

**ARRIVAL | MONDAY AUGUST 24**

Time	Location	Course/Event
14.30 – 20.00 h	Hall of the Convent of Saint Agostino	Informal get together
20.00 – 21.00 h	Dinner, Canteen of the Convent	

**DAY 1 | TUESDAY AUGUST 25**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
10.00 h	<b>Course Opening (Auditorium “Ex Chiesa di Sant’Agostino”)</b>	
10.00 – 11.00 h	Welcome greeting and Course overview. The city of Benevento and UniSannio	G. Maddaloni
11.00 – 11.30 h	Historic masonry architecture: geometry and equilibrium	S. Huerta
11.30 – 12.00 h	New tools for masonry reviving the old approach	M. Angelillo
12.00 – 12.30 h	Historic masonry structures facing earthquakes	G. De Felice
12.30 – 13.00 h	<b>Introduction to Field Work</b> Presentation of the case studies	F. Orozco, F. Rodriguez, A. Weichbrodt, A. Montanino
13.00 – 14.00 h	Lunch	
14.30 – 15.30 h	<b>Lecture</b> The Theory of Survey	A. Bortot
15.30 – 19.00 h	<b>Field work</b> Visit to case studies	Teachers and Tutors
19.00 – 20.00 h	<b>Introductory Lecture</b> (online) The art of Masonry Construction	J. Ochsendorf
20.00 – 21.00 h	Dinner	

**DAY 2 | WEDNESDAY AUGUST 26**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.00 h	<b>Basic Theory</b> Material masonry. Heyman's principles of limit analysis. Equilibrium and thrust lines. Arches. Cracks. Collapse of arches.	S. Huerta
11.00 – 11.30 h	Coffee Break	
11.30 – 13.00 h	<b>Basic Theory</b> Equilibrium and thrust lines. Arches. Cracks. Collapse of arches. Limit analysis, safety. Buttresses. Case Study: The Church of Guimarei.	S. Huerta
13.00 – 14.00 h	Lunch	
15.00 – 16.30 h	<b>Lecture</b> Digital Drawing 1	A. Bortot
16.30 – 17.00 h	Coffee Break	
17.00 – 18.30 h	<b>Field work</b> Visit to case studies	Teachers and tutors
18.30 – 20.00 h	<b>Field work</b> Restitution from scanning	Teachers and tutors
20.00 – 21.00 h	Dinner	
21.00 – h	<b>Field work</b> Group work on case studies	

**DAY 3 | THURSDAY AUGUST 27**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.00 h	<b>Basic Theory</b> The Gothic Structure. Flying buttresses and cross vaults. Case Study: The stability of the Cathedral of Palma de Mallorca	S. Huerta
11.00 – 11.30 h	Coffee Break	
11.30 – 13.00 h	<b>Basic Theory</b> Towers & Spires. Rose windows. Flat vaults. Case Studies: The Towers of the Obradoiro (Cathedral of Santiago de Compostela), Flat vaults of the Convent of Lluçmajor	S. Huerta
13.00 – 14.00 h	Lunch	
15.00 – 16.30 h	<b>Field work</b> Drawing	Teachers and Tutors
16.30 – 17.00 h	Coffee Break	
17.00 – 18.00 h	<b>Invited Lecture</b> Discrete Element Modelling: modeling masonry with 3DEC	José Lemos
18.00 – 19.00 h	<b>Lecture</b> TBA	P. Fuentes
19.00 – 20.00 h	<b>Lecture</b> Digital Drawing 2	A. Bortot
20.00 – 21.00 h	Dinner	
21.00 – h	<b>Field work</b> Group work on case studies	

**DAY 4 | FRIDAY AUGUST 28**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.30 h	<b>From Basic to Advanced Theory</b> The Masonry Challenge: Heyman's No Tension material The Masonry Challenge: Heyman's material: the arch	M. Angelillo
11.30 – 12.00 h	Coffee Break	
12.00 – 13.00 h	<b>Advanced Theory</b> The Masonry Challenge. Heyman's material: Continuum Models 1	M. Angelillo
13.00 – 14.00 h	Lunch	
15.00 – 16.30 h	<b>Field Work</b> Group work on digital restitution and drawing	Teachers and Tutors
16.30 – 17.00 h	Coffee Break	
17.00 – 18.00 h	<b>Invited Lecture</b> Modeling masonry with 3DEC - Application topics	José Lemos
18.00 – 19.00 h	<b>Invited Lecture</b> TBA	Alessandra Zambrano (Pompeii Technical staff)
19.00 – 20.00 h	<b>Lecture</b> Tile vaulting	C. Martin
20.00 – 21.00 h	Dinner	
21.00 – h	<b>Field Work</b> Group work on digital restitution and drawing	Teachers and Tutors

**DAY 5 | SATURDAY AUGUST 29**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 13.00 h	<b>Tile vaulting workshop</b>	C. Martin, E. Redondo
13.00 – 14.30 h	Lunch	
14.30 – 19.00 h	<b>Tile vaulting workshop</b>	C. Martin, E. Redondo
20.00 – 21.00 h	Free night in town	

**DAY 6 | SUNDAY AUGUST 30**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 13.00 h	<b>Visit: Pompeii Archeological Site</b>	Teachers and Tutors
13.00 – 19.30 h	<b>Visit: Pompeii Archeological Site</b>	Teachers and Tutors
20.30 – 21.00 h	Dinner	

**DAY 7 | MONDAY AUGUST 31**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.30 h	<b>Advanced Theory</b> The Masonry Challenge. Heyman’s material: Continuum Models 2 Numerical approximations. Rigid Blocks for masonry. The “displacement” approach: PRD, CDF	M. Angelillo A. Iannuzzo
11.30 – 12.00 h	Coffee Break	
12.00 – 13.00 h	<b>Advanced Theory</b> Numerical approximations. The “force” approach: CASS. Lumped Force Networks	A. Montanino
13.00 – 14.00 h	Lunch	
15.00 – 16.30 h	<b>Field Work</b> Group work on digital restitution and drawing	Teachers and Tutors
15.30 – 17.30 h	<b>TBA</b>	<b>F. Orozco</b>
17.30 – 18.00 h	<b>Coffee Break</b>	
18.00 – 19.00 h	<b>Lecture</b> (online) <b>TBA</b>	<b>Philippe Block</b>
19.00 – 20.00 h	<b>Lecture</b> <b>TBA</b>	<b>Nicola Nodargi</b>
20.00 – 21.00 h	Dinner	
21.00 – 22.00 h	<b>Field Work</b> Group work on digital restitution and drawing	Teachers and Tutors

**DAY 8 | TUESDAY SEPTEMBER 1**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.00 h	<b>Advanced Theory</b> Doing unilateral with a Computer: Applications to Case Studies: PRD. Centrifuge testing	A. Iannuzzo
11.00 – 11.30 h	Coffee Break	
11.30 – 13.00 h	<b>Advanced Theory</b> Limit Analysis with commercial FEM programs	A. Gerges
13.00 – 14.00 h	Lunch	
14.30 – 15.30 h	<b>Guest Lecture</b> TBA	Jane Burry
15.30 – 17.00 h	<b>Field Work</b> Group work on case studies	Teachers and Tutors
17.00 – 17.30 h	Coffee Break	
17.30 – 20.00 h	<b>Field Work</b> Group work on case studies	Teachers and Tutors
20.00 – 21.00 h	Dinner	
21.00 – h	<b>Field work</b> Group work on case studies	

**DAY 9 | WEDNESDAY SEPTEMBER 2**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
11.30 – 13.00 h	<b>Advanced Theory</b> Seismic assessment	G. De Felice
11.00 – 11.30 h	Coffee Break	
11.30 – 13.00 h	<b>Advanced Theory</b> Seismic assessment	G. De Felice
13.00 – 14.00 h	Lunch	
14.30 – 15.30 h	<b>Lecture</b> TBA	V. Paris
15.30 – 17.00 h	<b>Field Work</b> Group work on case studies	Teachers and Tutors
17.00 – 17.30 h	Coffee Break	
17.30 – 19.00 h	<b>Computational Masonry through COMPAS</b> Discrete Element Modelling and compas_3dec	A. Dell'Endice R. Maya Avelino (Block Res. Group)
19.00 – 20.00 h	<b>Lecture</b> TBA	Gabriele Milani
20.00 – 21.00 h	Dinner	
21.00 – h	<b>Field work</b> Group work on case studies	

**DAY 10 | THURSDAY SEPTEMBER 3**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.00 h	<b>Advanced Theory</b> Seismic assessment and retrofitting	P. Meriggi
11.00 – 11.30 h	Coffee Break	
11.30 – 13.00 h	<b>Advanced Theory</b> Seismic assessment and retrofitting	M. Sangirardi
13.00 – 14.00 h	Lunch	
15.00 – 16.30 h	<b>Field Work</b> Group work on Structural Analysis	Teachers and Tutors
16.30 – 17.00 h	Coffee Break	
17.00 – 18.00 h	<b>Computational Masonry through COMPAS</b> Digital Graphic Statics	A. Dell'Endice R. Maya Avelino (Block Res. Group)
18.00 – 19.00 h	<b>Computational Masonry through COMPAS</b> TNA & TNO	A. Dell'Endice R. Maya Avelino (Block Res. Group)
19.00 – 20.00 h	<b>Invited Lecture</b> TBA	A. Fraddosio
20.00 – 21.00 h	Dinner	
21.00 – h	<b>Field work</b> Group work on case studies	

**DAY 11 | FRIDAY SEPTEMBER 4**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.00 h	<b>Advanced Theory</b> Experiments and Applications to case studies	G. De Felice
11.00 – 11.30 h	Coffee Break	
11.30 – 13.00 h	<b>Field Work</b> Group work on Structural Analysis	Teachers and Tutors
13.00 – 14.00 h	Lunch	
15.00 – 16.30 h	<b>Field Work</b> Group work on Structural Analysis	Teachers and Tutors
16.30 – 17.00 h	Coffee Break	
17.00 – 19.00 h	<b>Field Work</b> Group work on Structural Analysis	Teachers and Tutors
19.00 – 20.00 h	<b>Invited Lecture</b> (online) Seismic Analysis of Masonry	M. DeJong
20.00 – 21.00 h	Dinner	
21.00 – h	<b>Field work</b> Group work on case studies	

**DAY 12 | SATURDAY SEPTEMBER 5**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.30 – 11.00 h	<b>Students' Final Presentations</b>	Teachers and Tutors
11.00 – 11.30 h	Coffee Break	
11.30 – 13.00 h	<b>Students' Final Presentations</b>	Teachers and Tutors
13.00 – 14.00 h	Lunch	
15.00 – 19.00 h	<b>Tile vaulting workshop</b> Vault tested to collapse. "Rubble beer party" (to dispose the resulting materials)	S. Huerta, M. Angelillo
20.00 – 23.00 h	<b>Social Dinner</b>	

**DEPARTURE | SUNDAY SEPTEMBER 6**

Time	Course/Event	Teachers/Lecturers
8.30 – 9.15 h	Breakfast	
9.00 – 13.00 h	Farewell and Departures	