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FOREWORD

The Federal Emergency Management (FEMA) is responsible for implementing programs and assistance under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 100-107) including provisions for hazard mitigation. Training in how to perform mitigation tasks is essential in reducing the ever-escalating costs of, and losses from, disasters. FEMA provides training and education in emergency management through the National Emergency Training Center located in Emmitsburg, Maryland. The institutions that conduct the training program, the Emergency Management Institute (EMI) and the National Fire Academy (NFA), share the facilities at Emmitsburg. Both the NFA and EMI offer courses, workshops, seminars and conferences on the main campus, and across the United States through funding of State training programs.

Independent Study Program

The Independent Study Program is delivered through EMI and consists of a series of self-paced courses. The courses are suitable for both the general public and persons who have local government responsibilities for emergency management.

The following courses are available:

IS-1: Emergency Program Manager: An Orientation to the Position
IS-2: Emergency Preparedness, USA
IS-3: Radiological Emergency Management
IS-5: Hazardous Materials: A Citizen's Orientation
IS-7: A Citizen's Guide to Disaster Assistance

The following courses are audience-specific:

IS-8: Building for the Earthquakes of Tomorrow: Complying with Executive Order 12699
IS-9: Managing Floodplain Development Through the National Flood Insurance Program
IS-10: Animals in Disaster, Module A, Awareness and Preparedness
IS-11: Animals in Disaster, Module B, Community Planning
IS-12: Introduction to Property Acquisition for Local Communities
IS-120: An Orientation to Community Disaster Exercises
IS-195: Basic Incident Command
IS-234 Community Hurricane Preparedness
IS-275: The Emergency Operations Center's (EOC) Role in Community Preparedness, Response, and Recovery Operations
IS-279: Retrofitting Flood-Prone Residential Buildings
IS-288: The Role of Voluntary Agencies in Emergency Management
IS-301: Radiological Emergency Response
IS-330: Refresher Course for Radiological Monitors
IS-346: Orientation to Hazardous Materials for Medical Personnel

Mitigation for Homeowners Independent Study Course

IS-393: Introduction to Mitigation
ERT 534 (Course on Terrorism)

Individual and group enrollments are available for all courses. There is no charge for enrollment. Individual enrollments should be submitted on FEMA Form L-173 to:

FEMA Independent Study Program
Emergency Management Institute
16825 S. Seton Avenue
Emmitsburg, Maryland 21727

Requests for group enrollment (five or more participants) may be made by letter or on FEMA Form 21, Application for Group Enrollment, to the same address. Individuals who score 75% or better on the mail-in exam are issued a certificate of completion by EMI.

Enrollment in FEMA independent study courses may be accomplished electronically via the FEMA Home Page at <http://www.fema.gov>. Independent study courses open to the general public may also be completed on-line through the same Internet address.

One semester hour of college credit may be obtained for each successfully completed course. For information regarding application for academic credit and fees, contact the independent study office at EMI, 1-800-238-3358.

COURSE REFERENCES

The following publications were used in the development of this course and will serve as useful mitigation references.

- American Red Cross, *Preparing Your Home for a Hurricane*, 1995
- American Red Cross/Federal Emergency Management Agency, *Against the Wind: Protecting Your Home from Hurricane Wind Damage*, FEMA 247
- American Red Cross Videotapes, *Before the Wind Blows, Winds of Destruction, Home Preparedness for Hurricane*
- National Flood Insurance Program Videos: *Best Build I: Constructing a Sound Coastal Home, Best Build II: Building Near Rivers, Constructing in a Riverine Floodplain*
- Disaster Field Training Organization, *Hazard Mitigation Program*, Draft, January 1997
- Earthquake Preparedness Center of Expertise, *Family Preparedness*, U.S. Army Corp of Engineers.
- *Earthquake Readiness, The Complete Preparedness Guide Expanded and Updated*, Virginia Kimball, used by written permission.
- Federal Emergency Management Agency, *Elevated Residential Structures*, FEMA 54, 1984
- FEMA 83, *Seismic Considerations for Communities at Risk*, 1995
- FEMA-114 *Retrofitting Flood-Prone Residential Structures*, 1986
- FEMA-234 *Repairing Your Flooded Home*, 1992
- FEMA-312, *Homeowner's Guide to Retrofitting*, June 1998.
- FEMA 320-*Taking Shelter from the Storm: Building a Safe Room Inside Your House*.
- FEMA, *Mitigation How To Series*, FEMA Website: www.fema.gov
- FEMA, *National Mitigation Strategy Partnerships for Building Safer Communities*, 1995
- FEMA, *Prepare to Survive*, 1995
- FEMA, *Protecting Your Home From Flood Damage*, 1996
- FEMA, *Protecting Your Home from Flooding*, 1994
- FEMA, *Recovery Times*, Issue 2, 1996
- FEMA, *Robert T. Stafford Disaster Relief and Emergency Assistance Act and Miscellaneous Directives of PL 100-707*.
- FEMA, *USFA-Protecting Your Family from Fires*, FA 130, February 1993
- FEMA: *Project Impact Guidebook-Assessment* 1998
- *Flood Emergency and Residential Repair Handbook*, FIA-13, 1986
- National Oceanic and Atmospheric Administration, National Climatic Data Center, Research Customer Service Group, Asheville, NC, June 1998
- Institute for Business and Home Safety, *Is Your Home Protected from Hurricane Disaster*, 1997
- U.S. Fire Administration, *Fire and Safety Prevention Information*, March 1998
- U.S. Fire Administration, *Fire Stops With You* Fact Sheets, March 1998
- USFA Website: www.usfa.gov

ADDITIONAL REFERENCES

- Federal Emergency Management Agency, *A Focus Group on Attitudes Toward Mitigation Among Homeowners, Small Businesses and Community Leaders*, November 1966.
- Federal Emergency Management Agency, *Protecting Floodplain Resources*, 1996.
- FEMA, L-105 Safety Tips for Hurricanes
- FEMA, L-107 Hurricane-Floods: Safety Tips for Coastal and Inland Flooding (Brochure)
- FEMA, L-212 Hurricane-Action Guidelines for Senior Citizens
- FEMA, L-213 Hurricane-Action Guidelines for School Children
- FIA-2, *Answers to Questions about the National Flood Insurance Program*, November 1997
- *On Shaky Ground: Living With Earthquakes on the North Coast*, Humboldt Earthquake Education Center, Humboldt State University, Arcata, California
- Texas Tech University, Wind Engineering Research Center web site:
<http://www.wind.ttu.edu/inshelter/inshelte.htm>

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INTRODUCTION

Over the last several years, the number of natural disasters, and costs associated with them, have risen astronomically in the United States. Up until now, mitigation has not been a term that is widely used, or even known, by most homeowners. As a result, homeowners may rely mainly on the Federal Government to meet their needs after every disaster. This course is intended to provide individual citizens with an awareness of the natural hazards that affect them and their communities and the mitigation practices available to them to help reduce their degree of vulnerability. It provides the homeowner with non-technical mitigation techniques for the home, both pre-disaster (preventive) and post-disaster (corrective) that will reduce disaster costs and the impacts of natural hazards.

At the end of the course, you should be able to:

- Explain the rationale for mitigation.
- Identify the natural hazards which affect your community and to which you are most vulnerable.
- Identify what potential risks could affect your home during disasters.
- Determine which mitigation actions you should undertake to reduce the risk of potential damage to your family, home and property from disaster.

Course Overview

The course contains five instructional units, a pretest, and a final examination. The five units to *Mitigation for Homeowners* are outlined below.

Unit One: Disaster Readiness: Mitigate Now/Save Later

The unit begins with descriptions of disasters that have happened, a discussion about the high costs to recover from these events, and plans in place to reduce the costs associated with disaster. Hazard mitigation is defined and successful home projects are briefly described to inform the participants of the benefits of mitigating hazards.

The concepts of hazard identification, probability of occurrence, severity, effect on the home and community, and vulnerability are described and discussed.

Unit Two: Reducing Risks from Flooding

Unit Two provides examples of the various mitigation steps that will protect the home and its contents from flooding. The unit is divided into measures that are low costs and those that are more complex and more expensive or used in more severe circumstances. The unit will also give the advantages and disadvantages of the more costly measures. Detailed information is given on

flood insurance and an entire section has been given to myths and facts associated with the National Flood Insurance Program.

Unit Three: Reducing Risks from Wind Damage

Unit Three includes sources of wind-related loss of life and property, examples of hurricane and tornado damage, and areas most susceptible to wind occurrences. The unit is divided into four categories, depicting four areas of the home that should be checked for wind protection and lists the steps to take to prevent or lessen damage. The unit also introduces FEMA Publication 320, *Taking Shelter from the Storm: Building a Safe Room Inside Your Home*, and ordering information to request the drawing plans.

Unit Four: Preparing Your Home for an Earthquake

The unit begins by listing earthquake protection changes the homeowners can make themselves that do not require professional contractors. Following each example is a “Tips” section or easy reminders that will make the job go more smoothly. The unit also alerts the participants to structural jobs that may require building permits. At the end of the unit is a checklist for an earthquake hazard hunt which the homeowner conducts in the home, listing the mitigation practice and the date it was accomplished. Activities include listing things to do during and after an earthquake and right now to prepare for an earthquake.

Unit Five: Protecting Your Home from Fire

The unit includes simple protection measures to protect the home from fire, including wildfires and fires that start in the home. It is divided into categories of fires from particular sources and lists ways to mitigate each of them. It also gives precautionary tips each homeowner should be aware of and how to maintain fire-safe property.

HOW TO COMPLETE THE COURSE

This course should be studied carefully at your own pace. The course contains information you need to become familiar with mitigation procedures for your home and community. Some sections deal with hazards that do not threaten you because of where you live. However, because you may face such hazards if you move or travel, you should study all sections. In these materials you will face decisions to make that will apply to your situation as well as to situations that you may someday find yourself facing.

The **pretest** at the beginning of the course is designed to find out how much you already know about mitigating your home against natural hazards. The questions are either “true-false” or multiple choice. Answer the pretest questions without looking ahead to the course materials. An answer key is provided so you can pay special attention to discussions in the text about missed questions.

Do not rush through the course in one sitting. Take a break at the end of each unit and give yourself time to think about what you have learned.

At the end of each unit, you will find a section called “**Unit Review**” with questions that test your mastery of the material in each of the units. You score the review tests yourself and determine which pages to review for each question that you answer incorrectly. An answer key is also provided for each unit quiz.

A **glossary** is located after the final unit containing definitions of terms related to mitigation. Use the glossary as you complete the units of instruction.

Answers to the Pretest and Unit Review include the correct responses to those sections.

The **Final Exam**, located at the end of the text, will test the knowledge and skills you have gained from the course. The exam consists of 50 multiple choice and true-false questions. An answer sheet is provided along with mailing instructions for having the exam graded and the certificate awarded.