

Session:	April 2023
Institution:	Politecnico di Milano
Course location:	Politecnico di Milano
Course address:	Piazza Leonardo Da Vinci 32, 20133 Milan, Italy
e-mail of local Athens coordinator:	michela.gregori@polimi.it
Course takes place:	CAMPUS LEONARDO
Will switch to 'online' if necessary: (to be confirmed)	No
Course title:	Architectural Heritage: from 3-D geometric survey to structural analysis
Type of course:	Classic ATHENS course
Course code:	POLI47
Minimum year of study:	3
Language of tuition:	English

Prerequisites:	<p>Structural Mechanics, Theory of Elasticity, fundamentals of the Finite Element Method.</p> <p>Students should bring their own laptop.</p>
Objectives:	<p>The course aims to familiarize students with the problems that are commonly encountered in the structural analysis of historical buildings. Among others:</p> <ul style="list-style-type: none"> • The importance of accurately describing the real geometry of the building • The difficulties in obtaining the mechanical properties of the material • The correct definition of the boundary conditions (loads and constraints) <p>The students will be asked to define the numerical model of a real historical building, to carry out structural analyses using a commercial computer software. The results will be illustrated and critically discussed in the final report.</p>

<p>Programme to be followed:</p>	<p>The programme includes:</p> <ul style="list-style-type: none"> • 9 hours of lectures on historical buildings (materials and material mechanics, typical structural elements and their mechanical behaviour, surveying, in-situ and lab tests; presentation of the case study) • a one-day visit to the case study • 6 hours of practical activities on the use of a finite element software • 6 hours of autonomous work on the numerical model and writing of the final report • 3 hours for the presentation and discussion of the final report (each group of 2-3 students will be given 15 min) 									
		8.15	9.15	10.15	11.15	12.15	14.15	15.15	16.15	17.15
Mon		Lectures				Lunch break	Lectures			
Tue	Field trip				Field trip					
Wed		Lectures					Practical activities			
Thu		Practical activities					Autonomous work on the numerical model			
Fri		Autonomous work on the numerical model Group report writing					Final discussion			

Course exam:	Written report and public discussion by groups
Professor responsible:	Prof. Alberto Taliercio
Participating professors:	
Categories:	Building and civil engineering
Contact:	alberto.taliercio@polimi.it