



Week One

Module 1: Introductions and Orientation

Module 2: History and Theory of Conservation

	Sun 12 April	Mon 13 April	Tues 14 April	Wed 15 April	Thurs 16 April	Fri 17 April	Sat 18 April
9.30				Course opens General Introductions organizers & participants	Introduction to the Architectural History of Rome JJ	History and theory of conservation JJ	
11.00				Visits to premises & facilities (library, lab)			
Break					Collections Coffee Break		
11.30				Cont.	Introduction to the Architectural History of Rome JJ	History and theory of conservation, including international context JJ	
13.00							
Lunch				Welcome Lunch			
14.30				Introduction to the course BM, SW Expectations exercise JK, SM	Walking tour, Foro Romano JJ	Values in conservation JK	
16.00							
Break							
16.30				Expectations exercise Cont.	Cont.	Values group discussion –values in conservation decisions	
18.00					Opening Dinner (evening, 19:00)		

Joe King – JK Susan Macdonald – SM Benjamin Marcus – BM Simon Warrack–SW JukkaJokilehto – JJ

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Two

Module 2: History and Theory of Conservation

Module 3: Stone: material characteristics and its use as a building material

	Sun 19 April	Mon 20 April	Tues 21 April	Wed 22 April	Thurs 23 April	Fri 24 April	Sat 25 April
9.30		Participant Presentations (1)	Geology and mineralogy of building stones <i>EH</i>	Stone weathering and decay <i>EH</i>	Introduction to porous building materials and conservation science <i>GC</i>	Introduction to porous building materials and conservation science - discussion <i>GC</i>	
11.00							
Break							
11.30		Introduction to the Non-Catholic Cemetery - history and conservation <i>AT</i>	Cont.	Stone identification and selection for conservation repair <i>EH</i>	Cont.	Roman construction techniques and materials <i>DA</i>	
13.00							
Lunch			Lab Health & Safety				
14.30		Site Visit to the Non-Catholic Cemetery, introduction to tombs <i>NSP</i>	Lab: Microscopy, petrography & stone identification <i>EH</i>	Stone identification in the cemetery <i>EH</i>	Lab: Basic porosity/capillarity <i>GC</i>	Roman stones and construction walking tour <i>DA</i>	
16.00							
Break							
16.30		Cont.	Cont.	Cont.	Cont.	Cont.	
18.00							

Amanda Thursfield – AT Nicholas Stanley-Price – NSP Ewan Hyslop – EH Giacomo Chiari – GC Darius Arya – DA

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Three

Module 3: Stone: material characteristics and its use as a building material

	Sun 26 April	Mon 27 April	Tues 28 April	Wed 29 April	Thurs 30 April	Fri 1 May (Labor Day)	Sat 2 May
9.30		Participant Evaluation 1 Participant Presentations (2)	Walking tour (stone types, tool marks & working techniques) <i>PR/SW</i>	Visit to Rockwell Studio <i>PR(A)</i>	Visit to the Vatican Museums; stone laboratories, Santa Rosa excavation site and gardens. <i>GD</i>		
11.00							
Break							
11.30		Participant Presentations (3)	Cont.	Cont.	Cont.	Cont.	
13.00							
Lunch							
14.30		Working techniques of stone (sculpture) <i>PR</i>	Participant Presentations (4)	Visit to Rockwell Studio <i>PR(B)</i>	Cont.	Cont.	
16.00							
Break							
16.30		Cont.	Participant Presentations (5)	Cont.	Cont.	Cont.	
18.00							

Peter Rockwell – PR Guy Devreux – GD

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Four

Module 3: Stone: material characteristics and its use as a building material

	Sun 3 May	Mon 4 May	Tues 5 May	Wed 6 May	Thurs 7 May	Fri 8 May	Sat 9 May
9.30		Masonry systems – stonework & mortar <i>JF</i>	Introduction to mortars: history and chemistry <i>JF</i>	Use and properties of pozzolans; development of hydraulic lime binders <i>DO</i>	Mortar analysis methods <i>DO</i>	Criteria for selecting mortars <i>DO</i>	
11.00					Principles of XRF spectroscopy <i>MF</i>		
Break							
11.30		Cont.	Non hydraulic lime binders: properties and uses Slaking demonstration <i>DO</i>	Mortar uses and applications including pointing of structures on roof <i>DO</i>	Lab: Mortar analysis part I <i>DO, MF, DR</i>	Cont.	
13.00							
Lunch							
14.30		Non-destructive techniques of investigation <i>JF</i>	Techniques for mixing and applying mortars; Aggregates <i>DO</i>	Lab: Mixing of different mortar samples <i>DO</i>	Lab: Mortar analysis part 2 <i>DO, MF, DR</i>	Render repairs to masonry <i>DO</i>	
16.00							
Break							
16.30		Drilling resistance and portable XRF equipment demonstration	Construction with non-hydraulic lime binders; demonstration of plaster/render <i>DO</i>	Cont.	Lab: Mortar analysis part 3 <i>DO, MF, DR</i>	Discussion	
18.00						Participant Evaluation 2	

John Fidler – JF David Odgers – DO Marco Ferretti – MF Daniela Reggio – DR

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Five

Module 4: Deterioration mechanisms; Methods of survey & analysis

	Sun 10 May	Mon 11 May	Tues 12 May	Wed 13 May	Thurs 14 May	Fri 15 May	Sat 16 May
9.30		Overview of deterioration mechanisms VM, DO	Visit to the scientific laboratories at the ISCR, Higher Institute for Conservation and Restoration	Documentation & Recording Lecture – Guiding principals RE	Documentation & Recording - Processing data collected RE	Environmental factors in deterioration PB	
11.00							
Break							
11.30		Cont.	Introduction to diagnostic investigation AH, VM, SW, BM, DR	Documentation & Recording Lecture - Tools & Techniques RE	Cont.	Cont.	
13.00							
Lunch							
14.30		Morphology of stone decay including terminology & mapping techniques VM	Cont.	Documentation & Recording – Field exercise at Non-Catholic Cemetery RE	Introduction to site & mapping exercise SW, BM Documentation & Recording – Field exercise at Non-Catholic Cemetery RE	Air pollution and its interaction with porous building materials PB	
16.00							
Break							
16.30		Cont.	Cont.	Cont.	Cont.	Cont.	
18.00							

David Odgers – DO Valerie Magar – VM Alison Heritage – AH Simon Warrack – SW Benjamin Marcus– BM Daniela Reggio – DR Marisa Tabasso – MT
Rand Eppich – RE Peter Brimblecombe – PB

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Six

Module 4: Deterioration mechanisms; Methods of survey & analysis

	Sun 17 May	Mon 18 May	Tues 19 May	Wed 20 May	Thurs 21 May	Fri 22 May	Sat 23 May
9.30		Moisture sources and effects <i>IM</i>	Moisture & its control <i>IM</i>	Salts – sources, formation & effects <i>AH</i>	Ecology and mechanisms of bio-deterioration; relation to particular types of environments <i>TW</i>	Lab: Bio-deterioration & characterization of samples <i>TW</i>	
11.00							
Break							
11.30		Cont.	Methods of control <i>IM</i>	Cont.	Microbiological deterioration <i>TW</i>	Cont.	
13.00							
Lunch							
14.30		Diagnosis of moisture sources <i>IM</i>	Visit to Santa Maria Antiqua - methods of moisture detection and remediation <i>IM</i>	Lab: Salt analysis <i>AH</i>	Non Catholic Cemetery – in situ examination, sampling & treatment tests <i>TW</i>	Control & prevention of biological growth / Methods for evaluating biocides, bio-remediation <i>TW</i>	
16.00							
Break							
16.30		Cont.	Cont.	Cont.	Cont.	Discussion on bio-deterioration & its treatment <i>TW</i>	
18.00						Participant Evaluation 3	

Ippolito Massari – *IM* Alison Heritage – *AH* Thomas Warscheid – *TW*

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Seven

Study Tour

	Sun 24 May	Mon 25 May	Tues 26 May	Wed 27 May	Thurs 28 May	Fri 29 May	Sat 30 May
9.30	Departure for Florence	Museum of the Opificio delle Pietre Dure <i>PR, SW</i>	Visit to Studio Nicoli	Hands on Conservation techniques – Mortar Filling and Integration exercise <i>GR, DO, SV</i>	Hands on Conservation techniques – Evaluation of results <i>GR, DO, SV</i>	Departure for Venice	SS Giovanni e Paolo – conservation of Internal Monuments <i>PP</i>
11.00							
Break							
11.30	<i>Florence Free time</i>	<i>Departure for Pisa</i>	Visit to the quarry	Cont.	Cont.		Doges Palace & Piazza San Marco <i>PP</i>
13.00							
Lunch			Lunch in Carrara				
14.30	<i>Florence Free time</i>	Visit to apse of the Duomo <i>AS</i>	Departure for Parma	Joining and Fixing exercise	Mechanical pinning exercise	Rialto Bridge <i>PP, SW</i>	
16.00							
Break							
16.30	<i>Florence Free time</i>	Departure for Carrara	Parma – Cathedral & Baptistery <i>GR, SV</i>	Cleaning techniques demonstration exercise	Strapping with carbon fibre exercise	Basilica dei Frari	Departure for Rome
18.00			Dinner in Parma				

Peter Rockwell – PR Simon Warrack– SW Anton Sutter – AS Gionata Rizzi – GR Stefano Volta – SV David Odgers – DO Paolo Pagnin– PP

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Eight

Module 5: Conservation interventions and treatments; criteria for selection and implementation

	Sun 31 May	Mon 1 June	Tues 2 June (Republic Day)	Wed 3 June	Thurs 4 June	Fri 5 June	Sat 6 June
9.30		Participant Evaluation 4	Cemetery planning issues overview JK, NSP, AT	Structural repairs DB	Practical repair options DO	Demonstration of tools and equipment for structural monitoring CR	
11.00		Structural repair of sculpture & the conservation of Bernini's colonnade GD					
Break							
11.30		Cont.	Lab: Mortar samples & wall pointing analysis (cracking, strength, carbonation, porosity) DO	Cont.	Archaeological repairs PP	Visit to the Palatino: structural issues CR	
13.00							
Lunch							
14.30		Cont.	Methodological approach to conservation interventions JS	Emergency & preventative interventions DO	Non Catholic Cemetery – structural and conservation interventions review JS, DB, DO	Restoration of the Tower of Pisa SV	
16.00							
Break							
16.30		Cont.	Cont.	Architectural repairs JS	Cont.	Roundtable with SC13 participants	
18.00							

Guy Devreux – GD Joe King – JK Nicholas Stanley-Price – NSP Amanda Thursfield – AT James Simpson – JS David Biggs – DB David Odgers – DO
Paola Pesaresi – PP Cristiano Russo – CR Sabina Vedovello – SV

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Nine

Module 5: Conservation interventions and treatments; criteria for selection and implementation

	Sun 7 June	Mon 8 June	Tues 9 June	Wed 10 June	Thurs 11 June	Fri 12 June	Sat 13 June
9.30		Mechanical properties of masonry constructions and structural mechanism of decay GCr	Introduction to cleaning NA	Graffiti cleaning Coatings as protection – maintenance, removal & reapplication NA	Desalination methods Control & mitigation Poulticing for salts VVB	Lab: Removal & evaluation VVB	
11.00							
Break							
11.30		Cont.	Cleaning systems NA	Demonstration: Graffiti removal and cleaning NA	Cont.	Cont.	
13.00							
Lunch							
14.30		Cont.	Cleaning sandstone and limestone NA	Demonstration: Laser cleaning equipment	Lab: Poulticing, titrations, conductivity measurements VVB	Library	
16.00							
Break							
16.30		Cont.	Cleaning: Possible negative impacts (disasters) NA	Discussion on cleaning and graffiti NA, AdH	Cont.	Library	
18.00							

Giorgio Croci – GCr Giorgio Croci – GCr Nicola Ashurst – NA Adrian Heritage – AdH Véronique Vergès-Belmin – VVB

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Ten

Module 5: Conservation interventions and treatments; criteria for selection and implementation

	Sun 14 June	Mon 15 June	Tues 16 June	Wed 17 June	Thurs 18 June	Fri 19 June	Sat 20 June
9.30		Introduction to consolidation GW	Consolidants - Alkoxysilane based Part 2 GW	Lab: Consolidation application methods GH, GW	Evaluation of past treatments GH	Diagnosis & treatment of granite JDR	
11.00							
Break							
11.30		Introduction to Emergency Consolidation Cyclododecane, PVA and others GW	Evaluating performance of consolidants: lab and field methods and protocols GW	Cont.	Discussion on consolidation of stone and treatment with water repellants GW, GH, SW, BM	Cont.	
13.00							
Lunch							
14.30		Consolidation - Solvent based (classification organic or inorganic cons.) GW	Consolidation application methods and object conditions GH	Durability and re-treatment of silicic acid ester treatments GH	Evaluation of past treatments at the cemetery SiW, BM	Participant evaluation 5	
16.00						Participants work on tomb conservation proposals	
Break							
16.30		Consolidants - Alkoxysilane based. Part 1 GW	Lab: Consolidation application methods GH, GW	Water repellants GH	Cont.	Cont.	
18.00							

George Wheeler – GW Gottfried Hauff – GH Simon Warrack – SW Benjamin Marcus – BM José Delgado Rodrigues – JDR

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Eleven

Module 6: Synthesis

	Sun 21 June	Mon 22 June	Tues 23 June	Wed 24 June	Thurs 25 June	Fri 26 June	Sat 27 June
9.30		Participant presentations/ discussion of tomb conservation proposals	Explanation of the final exercise and fieldwork SW, BM	Fieldwork at the cemetery	Fieldwork at the cemetery	Fieldwork at the cemetery	
11.00							
Break							
11.30		Cont.	Fieldwork at the cemetery	Cont.	Cont.	Cont.	
13.00							
Lunch							
14.30		Library	Cont.	Cont.	Cont.	Cont.	
16.00							
Break							
16.30		Library	Cont.	Cont.	Cont.	Cont.	
18.00							

Simon Warrack – SW Benjamin Marcus – BM

Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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Week Twelve

Module 6: Synthesis

	Sun 28 June	Mon 29 June	Tues 30 June	Wed 1 July	Thurs 2 July	Fri 3 July	Sat 4 July
9.30		Fieldwork at the cemetery	Fieldwork at the cemetery	Final presentations at the cemetery	Expectations exercise JK, JMT	END OF THE COURSE	
11.00							
Break							
11.30		Cont.	Cont.	Final presentations at the cemetery	Expectations exercise JK, JMT		
13.00				Participant Evaluation 6			
Lunch							
14.30		Cont.	Cont.	Complete and print tomb reports, or free afternoon	Closing ceremony		
16.00							
Break							
16.30		Cont.	Cont.	Cont.	Free Afternoon		
18.00					Closing dinner (evening, 19:00)		

Joe King – JK Jeanne Marie Teutonico – JMT

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Course opening & closing	Lecture	Exercise / Demonstration	Participant presentation	Case study	Laboratory	Site visit	Worksite
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