

# DIAGNOSTICS FOR CULTURAL HERITAGE (LM61)

( - Università degli Studi)

## Insegnamento TECHNIQUES AND MATERIALS FOR CONSERVATION

GenCod A005453

**Insegnamento** TECHNIQUES AND MATERIALS FOR CONSERVATION

**Insegnamento in inglese** TECHNIQUES AND MATERIALS FOR CONSERVATION

**Settore disciplinare** ING-IND/22

**Corso di studi di riferimento** DIAGNOSTICS FOR CULTURAL

**Tipo corso di studi** Laurea Magistrale

**Crediti** 6.0

**Ripartizione oraria** Ore Attività frontale: 42.0

**Per immatricolati nel** 2018/2019

**Erogato nel** 2018/2019

**Anno di corso** 1

**Lingua** INGLESE

**Percorso** PERCORSO COMUNE

**Docente** Mariaenrica FRIGIONE

**Sede**

**Periodo** Secondo Semestre

**Tipo esame** Orale

**Valutazione** Voto Finale

**Orario dell'insegnamento**

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

### BREVE DESCRIZIONE DEL CORSO

The course is aimed at providing a comprehensive knowledge on degradation mechanisms typical of materials composing an artwork or an ancient structure, the methodologies able to slow down degradation and to protect/preserve those materials. At the end of the Course the students will acquire the skills in order to be familiar with diagnostic techniques to analyze and quantify the degradation of different materials and to identify the more appropriate methodologies for the conservation and restoration of different materials in relation to their use/application. Starting from their acquired skills, the students will be able to select the more appropriate solutions in terms of methodology and material for a specific application.

### PREREQUISITI

Knowledge of basic Chemistry and Physics disciplines are required to the Students.

### OBIETTIVI FORMATIVI

The course is aimed at providing the fundamentals for the comprehension of the mechanisms of degradation of different materials employed/used in Cultural Heritage, Art and Design, illustrating the most appropriate, and advanced, methodologies and products for their protection, conservation and restoration.

### METODI DIDATTICI

Theory lessons, seminars, laboratory experiences.

### MODALITA' D'ESAME

The exam aims at evaluating the knowledge of the student on the degradation mechanisms typical of materials composing an artwork or an ancient structure and the methodologies able to slow down degradation and to protect/preserve those materials; the capacity to select the more appropriate diagnostic techniques in relation to their use/application; the capacity to select the more appropriate solution in terms of methodology and material for a specific real application. The evaluation of the student will be done on the basis of the exposed arguments, their formal correctness and the capacity to discuss and justify his/her thesis.

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## ALTRE INFORMAZIONI UTILI

The students can apply for the exam exclusively on Web-VOL system.

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## PROGRAMMA ESTESO

1. Introduction to the Course: definition of durability; durability of component-materials of an artwork or an ancient structure; concepts of environmental and service conditions; terminology and standard tests.

2. Natural stone materials: classification and main characteristics; causes, mechanisms and types of degradation of natural stone materials; diagnostic.

3. Artificial stone materials: mortars and ceramic materials, raw materials, technologies for production, characteristics; causes, mechanisms and types of degradation of artificial stone materials; diagnostic.

4. Polymeric materials: classification e main characteristics; solutions and suspensions of macromolecules, solvent/polymer interactions; durability, degradation and tests.

5. Wood: classification, properties and characteristics; durability, degradation and diagnostic.

6. Main types of intervention for conservation and restoration of surfaces (cleaning, consolidation, protection, adhesion, gap-filling, replacement): employed methodologies and materials.

7. Case studies.

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## TESTI DI RIFERIMENTO

Slides and other didactic material provided by the teacher.

Additional books:

- G. Amoroso: "Trattato di Scienza della Conservazione dei monumenti", Alinea Editrice.
- S. Bruckner, G. Allegra, M. Pegoraro, F. La Mantia: "Scienza e tecnologia dei materiali polimerici", Edises, Napoli.
  - L. Campanella, A. Casoli, M.P. Colombini, R. Marini Bettolo, M. Matteini, L.M. Migneco, A. Montenero, L. Nodari, C. Piccioli, M. Plossi Zappalà, G. Portalone, U. Russo, M.P. Sammartino: Chimica per l'arte, Edizioni Zanichelli.