The text can be used by both new and experienced firefighters and hazardous materials technicians to study the basic skills required to perform a wide variety of firefighting and emergency service activities.

As a firefighter you will make a difference in the lives of many. Use your knowledge, practice your skills, and above all—be safe.

Development of This Text

The Firefighter's Handbook was created to fill a void in the firefighting and emergency service education system. Through the dedication of our authors, content and technical reviewers, as well as our Fire Advisory Board members, the second edition of *The Firefighter's Handbook* continues to remain up to date with the changing landscape of the fire service world. This text is designed to meet and exceed the requirements set forth in the 2002 edition of *NFPA Standard 1001*, as well as the Hazardous Materials Awareness and Operations Level of the 2003 Edition of *NFPA Standard 472*, and presents the information in a realistic and challenging way. The content is written in a clear and concise manner, and step-by-step photo sequences illustrate the need-to-know Job Performance Requirements that are so critical to hands-on training. A special emphasis on safety and the development of critical thinking skills through featured text boxes ensures that both aspiring and experienced firefighters have the knowledge they need to effectively respond to fires and other emergencies.



Organization of This Text

The Firefighter's Handbook: Essentials of Firefighting and Emergency Response, Second Edition, consists of thirty chapters, including coverage of hazardous materials and terrorism. All the essential information—from the history of the fire service to the governing laws and regulations, from the use of apparatus and equipment to the practice of procedures, from understanding fire behavior and building construction to effective planning and prevention measures—is covered in this text. The chapters are set up to deliver a straightforward, systematic approach to training, and each includes an outline, objectives, introduction, lessons learned, key terms, review questions, and a list of additional resources. Also included at the front of the book is an NFPA 1001/472 Correlation Guide and Job Performance Requirement Guide that correlates the requirements outlined in the Standard to the content of *The Firefighter's Handbook* by chapter and page references. These resources can be used as a quick reference and study guide.

The Firefighter's Handbook: Basic Essentials of Firefighting

New for the release of the 2002 edition of the *NFPA Standard 1001* is the addition of *The Firefighter's Handbook: Basic Essentials of Firefighting* to the fire science list from Delmar Learning. This book retains all the features of the original text, but excludes the coverage of hazardous materials. This is an excellent choice for fire departments, academies, and schools in which hazardous materials are taught in a separate course with separate learning materials.

The *Basic Essentials of Firefighting* textbook meets the requirements of the *NFPA Standard 1001* when taught in conjunction with a hazardous materials course that meets the requirements of *NFPA Standard 472*, Awareness and Operations levels.

Order #: 1-4018-3582-1



New to This Edition

The Firefighter's Handbook: Essentials of Firefighting and Emergency Response, Second Edition, contains many new updates and additional information to address the needs of the fire service today:

- *Safety*: Safety—when responding to incidents in apparatus, and while performing scene assessment on vehicle accidents—is thoroughly covered. New sections on unique fire events and “reading smoke” encourage firefighters to apply an understanding of basic fire behavior when responding to structural fires. In addition, expanded content on the two in/two out rule educates firefighters on how to rescue their own in emergencies.
- *Current Technology*: This text offers information on the latest technology, including information on up-to-date communication systems and a new section on thermal imaging cameras.
- *Building Construction*: Chapter 13 was completely revised to address new building structures and additional considerations in structural collapse. Also included is a special section dedicated to the expert in the field, Francis L. Brannigan.
- *Ladders*: Chapter 14 was thoroughly revised to reflect a variety of procedures utilizing ladders in rescue situations.
- *Hazardous Materials and Terrorism*: In light of the events of September 11, 2001, and the worldwide terrorist attacks that followed, Chapters 24–30 have been thoroughly revised to reflect the latest threats to our nation. Expanded coverage of BLEVE and decontamination provides necessary information to firefighters responding to HAZMAT incidents. Valuable information related to terrorist activities, such as how to determine if a threat is credible, new coverage on hazardous material crimes, including a discussion on drug labs, as well as current statistics and events bring into focus the changing world of the fire service.
- *New Photos*: The inclusion of new photos brings the text up to date with the latest in apparatus, tools, equipment, and procedures in the fire service.
- *New Feature Text Boxes*: Additional text boxes and featured articles provide helpful tips, advice on safety, and important information for firefighters.

FEATURES

The Firefighter's Handbook contains a number of features that set it apart from other basic fire service texts. What is unique about this text is that it offers a realistic approach to the world of firefighting and emergency response. It is comprehensive in coverage, including all the need-to-know information, but presents the content in a clear and concise manner, so it is easy to read, follow, and understand. What is essential is not only acquiring the knowledge, but more importantly, putting it into practice. *The Firefighter's Handbook* emphasizes this fact through the use of step-by-step photo sequences and text descriptions to illustrate critical Job Performance Requirements. Firefighters throughout the nation also continue to contribute their stories to the book, bringing insight, advice, and experience to the text.

The Firefighter's Handbook continues to recognize that today's firefighters must respond to more than just fire emergencies. Firefighters are expected to effectively respond to medical emergencies as well as hazardous materials and terrorism incidents. In response, the textbook includes a chapter on emergency medical services, as well as seven chapters on all the latest information on hazardous materials and terrorist activities. Tips for safety that are vital to survival and critical to the success of the operation on the scene of an incident are integrated throughout the chapters.

In addition, *The Firefighter's Handbook* provides instructors with handy reference tools and supplemental materials that alleviate those heavy preparation commitments. A new emphasis on the modularized lesson plans in the Instructor's Curriculum Kit and Instructor's Curriculum CD-ROM for departments provides instructors with flexible lecture outlines that will meet individual department or academy schedules.

How to Use This Text

The following suggests how you can best utilize the features of this text to gain competence and confidence in learning firefighting essentials.

NFPA Standard 1001/472 Correlation Guide

This grid provides a correlation between *The Firefighter's Handbook* and the requirements for Firefighter I and II, as stipulated by the *NFPA Standard for Firefighter Professional Qualifications*, 2002 Edition, Chapters 5 and 6. These sections from the Standard are correlated to the textbook chapters and are referenced by page numbers.

Job Performance Requirement Correlation Guide

This grid provides an outline of the Job Performance Requirements stipulated by the *NFPA Standard for Firefighter Professional Qualifications*, 2002 Edition, Chapters 5 and 6, and the corresponding step-by-step photo sequences illustrated in *The Firefighter's Handbook*. Additional supplemental skills are also included to encourage practice of essential skills for on-the-job training. A quick reference for studying and reviewing important hands-on skills, this grid correlates the JPR to the textbook chapters and references the page numbers.

Job Performance Requirements

Step-by-step photo sequences illustrating important procedures are integrated throughout the chapters. These are intended to be used as a guide in mastering the job performance requirement skills and to serve as a review guide reference.



Street Stories

Each chapter opens with a personal experience written by noted contributors from across the nation. These personal accounts draw you into the minds of those who wrote them and help to reinforce to you why the subsequent chapter can make all the difference in the world.

Streetsmart Tips

As is true of any profession, sometimes experience can be the best teacher. These tips are power-packed with a wide variety of hints and strategies that will help you to become a streetsmart firefighter.

Firefighter Facts

These boxes offer a detailed snapshot of facts based on firefighting history, experience, and recorded data to provide thought-provoking information.

Notes

The Note feature highlights and outlines important points for you to learn and understand. Based on key concepts, this “must know” material is an excellent study resource.

Safeties and Cautions

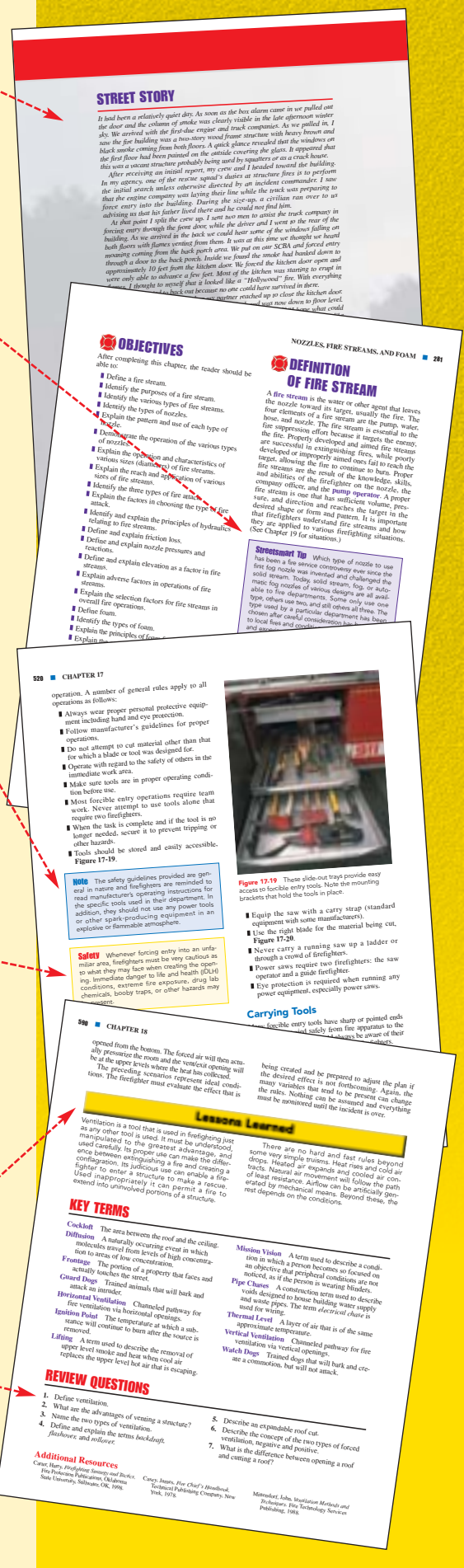
As a firefighting professional, you will face situations in which you will need to react immediately in order to ensure your safety and the safety of those with you. These tips emphasize when and how to react safely.

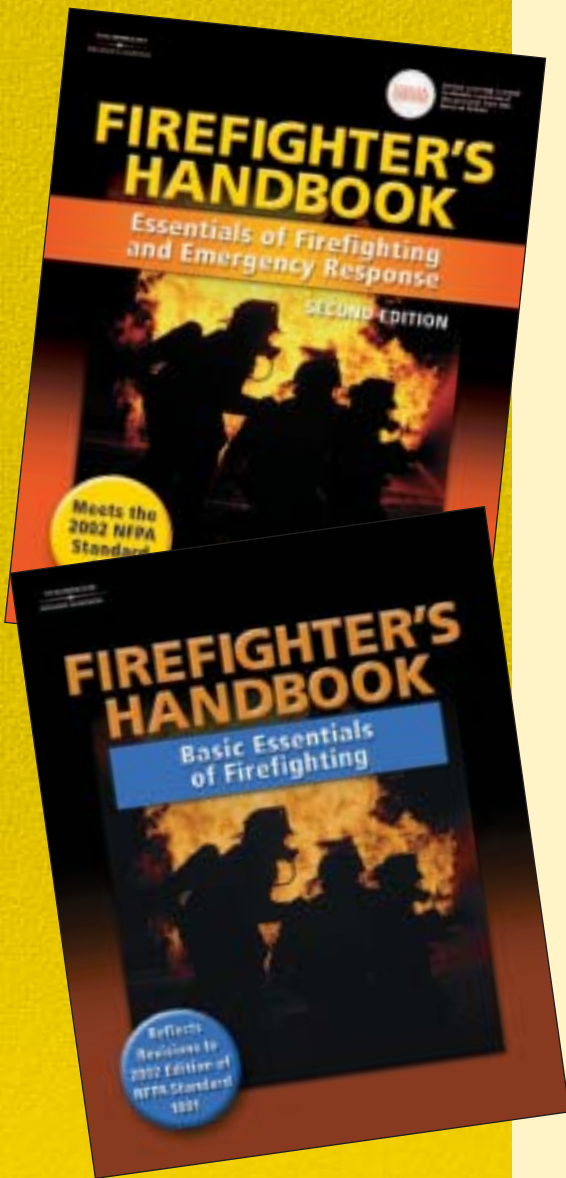
Lessons Learned

The Lessons Learned feature summarizes the main points presented in the chapter and is ideal for review purposes.

Review Questions

At the end of every chapter, the review questions assist you with the learning process and help you develop the necessary critical thinking skills.





Supplemental Curriculum Package

The Firefighter's Handbook

This text was created not only as a stand-alone manual for firefighters, but as a special package of materials for the full instructional experience. The supplement package provides a variety of tools for students and instructors to enhance the learning experience.

Instructor's Curriculum Kit

The *Instructor's Curriculum Kit* is designed to allow instructors to run programs according to the standards set by the authority having jurisdiction where the course is conducted. It contains the information necessary to conduct Firefighter I, Firefighter II, hazardous materials awareness, and hazardous materials operations courses. It is divided into sections to facilitate its use for training:

Administration: Provides the instructor with an overview of the various courses, student and instructor materials, and practical advice on how to set up courses and run skill sessions.

Modularized Lesson Plans: Are ideal for instructors, whether they are teaching at fire departments, academies, or longer-format courses. Each section presents learning objectives, recommended time allotment, equipment and reading assignments for each lesson and outlines key concepts presented in each chapter of the text with coordinating PowerPoint slides, textbook readings, and Job Performance Requirement and Supplement Skill sheets.

Equipment Checklist: Offers a quick guide for ensuring the necessary equipment is available for hands-on training.

Job Performance Requirement and Supplemental Skills

Sheets: Outline important skills that each candidate must master to meet requirements for certification and provide the instructor with a handy checklist. Also includes a *Job Performance Requirement Correlation Guide*, which cross-references the Standard with the *Job Performance Requirements* outlined in *The Firefighter's Handbook*. These guides can be used for quick reference when reviewing important skills and for studying for the Firefighter I and II certification exam.

Progress Log Sheets: Provide a system to track the progress of individual candidates as they complete the required skills.

Quick Reference Guides: Contain valuable information for instructors. Included are three grids: *NFPA Standard 1001/472 Correlation Guide* used to cross-reference *The Firefighter's Handbook* with standards 1001/472, *New Edition Correlation Guide* used to cross-reference the revisions between the first and second editions of *The Firefighter's Handbook*, and a *Comparison Guide* that correlates *The Firefighter's Handbook, Second Edition*, to the *IFSTA/Essentials, Fourth Edition*, text.

Answers to Review Questions: Included for each chapter in the text.

Additional Resources: Offer supplemental resources for important information on various topics presented in the textbook.

Also includes: Instructor's Curriculum CD-ROM

Order #: 1-4018-3576-7

Instructor's Curriculum CD-ROM

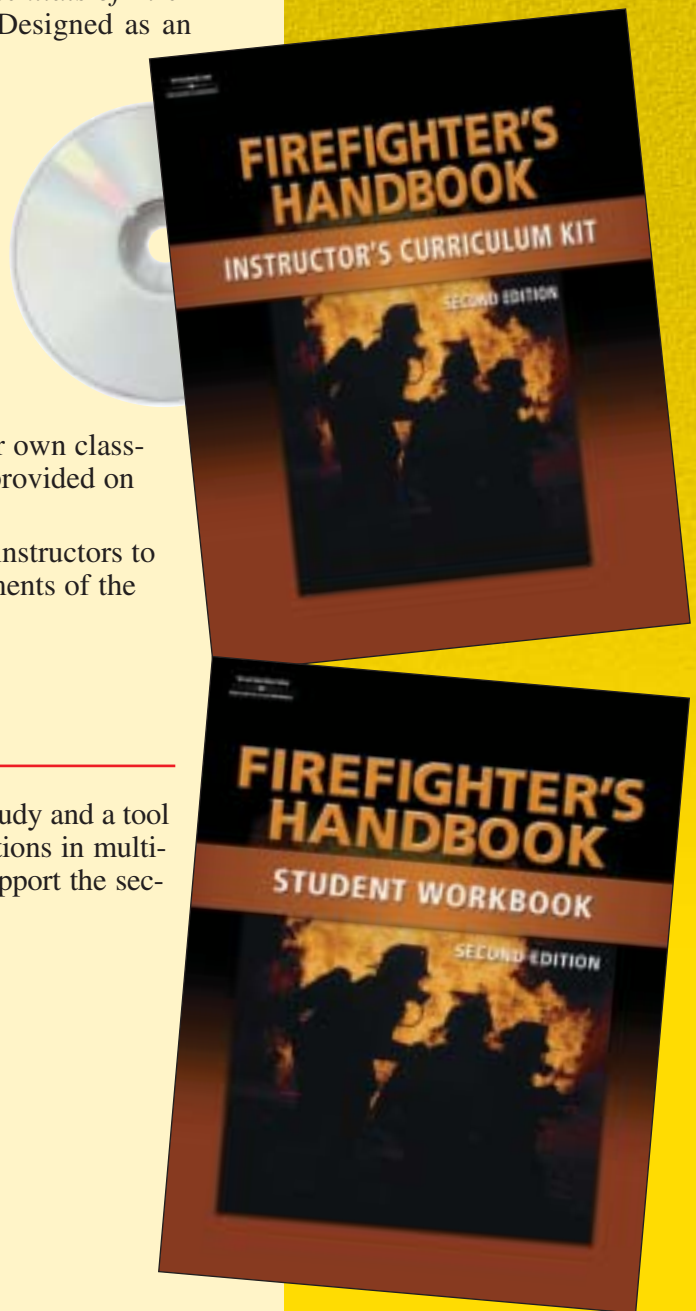
Available in the *Instructor's Curriculum Kit* and as a separate item, the *Instructor's Curriculum CD-ROM* ensures a complete, electronic teaching solution for *The Firefighter's Handbook: Essentials of Firefighting and Emergency Response, Second Edition*. Designed as an integrated package, it includes the following:

- *PowerPoint Presentations* outline key concepts from each chapter, and contain graphics and photos from the text, as well as video clips, to bring the content to life.
- A *Testbank* containing hundreds of questions helps instructors prepare candidates to take the written portion of the certification exam for Firefighter I and II.
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Student Workbook

This is helpful in the classroom setting as a guide for study and a tool for assessing progress. The workbook consists of questions in multiple formats, including new and revised questions to support the second edition of *The Firefighter's Handbook*.





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Delmar's Basic Firefighting Video Series and CD-ROM Courseware

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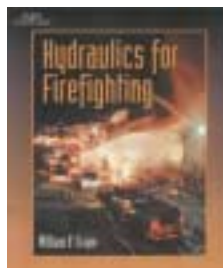
services, hazardous materials control, fire prevention, and public education.

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Principles of Fire Behavior/Quintiere

While explaining the science of fire with a precision found nowhere else, this text applies science to fire safety design and investigation. Using a quantitative approach, it presents an ideal introduction to the scientific principles behind fire behavior.

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Introduction to Fire Pump Operations/Sturtevant

Here's the book that offers students and professional fire pump operators the updated knowledge required to efficiently, effectively, and safely operate and maintain fire pumps. With an emphasis on NFPA standards and safety, the book is logically presented in three sections: Pump Construction/Peripherals, Pump Procedures, and Water Flow Calculations.

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Firefighting Strategies and Tactics/Angle, Gala, Harlow, Lombardo, and Maciuba

This book is a complete source for learning firefighting strategies and tactics, from standard company responsibilities and assignments to specialized situational strategies and tactics. The reader will progress from basic concepts to the application of tactics and situational strategies for particular occupancies or types of fires. This book was written in an easy-to-follow manner. It is presented in a fashion that can be universally applied in all areas of the country, rural to urban.

Order #: 0-7668-1344-4

Explosives Identification Guide/Pickett

This is a reference guide to explosives for emergency responders such as firefighters, police officers, and EMS staff as well as security personnel. Through color photographs and short descriptions, the student can identify explosives by general type and learn the appropriate way to treat each of them. Written in a general, nontechnical style, the book is a fast and easy guide for those with little or no knowledge of, or experience with, explosives.

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Wildland Firefighting Practices/Lowe

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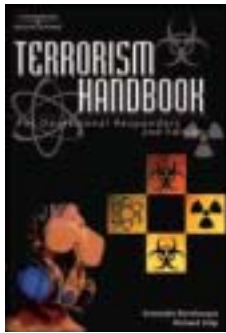
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Terrorism

Preparing for Terrorism: An Emergency Services Guide/Buck

This text helps the reader develop the skills for dealing with terrorism on many levels: preparing and planning for a terrorist attack, mitigating its effects, proper emergency response, and recovery from terrorism disasters. It is an essential guide to the planning and implementation of antiterrorist response and operations for the overall safety of the first responder.

Order #: 0-8273-8397-5

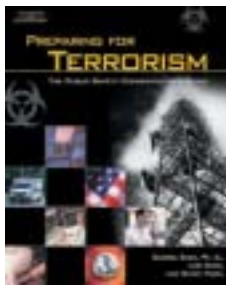


Terrorism Handbook for Operational Responders, 2nd ed./Bevelacqua and Stilp

This updated book is a guide into the most significant points that surround the emergency response processes needed to cope with terrorism incidents. It highlights new equipment and strategies that can enhance a responder's detection, monitoring, and protection capabilities

against chemical and biological agents. First responders are provided with the knowledge they need to prepare for and combat acts of terrorism.

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Preparing for Terrorism: The Public Safety Communicator's Guide/Buck, Buck, and Mogil

This book starts with an overview of national and international terrorism, while emphasis throughout the book is on how to prepare communications center staff and their families for a terrorist event by providing them with a well-thought-out

employee emergency plans and contingencies. Solutions to communications problems, such as cellular and landline telephone overload situations, are addressed as well.

Order #: 1-4018-7131-3



Citizen's Guide to Terrorism Preparedness/Stilp and Bevelacqua

This book provides readers with facts, figures, and practical guidelines to follow as they go about their daily lives. It is designed specifically for average citizens who want

to take all of the steps they can to prepare themselves for a terrorist act in their state, city, or neighborhood.

Order #: 1-4018-1474-3

Preparing for Biological Terrorism: An Emergency Services Guide/Buck

This book contains vitally important information to guide local agencies in their efforts to secure and coordinate the influx of state and federal resources before, during, and after an attack. This resource walks through the fundamental concepts of emergency planning. Subsequent chapters enable readers to immerse themselves thoroughly in specific elements of successful emergency planning.

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Explosives Identification Guide/Pickett

This book is a reference guide to explosives for emergency responders such as firefighters, police officers, and EMS staff as well as security personnel. Through color photographs and short descriptions, the student can identify explosives by general type and learn the appropriate way to treat each of them.

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HAZMAT



Hazardous Materials Incidents, 2nd ed./Hawley

Hazardous Materials Incidents is an invaluable procedural manual and all-inclusive information resource for emergency services professionals. Easy-to-read and perfect for use in HAZMAT awareness, operations, and technician-level training courses, this

“Operations Plus” book begins by acquainting readers with current laws and regulations, including those governing emergency planning and workplace safety.

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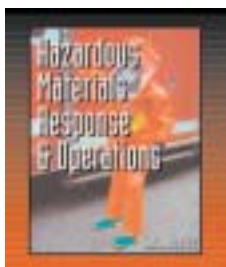
Hazardous Materials Air Monitoring and Detection Devices/Hawley

This book provides HAZMAT teams with a thorough guide to effective air monitoring in emergency response situations. Each type of air monitoring devices available for emergency services is described in detail, including operating guidelines and sampling strategies. A special section discusses the latest trend in HAZMAT detection and monitoring of hazardous agents used for terrorism.

Order #: 0-7668-0727-4

Hazardous Materials Response and Operations/Hawley

While presenting an in-depth look at the response to hazardous materials releases, this book covers each class of hazardous materials and provides recommenda-



tions and guidelines for the protection of responders and victims. The text focuses on a cutting-edge response profile called Risk-Based Response, known for its progressive and aggressive approach to dealing with chemical spills. Also included is a detailed discussion of response strategies to terrorism, preparing students to be leaders in

the newest area of the HAZMAT field.

Order #: 0-7668-1150-6

Hazardous Materials Chemistry/Bevelacqua

Hazardous Materials Chemistry covers the basic concepts of chemistry, emphasizing the decision-making process so that appropriate strategies and tactics will be chosen.

Order #: 0-7668-1434-3



Hazardous Materials Field Guide/Bevelacqua and Stilp

Whether the incident involves hazardous materials, a clandestine laboratory, terrorism, or a confined

space operation, this user-friendly resource includes information that is consistent with the mission of all agencies. The guidebook's easy access format allows rapid identification of placards, labels, silhouettes, and common commodities that move on roadways and railways. Medical considerations are described throughout the text, identifying potential needs of an affected community.

Order #: 0-7668-0155-1

Hazardous Materials: Regulations, Response, and Site Operations/Schnepf and Gantt

This essential guide provides the student with a practical approach to the concepts of handling hazardous materials. Based on OSHA "HAZWOPER" regulations, this invaluable text addresses the specific competencies required of persons responding to a hazardous materials emergency.

Order #: 0-8273-7999-4

Emergency Medical Response to Hazardous Materials Incidents/Stilp and Bevelacqua

Medical aspects of hazardous materials response including the initial response, chemical and toxicological information, and effects on body systems—injury and treatment, physiology, and treatments of common poisonings—are explained in this book. The student will learn how to make decisions based on a scale of risk versus gain.

Order #: 0-8273-7829-7

Emergency Decontamination for Hazardous Materials Responders/Henry

This one-of-a-kind book focuses entirely on decontamination, a crucial aspect of hazardous materials emergency response. The book brings together facts about chemical contamination gathered over the last ten years and presents them in a simple, streetwise way.

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Hazardous Materials Air Monitoring/Detection Devices/Hawley

This text provides HAZMAT students with a thorough guide to effective air monitoring in emergency response situations. The key component to safely responding to hazardous materials is the use of a variety of detection devices for effective air monitoring. The most up-to-date information is provided along with discussion of future trends and rapidly changing technology in this field.

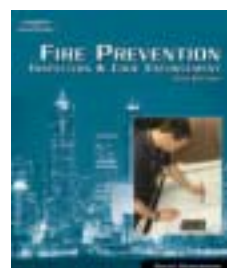
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Hazardous Materials Response and Operations/Hawley

This text presents an in-depth look at the response to hazardous materials releases, covering each class of hazardous materials, and providing recommendations and guidelines for the protection of responders and victims. The text focuses on a cutting-edge response profile called risk-based response, known for its progressive and aggressive approach to dealing with chemical spills.

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Inspection, Investigation, and Fire Law



Fire Prevention: Inspection and Code Enforcement, 2nd ed./Diamantes

This is a vital resource for the application of building and fire prevention codes in the inspection of buildings and facilities and for compliance through the code enforcement process. Issues such as enforcement

authority, determining inspection priorities, maintenance of rated assemblies, fire protection systems, storage occupancies, detonation and deflagration hazards, and hazardous materials storage and processing are covered in depth in this comprehensive guide.

Order #: 0-7668-5285-7

Fire and Emergency Law Casebook/Schneid

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Rescue

Confined Space Rescue/Browne and Crist

Confined space rescues present unique hazards to victims and emergency service workers. This new, clearly written book identifies the problems, showing users how to address them and how to rescue a victim. With this book, firefighters, police officers, EMS personnel, emergency medical staff, and industrial rescue teams can learn a simple set of skills that will provide a foundation for growth into advanced rescue operations.

Order #: 0-8273-8559-5

Engineering Practical Rope Rescue Systems/Brown

Beginners and advanced rescue technicians will learn from and enjoy this entertaining and educational book. A practical look at rope rescue systems from the point of view of an experienced professional, each chapter features exciting stories and real-life situations. The book provides a complete review of team integrity and development issues as well as team efficiency concepts that create a superior survival profile.

Order #: 0-7668-0197-7

Fire Protection Systems

Design of Water-Based Fire Protection Systems/Gagnon

A vital reference for every inspector and designer of fire protection, sprinkler, architectural, or engineering systems, this book is a must. Hydraulic calculations for the most commonly encountered water-based fire protection systems are covered in detail. Manual hydraulic calculations are thoroughly covered, and a computer disk is included to provide the reader with the opportunity to calculate a wide variety of systems.

Order #: 0-8273-7883-1

Design of Special Hazard and Fire Alarm Systems/Gagnon

As the most current guide to the design of state-of-the-art special hazard and fire protection systems, this book is essential to architects, engineers, layout technicians, plumbers, mechanical contractors, and sprinkler firms. Using the most up-to-date NFPA standards and reference data, it guides the reader through the steps needed to design a wide variety of simple and complex systems.

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Officer

**Coming Soon! Second Edition, Fall 2004
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Company Officer/Smoke

Any firefighter that wants to gain certification as a Fire Officer will find this practical guide an excellent resource. Based on the latest information and require-

ments outlined in NFPA 1021, the Standard for Fire Officer Professional Qualifications, the book gives the user the information necessary to meet NFPA Standard competencies for certification as Officer I, the first-line supervisor.

Order #: 0-8273-8472-6

Going for the Gold/Coleman

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Fire Department Incident Safety Officer/Dodson

This is the only book that provides a clear, focused, and detailed approach to making a difference as an incident safety officer. Company officers, battalion chiefs, safety officers, and incident commanders will benefit from the foundation material and the incident safety officer action model presented in this book.

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Reference

Firefighter Exam, 2nd ed./Learning Express

This new edition has been completely revised and updated to reflect changes in national firefighter tests. With this book, firefighter candidates will be able to sharpen their skills with four practice tests. Instructional chapters target the basic skills tested on firefighter exams—math, reading comprehension, grammar, vocabulary, memory, judgment, and recall.

Order #: 1-57685-440-X

A Practical Guide to Teaching in the Fire Service/Morse

Designed for the person without formal training or a degree in education who is found teaching in front of a classroom, this how-to book is the perfect resource. Its no-nonsense approach covers the day-to-day information that is needed to conduct a successful class in fire service.

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Practical Problems in Mathematics for Emergency Services/Sturtevant

This is the only math-related text specifically written for the emergency service field. Today, most certifications in the emergency service field require written exams that include related math problems. Designed for such exams, this book may be used as a preparation for certification and promotional exams, as well as a quick reference for the seasoned professional.

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Codes



2003 International Fire Code

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ments for buildings.

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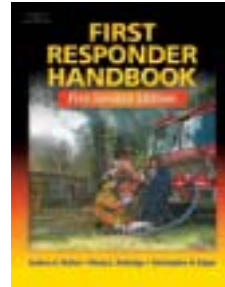
2003 International Building Code

The 2003 International Building Code addresses design and installation of building systems with requirements that emphasize performance. The IBC is coordinated with all the International Codes including structural, fire, and life-safety provisions covering seismic,

wind, accessibility, egress, occupancy, roofs, and more.

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First Responder Handbook: Fire Service Edition/Walter, Rutledge, and Edgar

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Transportation's requirements for first responder certification while offering firefighters valuable emergency medical training.

Order #: 0-7668-3919-2



First Responder Handbook: Law Enforcement Edition/Walter, Rutledge, Edgar, and Davis

This book is for anyone in law enforcement and provides valuable emergency medical training to potential first responders to an emergency scene.

Order #: 0-7668-4191-X