

BUILDING CONSERVATION MASTERCLASSES

CONSERVATION AND REPAIR OF MASONRY RUINS

B3D08204 19-22 NOVEMBER 2018 (3.5 day course)

This course is primarily designed for those concerned with the conservation of ruined structures, although the principles and skills are also applicable to roofed buildings.

It will include the identification of mechanisms of decay and structural failure, selection and application of conservation and repair techniques, identification and replication of historic lime and earth based mortars, the selection and applications of mortars and grouts and soft and hard wall capping. The course is delivered using a series of lectures, practical sessions by the students working on the masonry ruinette and practical demonstrations by the teaching team.

Please remember to bring work clothes/overalls and shoes for practical sessions.

Course Leader:

Graham Abrey, Chartered Building Surveyor and Historic Building Consultant. Director of Ingram Consultancy Limited

Principal Tutor:

Colin Burns, Master Mason and consultant in the conservation and repair of historic buildings. Former Senior Training Officer at English Heritage

Tutors:

Alan Cathersides, National Landscape Advisor at Historic England

Duncan Williams, Flint Mason and traditional craftsman at Knepp Castle in West Sussex.

All students on this course will receive a copy of *English Heritage Practical Building Conservation: Stone and digital pdf documents of the course lectures*

Recommended Reading:

English Heritage Practical Building Conservation: Stone, 2012, Ashgate Publishing

English Heritage Practical Building Conservation: Mortars, Renders & Plasters 2011, Ashgate Publishing

English Heritage Practical Building Conservation: Earth, Brick & Terracotta, 2015, Ashgate Publishing

Ashurst J, *Conservation of Ruins*, 2006.

Ashurst J and Dimes F, *Conservation of Building and Decorative Stone*, 1998.

OUTLINE PROGRAMME

Day 1 Monday

14.00

Meet students and teaching team
Introduction to Workshop

An introduction to the workshop, the masonry ruinettes, and the equipment and materials which will be used on the course together with a safety briefing

Traditional Masonry Construction and Materials

A lecture looking at traditional masonry construction methods and materials, including:

- The range of building types
- Overview of materials, including stone, brick, mortars and earth
- Composite wall construction
- Dry stone wall construction
- Solid masonry walls and columns
- The role of metal fixings
- Structural role and characteristics of traditional buildings
- Understanding the effects and implications of environmental exposure

History of Conservation of Masonry Ruins

A lecture looking at the history of conservation of masonry ruins primarily in the United Kingdom with European examples.

- A short story of prosperity, decline, investigation, inappropriate intervention and long-term conservation of a historic site
- The nature of masonry ruins and the differences to historic building conservation
- Past conservation of masonry ruins in the United Kingdom
- Structural intervention
- Changing history of materials and conservation technology

Conservation Ethics and Principles

- International conservation ethics and principles
- Practical application and use
- Making appropriate decisions
- Balancing apparent conflict
- Statutory consents

Day 2

Tuesday

Morning

Mortar Technology

- Examples of historic mortars
- The role of historic mortars – core, facing, exposed elements
- Historic aggregates
- Historic mortar additives
- Matching historic mortars
- Introduction to contemporary mortar technology
 - ❖ Putty limes
 - ❖ Hot lime mortars
 - ❖ Hydraulic limes
 - ❖ Earth mortars
 - ❖ Aggregates
 - ❖ Additives

Mortar Technology Workshop (Practical session)

- Understanding aggregates
- Making and preparing mortars
 - ❖ Lime putty mortars
 - ❖ Hot lime mortars
 - ❖ Hydraulic lime mortars
 - ❖ Earth mortars
- Making mortar samples

Afternoon

Consolidation and Rebuilding Masonry – Part I (Practical session)

The session will include demonstration by the tutors and then practical application by the students:

- Making mortars for refilling decayed joints
- Cutting out, preparation and refilling decayed mortar joints
- Deep tamping
- Localised rebuilding – bedding and compacting masonry and mortars
- Placing and compacting mortars
- Curing mortars
- Maintaining authenticity of the repair work
- Demonstration of core work consolidation

Completion of Practical Session

The Decay and Conservation of Masonry Ruins

A lecture reviewing the decay mechanisms and conservation and repair treatments for masonry ruins, including:

- Analytical survey methods
- Identifying decay mechanisms
- Unique considerations for conservation and repair of masonry ruins in comparison to functioning buildings
- Environmental exposure
- Masonry consolidation
- Removing plant growth
- Rebuilding
- Structural failure and repair

Day 3

Wednesday

Morning

Aftercare of the mortars and practical work

Recording and Rebuilding Masonry

A lecture and interactive workshop with the students including:

- Why localised rebuilding is sometime necessary
- What are the reasons and objectives for rebuilding
- Recording – why?
- The use of tracing frames
- Examples of localised rebuilding
- Maintaining the special character of the site

Hard Wall Capping

A lecture and interactive workshop with the students including:

- What is hard wall capping
- Historic use
- Maintaining authenticity
- Future use

Consolidation and Rebuilding Masonry – Part II (Practical session)

The session will include demonstration by the tutors and then practical application by the students:

- Localised rebuilding of masonry
- Building masonry core work
- Placing and compacting mortars
- Curing mortars
- Finishing joints
- Shelter coats & surface consolidation
- Maintaining authenticity of the repair work

Afternoon

Grouting Small- and Large-Scale Voids

A short lecture looking at grouting of small and large-scale voids including:

- Why we might consider grouting
- Grouting small scale voids
- Grouting large scale voids
- Equipment types
- Materials & flow dynamics

Large-Scale Grouting of Masonry Structure (Practical session)

Practical session where students set up and grout a large void within a wall. The session will include:

- Making a preparing a grout
- Pre-wetting and understanding the flow and travel of grouts
- Grouting walls
- Using grouting equipment
- Stopping grout leaks

- Maintaining a clean site

Ecology of a Ruined Site

This lecture will look at the conservation of the wider historic site and will consider the following aspects:

- The variety of plant types and why these are important to the site and conservation
- Type of animal and insect species on sites and why these are important
- Legal obligations in the United Kingdom
- Removing unwanted and/or harmful plant species
- Removing unwanted and/or harmful fauna species

Day 4

Thursday

Morning

Ivy on Walls – Historic England Research

Presentation of Historic England's research on the impact of ivy growth on walls

Function and Design of Soft Wall Capping

This lecture will look at the research programme completed by Historic England on the role, performance and design of soft wall cappings and will include:

- A summary of the research undertaken by Historic England
- Protective qualities of soft wall capping
- Plant species
- Design
- Maintenance

Soft Wall Capping Workshop (Practical session)

This session will be a practical demonstration with assistance by the students and will include:

- Typical soil types
- Typical turf types
- Preparation and installation of a soft wall capping
- Securing a soft wall capping
- Initial maintenance requirements
- Medium and long-term maintenance requirements

Afternoon

Condition Survey of Masonry Ruins

A lecture and interactive workshop on inspection, understanding condition and recording patterns of decay and defects including:

- Types of inspections
- Access requirements and limitations
- Investigation work
- Looking and understanding
- Mapping condition

Schedules of Work and Specifications

A short lecture on the types of information to be conveyed in a scope of work for conservation and repair including:

- Readership – who is the information for?
- Methods of conveying information
- Drawings, schedules, specifications
- Information to include
- The role of dimensions and quantities
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15.30

Course concludes – issue of certificates and depart

Non-residential course fee £806

Fully inclusive residential course fee:

Standard room with private bathroom facilities £1,061

Superior room with private bathroom facilities £1,127

HOW TO BOOK

Please complete one booking form, or copy of form, per person per course and enclose a deposit for each course booked. On receipt of your booking, we will send all the further details you will need for your visit, including the course details and your final payment slip. Travel instructions will be sent to all students.

For further information about the course, please contact the Course Organiser: +44 (0)1243 818219 or cpd@westdean.org.uk

For further information about booking, please telephone the Bookings Office: +44 (0)1243 818300.

Website: www.westdean.org.uk