

# BENI CULTURALI (LB13)

(Università degli Studi)

## Insegnamento FONDAMENTI DI CHIMICA FISICA APPLICATA AI BENI CULTURALI

GenCod A005443

Docente titolare Gabriele GIANCANE

**Insegnamento** FONDAMENTI DI  
CHIMICA FISICA APPLICATA AI BENI

**Insegnamento in inglese**  
FOUNDATIONS OF PHYSICAL  
CHEMISTRY APPLIED TO CULTURAL

**Settore disciplinare** CHIM/02

**Corso di studi di riferimento** BENI  
CULTURALI

**Tipo corso di studi** Laurea

**Crediti** 6.0

**Ripartizione oraria** Ore Attività frontale:  
36.0

**Per immatricolati nel** 2022/2023

**Erogato nel** 2024/2025

**Anno di corso** 3

**Lingua** ITALIANO

**Percorso** ITALO CINESE TECHNOLOGY

**Sede**

**Periodo** Secondo Semestre

**Tipo esame** Orale

**Valutazione** Voto Finale

**Orario dell'insegnamento**

<https://easyroom.unisalento.it/Orario>

### BREVE DESCRIZIONE DEL CORSO

*Diagnostic techniques used to characterize the material components of historically relevant artifacts and the processes that rule the degradation of the materials will be systematically analysed and explained. In particular, not destructive spectroscopic methodologies will be proposed to the students. During the course, the students will be involved in the study of scientific papers that will be critically analyzed highlighting strength and weakness of the proposed research in order to educate the student to face complex problems and to solve them with powerful analytical methods.*

### PREREQUISITI

*Basic principles of Physics and Chemistry.*

### OBIETTIVI FORMATIVI

*The goal is to provide an adequate knowledge, especially on the structure-property correlation of materials of interest for Archaeological Heritage and consequently on the planning of future consolidation interventions. The course aims to give to the students the tools to examine and to comment independently a scientific text and to present the fundamental themes in a clear and precise. The study of scientific papers will increase the ability to critically analyze the texts, identifying the most relevant topics.*

### METODI DIDATTICI

*Frontal lessons will be given. Reports will be given to the students at the end of each main topic.*

### MODALITA' D'ESAME

*Oral tests will be used to evaluate if the students reached the course's objectives.*

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## PROGRAMMA ESTESO

*During the course, concepts of Physical Chemistry will be proposed and particular attention will be paid towards the study of the degradation processes that affect the historical artifacts and monuments.*

*Possible strategies to prevent the effects of external agents on different materials will be examined and the analytical techniques used to characterize them will be considered. Furthermore, chemical physical approaches applied to real cases will be discussed and possible improvements of the adopted strategies will be debated with the students.*

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## TESTI DI RIFERIMENTO

*AA. VV., La Chimica per l'Arte, Zanichelli.*

*Conservation Science for the Cultural Heritage, Applications of Instrumental Analysis, Editor: Varella, Evangelia A.; Springer*

*Zecchina, Alchimie nell'arte, Zanichelli*

*Science and Art: The Painted Surface Editors: Antonio Sgamellotti, Brunetto Giovanni Brunetti, Costanza Miliani, RSC.*

*Ted Lister, Conservation Chemistry, An Introduction; Royal Society of Chemistry.*

*M.R. Derrick et al., Infrared Spectroscopy in Conservation Science, Publisher: Getty Trust Publications.*

*C. Wayne Smith, Archaeological Conservation Using Polymers, Practical Applications for Organic Artifact Stabilization, Texas A & M University Press*

*G. Artioli, Scientific Methods and Cultural Heritage, An Introduction to the Application of Materials Science to Archaeometry and Conservation Science, Oxford University Press*