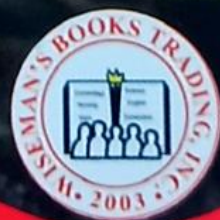




FIRE INVESTIGATION AND FIRE TECHNOLOGY

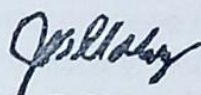
**An Instructional Material
For Criminology Students**



**JONER C. VILLALUZ Rcrim Ph.D
FINSP. RODOLFO ALOCELJA Rcrim CSP**

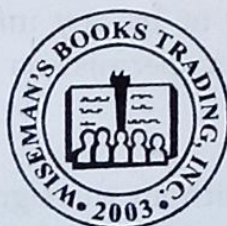
FIRE INVESTIGATION AND FIRE TECHNOLOGY

An Instructional Material
For Criminology Students



JONER C. VILLALUZ
RODOLFO ALOCELJA

80875000
0485



Wiseman's Books Trading, Inc.

Philippine Copyright, **2015**

By:

Wiseman's Books Trading, Inc.

and

**JONER C. VILLALUZ
RODOLFO ALOCELJA**

**PUBLISHED AND DISTRIBUTED BY:
WISEMAN'S BOOKS TRADING, INC.**

ISBN: 978-971-9617-65-5

All Rights Reserved

00077308

No part of this book may be reproduced or transmitted in any form or by means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without permission in writing from the publisher and author.

Any copy of this book without the signature of the author is considered from illegal source or is in possession of one who has no authority to dispose of the same.

Table of Contents

Preface	i
Table of Contents	ii
Lesson 1	
Introduction	1
Brief History of Fire and its uses	2
Early Years of Organized Firefighting	6
Energy and Works Related to Fire, Heat and Ignition Sources	16
Lesson 2	
Fire Gases	19
Methods of Heat Transfer	22
Stages of Development of Fire	24
The Fire Card Running System	26
Lesson 3	
Flame over / Roll over	29
Thermal Layering Gases	29
Causes of Fire	30
Classification of Ventilation in Fire Operation	32
Types of Prevention of Loss Control	37
Lesson 4	
Salient features of Republic Act No. 9514 (rev. Fire Code of the Phils.)	41
Lesson 5	
Arson and other crimes Involving Destruction	
Arson	49
Article 325 of the Revised Penal Code	50
Stages of Fire	61
How to Locate the Origin of Fire	66

Lesson 6

Concealment of Crime	71
Role of Fire Investigator	73
Signs of Incendiary Fires	74

Lesson 7

Motives for Setting Fire	77
Preserving Evidence of Incendiary Fires	77
How is Fire Investigation Conducted?	78
Principle of Fire Fighting	81

Lesson 8

Motives of Arsonist	93
Stages in Commission of Arson	93

Lesson 9

Fire Pattern Analysis	99
Definition of Terms	99
Types of Fire Pattern	100

Lesson 10

Misconception About Spalling	105
------------------------------	-----

Lesson 11

Bureau of Fire Protection Standard Operating Procedure	113
Provision of Law that cover Arson Case	127

Lesson 12

Introduction to Fire Technology	137
Types and Uses of Fire Extinguisher	138
Parts of Portable Fire Extinguisher	141

Lesson 13

Proper Placement of Fire Extinguisher	147
Fire and Nozzle Evolution	147
Fire Alarm Components	153

Lesson 14

Types of Ladder Carries	159
Types of Ladder Raises	161
Methods of Extinguishment	162

Appendices

Fire Prevention Measures	163
Republic Act No. 9514	172

References	191
-------------------	-----

About the Authors

Prof. Joner C. Villaluz was born in Davao City. He is a graduate of Bachelor of Science in Criminology from the University of Mindanao and took his Master of Arts in College Teaching Major in Law Enforcement Administration right after he finished his baccalaureate. Finally, a Criminologist when he passed the 1996 Licensure Examination held in Manila.

When joined the academe, his first assignment was in Bansalan Davao del Sur as a Program Head from 1997 - 2004, he finished his masteral course in Zamboanga City in the year 2000.

Prof. Villaluz is one of the recipients of the CHED Scholarship Program and became the Criminology Dean Consultant in the neighboring Colleges both in Region 11 and 12 and ARMM from 1999-2003

He is also a review officer in different Colleges and Universities in Region 11 and 12. Presently, he is pursuing his Ph. D in criminology at the Philippine College of Criminology.

Flinsp. Rodolfo B. Alocelja is a license criminologist, currently Chief of the ARSON INVESTIGATION AND INTELLIGENCE DIVISION, Davao City Fire District, Davao City, Region XI. A Hotel Security Consultant, Bank Security Consultant, Fire Safety Consultant and a Security Consultant on different Security and Investigation Agency Davao Region.

He is a graduate of BS Criminology with 45 Units of Master of Science in Criminology major in Law Enforcement Administration.

He is a professor in different review centers and schools offering criminology review courses in the entire Davao Region; University of Mindanao (Davao and Tagum Campus), TM Criminology Review Center at John Paul College Campus, Davao City and Digos City and Mati City Polytechnic College.

In addition, he is a commissioned officer of the Bureau of Fire Protection, attended and finished special courses in his field of interest such as Public Safety Basic Recruit Course, Fire Arson Investigation and Inspection Course, Public Safety Scientific Personal Identification Course, Fire Protection Supervisory Course, Public Safety Officers Candidate Course (PSOCC) and Officers Basic Course (FOBC), HAZMAT Course, Chemical Biological Radiological Nuclear and Explosive Course (CBRNE) and Certified Security Professional Course (CSP)



WISEMAN'S BOOKS TRADING, INC

Unit 302, 3rd Floor, DM Building #32 Visayas Ave.,
Corner Congressional Ave., Project 6, Quezon City
Tel. No.: (02) 425-3368 ; Telefax: (02) 456-3581/456-6209
E-mail Address: wisemanbooks@yahoo.com

ISBN: 978-971-9617-65-5