

ADVANCING SKILLS - PRESERVING CRAFT



# HISTORIC MASONRY PRESERVATION CERTIFICATE

## Program Overview

**International  
Masonry Institute/  
International Training  
and Education  
Foundation**

17101 Science Drive  
Bowie, MD 20715

**Masonry Hotline**

800.IMI.0988  
(800.464.0988)  
masonryquestions@  
imiweb.org

**Training Hotline**

800.JOBS.IMI  
(800.562.7464)  
imitraining@imiweb.org

*As the list of historic buildings and structures increases, so does the demand for qualified masons who have the necessary skill and knowledge in preserving them.*

Traditional craft skills and contemporary repair techniques are critical to the preservation of historic buildings and structures. It is for this reason that the demand is growing for masons who have the qualifications and experience for preserving our historic building stock. To assure understanding and compliance related to masonry restoration and historic preservation, the International Masonry Institute (IMI) and the International Masonry Training Education Foundation (IMTEF), have launched the Historic Masonry Preservation Certificate Program (HMPC). This program equips the members of the International Union of Bricklayers and Allied Craftworkers with an integrated knowledge in historic masonry preservation that includes study in key focus topics.

### Core Modules

- Fundamentals of Historic Preservation
- Mortars in Preservation
- Introduction to Architecture & Building Technology
- Historic Structure Survey & Condition Reports

### Additional Training Modules

- Brick Restoration
- Terra Cotta Restoration
- Stone Restoration
- Stone Carving & Dutchman Repair
- Masonry Cleaning
- Mold Making & Casting
- Caulking/Sealants
- Consolidants & Coatings
- Pinning & Grout Injection
- Safety Awareness Training

### Prerequisites

In order to enroll candidates must fulfill the following prerequisites:

- Be classified as a Journeyman.
- Must have 5 years of Journeyman level trade experience.
- Be member of the B.A.C. in good standing.

### Course Information

- Current Schedule - 50-hour program at the IMI/BAC National or Regional Training Centers or as Site-Specific Training
- Instructors include IMI/IMTEF training staff as well as members of the international preservation community.
- In order to complete the HP certificate requirements, all training modules must be completed.
- Attendees must pass both the written exam as well as the hands-on portions of the program.

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### Program Purpose, Scope, and Learning Objective

The IMI/IMTEF Historic Masonry Preservation Certificate Program is a 50-hour program that meets ASTM E2659-09 Standard Practice for Certificate Programs. The curriculum consisting of several training modules that are designed to enhance the working knowledge of traditional methods of craftsmanship and contemporary methods and materials for masonry preservation repairs. In addition, the program is designed to elevate the level of workmanship of the members of the Bricklayers and Allied Craftworkers Union and allow them to compete and maintain a competitive edge in the growing restoration field.

### Pre requisites

To earn the IMI Historic Masonry Certificate Members interested in attending this training program must:

- 1) Be classified as a Journeyman.
- 2) Must have 5 yrs of Journeyman level trade experience.
- 3) Be a member of the B.A.C in good standing.

### Additional Requirements for Participation

Participants must attend all training modules offered during the training period regardless of trade experience and must pass both, the written exam as well as the hands-on portions of the program. As the required hands-on sessions will be graded, it is encouraged that participants bring any specialty item tools they would like to use. Otherwise, IMI will supply all hand tools needed to complete the hands-on session. Proper work attire is required.

### Instructor Qualifications

All classroom training sessions are presented by persons with advanced degrees in historic preservation or related field (such as: engineering, architecture) or presented by persons who have extensive knowledge and experience in masonry preservation. It is preferred that all hands-on training sessions are presented by graduates of the IMI Instructor Certificate Program, or by persons currently enrolled in the program. Guest speakers shall have extensive knowledge in the field of masonry restoration.

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### Academic or Continuing Education Credit Earned

The IMI Historic Masonry Preservation Certificate program is not to be confused with any state, or professional certifications. Completing this certificate program will not provide students with the same recognition that is gained from a degree program or other accredited program. However, persons who attend this program will undoubtedly gain additional knowledge and skill sets that will further enhance their job opportunities in the field of masonry preservation.

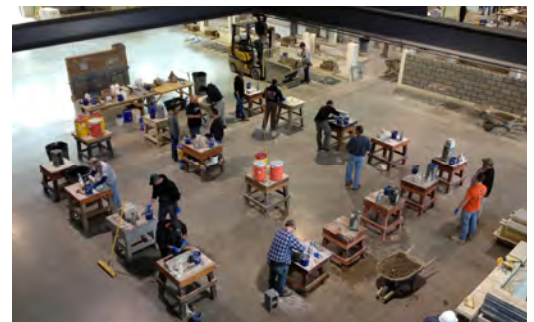
### Quality Control Plan

The IMI/IMTEF Historic Masonry Certificate programs committee members will have the responsibility in maintaining the validity and integrity of the hands-on skills assessment as well as the course tests. This is to ensure that both accurately evaluate not only the trainees' performance of work practices and procedures but their knowledge and retention of the course training modules.

In order to keep up with new developments in the field, the programs committee will also be responsible for revising and keeping the programs curriculum current and up to date. In order to ensure that the content meets the needs of the rank and file members, its committee members are encouraged to attend conferences in historic masonry preservation whenever possible.

### Training Locations

The Historic Masonry Preservation Certificate Program will be offered at the Flynn Training Center in Bowie, MD or Regional IMI/BAC Training Centers. There is a minimum of two trainers assigned to deliver this program.



### Course Test Blueprint

In order to assess the knowledge attained by the participants, the IMI will utilize one examination with 50 questions. All participants must receive a score of at least 70% on the written test in order to pass the course. Trainees who do not pass the written test may take it again. For those with reading or low-literacy difficulties, the test can be given orally.

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### Hands-on Skills Assessment

It may be impractical to perform hands-on assessments for some of the training modules contained in the program (for ex: masonry cleaning) However, those modules that can have hands-on such as stone patching, pointing, brick replacement will be evaluated as they perform hands-on activities, and their effectiveness is scored using a Hands-on Assessment checklist in addition to the written exam. These hands-on evaluations will ensure that trainees can perform the required task from the knowledge gained from lectures. Evaluations will focus on practical application of work-place best practices while incorporating proper safety techniques. Each participant must successfully complete the hands-on skills assessment and receive a passing score on the course test to receive a certificate of completion.

### Evaluation Methods and Review of Instructor Competency

All IMI training courses, as well as their instructors are evaluated in several ways. First, results of written exams are reviewed for possible weakness in class presentations. Second, each trainee will complete an anonymous course evaluation form. The programs committee will evaluate the based on the results of these evaluations. Third and final method to be utilized to ensure trainers are competent is to have members of the committee conduct annual evaluations of the selected program instructors. Any deficiencies in the instructor performance will be discussed shared privately with the instructors.

### Continuing Education Requirements of Program Completers

In order to maintain the certificate in good standing, all completers will be required to attend continuing education training sessions every five years. The length and subject matter of the training sessions will be determined by the program committee based on new technological advances in the field of masonry preservation as well as the needs of the member. This update training will be conducted at local training centers whenever possible; upon completion, attendees will receive a renewed certificate in historic masonry.

### Committee Members

Bob Arnold - National Training Director  
Terry Hays - Deputy Training Director  
Mike Kassman - Director of Health and Safety  
Roy Ingraffia - Director of Industry Development & Technical Services  
Peter Kohl - PCC/ Masonry Restoration Instructor

## Core Modules

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### Fundamentals of Historic Preservation

This module will discuss the history of the preservation movement as well as discuss current trends in the field of preservation. Participants will also have a more in-depth understanding on the four treatment approaches: Preservation, Restoration, Stabilization and Rehabilitation.

### Mortars in Preservation

This module will cover the development and use of masonry mortars in the U.S. Upon the conclusion of this module, participants will have a in-depth understanding of lime based mortars, natural cements, use of pozzalons and hydraulic based mortars. Lecture will also focus on the chemistry behind mortars and their appropriateness depending on masonry types, masonry quality and location. This session includes a hands-on workshop where participants will prepare and install lime based mortars as well as utilize several mortar extraction methods. (Grinders w/vacuum attachments, routers, arbor tech etc..)

### Introduction to Architecture & Building Technology

In this module participants will be provided with a general overview on how the construction process evolved. This module includes exploring the timeline on how building technologies impacted the American way of building. Participants will also be provided with an overview of basic architectural vocabulary and will examine the properties of building materials and the mechanism of deterioration. Other topics include diagnostic methods, including examining and evaluating historic fabric, sustainability issues. Upon completion participants will have a better understanding of the building as a system, participants will be given an opportunity to take a tour to a nearby structure where they can put into practice what they learned by providing possible treatments.

### Historic Structure Survey & Condition Reports

This module will introduce participants to the types of research, survey, and testing that takes place before physical restoration work begins. The module follows the work of the architect, engineer, and conservator and explains the role each plays in understanding the deterioration phenomenon and selecting repair methods and materials.

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### Brick Restoration



### Terra Cotta Restoration



### Stone Restoration



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Carving, & Dutchman Repair



Masonry Cleaning



Mold Making & Casting





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### Caulking/Sealants & Removal



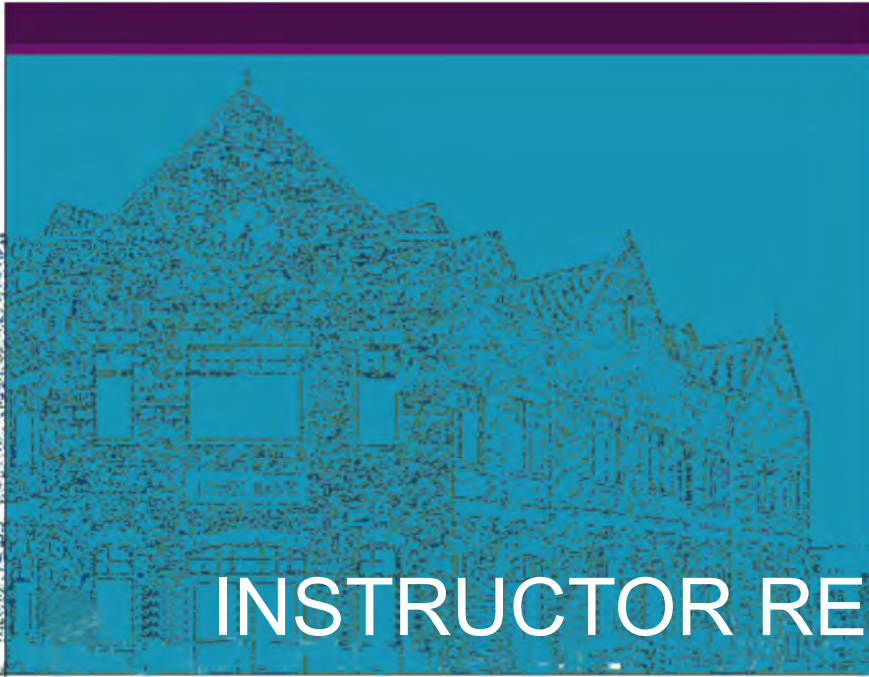
### Consolidants & Coatings



### Pinning & Grout Injection



### Safety Awareness Training



# INSTRUCTOR RESUMES

**EDUCATION**

**Goucher College**  
 M.A. Historic Preservation  
*Baltimore, MD- 2011*

**National Labor College**  
 B.A. Education/  
 Health & Safety  
*Silver Spring, MD – 2005*

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 17101 Science Drive  
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 mkassman@imtef.org  
 www.imiweb.org

Mike is a third generation mason from Buffalo, NY. He began his apprenticeship with the International Union of Bricklayers and Allied Craftworkers in the career of PCC\Masonry Restoration in 1990. In 1999, Mike was hired by the International Masonry Institute as a masonry restoration instructor at the National Training Center located at Ft Ritchie, Maryland.

In 2001, Mike was one of several craftworkers who participated in demonstrating masonry craft skills during the Folklife Masters of the Building Arts Festival. In 2005, Mike earned a Dual Bachelor's degree in Education and Health and Safety from the National Labor College. In 2005, 2006, and 2007 Mike served as a guest presenter and conducted a week long masonry preservation session for graduate students of EMU's Historic Preservation program.

Mike is also an Professional Associate of the American Institute for Conservation of Historic and Artistic Works. In 2011, he earned a Masters of Arts Degree in Historic Preservation from Goucher College and received the Hiram McCullough Award for best thesis titled "Developing the Qualification Standard for the Preservation Craftworker". In 2014, Mike served as a guest presenter for a 10-day masonry preservation program for Graduate students attending the UPENN summer praxis. Currently, Mike serves as the IMI National Safety and Restoration Coordinator.

As a restoration/preservation instructor, Mike is authorized to lead the certification programs for Cathedral Stone Products (Jahn), Ediscon Coating (System 45 and Thinfill 55), Conproco, & Limeworks Lithomix patching materials.

Representative Recent Site Training Programs

Mid Continent Tower, *Tulsa, OK (1918)*  
 Terra Cotta Exterior Restoration, 2016

Philadelphia Safety Services Campus, *Philadelphia, PA (1920)*  
 Indiana Limestone Exterior Restoration, 2016

University of Illinois—Chem Annex, *Champagne, IL (1923)*  
 Indiana Limestone Exterior Restoration, 2015

Gallier Hall, New Orleans, LA (1850)  
 Tuckahoe Marble Exterior Restoration, 2015

Woodlands Mansion, *Philadelphia, PA (1823)*  
 Brick Vaulted Cryptoporticus Restoration, 2014

**EDUCATION**

**University of Pennsylvania**  
M.S. Historic Preservation  
*Philadelphia, PA – 2004*

**Hobart College**  
B.A. Architecture/  
Art History  
*Geneva, NY – 2000*

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2153 Chestnut Ave  
Ardmore, PA 19003  
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ringraffia@imiweb.org  
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Roy is Director of Industry Development and Technical Services for the International Masonry Institute (IMI) and an Architectural Conservator with experience in both design and contracting capacities. His professional work has primarily focused on the preservation of historic structures through research of traditional materials/methods and development of contemporary restoration techniques.

Roy is responsible for assisting the design and construction community on masonry related topics. He has developed and presented continuing education seminars to architects and contractors throughout the United States. He has worked closely with colleagues at IMI, as well as design and construction professionals, to develop and implement education and training as it relates to masonry restoration and preservation.

As a preservation instructor for IMTEF, Roy has developed curriculum geared toward the masonry craftworker for both new construction and restoration topics. In addition to his work with IMI and IMTEF, Roy teaches the Masonry Conservation Seminar within the Graduate Program in Historic Preservation at the University of Pennsylvania.

Representative Recent Site Training Programs

Philadelphia Safety Services Campus, Philadelphia, PA (1920)  
Indiana Limestone Exterior Restoration, 2016

Gallier Hall, New Orleans, LA (1850)  
Tuckahoe Marble Exterior Restoration, 2015

Woodlands Mansion, *Philadelphia, PA (1823)*  
Brick Vaulted Cryptoporticus Restoration, 2014

Longwood Gardens, *Kennett Square, PA (1930)*  
Main Fountain Gardens Restoration, 2014

Recent Representative Professional Projects

Trinity Church-Wall Street: *New York, NY: (Richard Upjohn, 1849)*  
Tower Masonry Restoration, 2012-2013

St. Marks Church, Philadelphia, PA (John Notman, 1849)  
Brownstone Conservation Treatment, 2010-12

Rotunda: Univ. of Virginia, Charlottesville, VA (McKim, Mead, & White, 1896)  
Assessment and Recommendations for Marble Column Capitals, 2010

Pavilion II: Univ. of Virginia, Charlottesville, VA (Thomas Jefferson, 1823)  
Assessment and Laser Cleaning Marble Column Capitals, 2009