



General information	
Academic subject	Diagnostics for Cultural Heritage
Degree course	L1-Cultural Heritage Sciences, curriculum Historical and artistic heritage sciences
Academic Year	2022-2023
European Credit Transfer and Accumulation System (ECTS)	9
Language	Italian
Academic calendar (starting and ending date)	Second Semester (27.02.2023 – 19.05.2023)
Attendance	Attendance is regulated by the Course Didactic Regulations (art. 4) which can be consulted at the following link: w3.uniba.it/corsi/scienze-beni-culturali/presentazione-del-corso/R.D.SBC20222023.pdf

Professor/ Lecturer	
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Department and address	Dipartimento di Scienze della Terra e Geoambientali
Virtual headquarters	
Tutoring (time and day)	From Monday to Friday by appointment to be agreed with the teacher by e-mail

Syllabus	
Learning Objectives	<ol style="list-style-type: none">1. Provide tools for the critical classification of the main materials constituting the historical-artistic heritage and for the understanding of the contribution of scientific investigation to the study and conservation of cultural heritage.2. Provide basic knowledge on the various forms of degradation of materials and the main causes of deterioration.3. Provide a basic knowledge and overview of the main scientific investigation methods used for the study and characterization of Cultural Heritage.
Course prerequisites	<ul style="list-style-type: none">• Understanding, analysis and synthesis of a text• Sufficient competency in reading and understanding of a scientific text• Possible knowledge of basic concepts of chemistry and physics
Contents	<ol style="list-style-type: none">1. Introduction to the course, with a general overview about basic concepts of solid state chemistry, mineralogy and petrography;2. stone materials (natural e synthetic);3. painting materials;

	<p>4. ceramic materials; 5. glass; 6. metals and alloys; 7. alteration and degradation of Cultural Heritages; 8. sampling 9. illustration of basic principles of some analytical methodologies for the scientific investigation of artwork and ancient materials.</p>
Books and bibliography	<p>1. Didactic material given by the teacher 2. Chimica per L'Arte (L. Campanella, A. Casoli et al.), Zanichelli Ed.) Out-of-course students should contact the teacher to agree on the course program</p>
Additional materials	For bibliography 2 only parts indicated by the teacher during lectures.

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
225	63		162
ECTS			
	9		
Teaching strategy			
Frontal lessons, digital contents and illustration of case studies			
Expected learning outcomes			
Knowledge and understanding on:	The course aims to give capabilities for the critical classification of cultural heritage materials (stone materials, glass, ceramics, metals, colouring and painting materials) and basic knowledge of some of the main scientific methodologies for their archaeometrical investigation.		
Applying knowledge and understanding on:	The course aims to give capabilities for the knowledge of the contribution of several investigation methods for the solution of real problems concerning the archaeometric investigation of artwork and materials, so allowing application of theoretical knowledge to real field cases.		
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> Critical evaluation of methodological aspects and processing of laboratory analysis results finalized to the characterization, conservation and restoration of cultural heritage. • <i>Communicating knowledge and understanding</i> Communication skills with scientist and technicians of cultural heritages on methodological aspects and results of laboratory analysis results finalized to the characterization, conservation and restoration aspects. • <i>Capacities to continue learning</i> Students will develop capacities of learning which will be necessary for their critical and autonomous evaluation of the contribution of scientific investigation to the study of ancient materials and artworks, within the context of a modern and multidisciplinary approach 		

Assessment and feedback	
Methods of assessment	Oral exam
Evaluation criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> The knowledge achieved and the mastery of the fundamental concepts will be verified during the oral exam. • <i>Applying knowledge and understanding</i> The assessment of these skills will be verified during the oral examination by verifying the ability to apply the concepts acquired also by discussing real case studies and the ability to make interdisciplinary connections • <i>Autonomy of judgment</i> It will be assessed during the oral examination by verifying the ability to critical elaboration of the contents illustrated and discussed in class and to develop the course topics critically and autonomously. • <i>Communicating knowledge and understanding</i> <i>Clarity of presentation and ability to analyse and summarize the studied topics.</i> • <i>Communication skills</i> <i>The assessment of these skills will be evaluated during the oral examination based on clarity of presentation and ability to analyse and summarize the studied topics.</i> • <i>Capacities to continue learning</i> These skills will be verified during the oral examination through the verification of the ability to outline, summarize and re-elaborate the acquired contents.
Criteria for assessment and attribution of the final mark	During the oral examination the student 's knowledges and their abilities to apply theoretical and practical contents illustrated during the course will be assessed, also through the discussion of case studies. To pass the exam, the student must demonstrate to have enough knowledge and abilities in all the curse topics. For the attribution of the final mark the ability to analyze and synthesize, the ability to carry out interdisciplinary connections, as well as the mastery of exposure will also be assessed.
Additional information	