DIAGNOSTICS FOR CULTURAL HERITAGE (LM61)

(Università degli Studi)

Teaching TECHNIQUES AND MATERIALS FOR CONSERVATION

GenCod A005453

Owner professor Mariaenrica FRIGIONE

Teaching in italian TECHNIQUES AND MATERIALS FOR CONSERVATION

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SSD code ING-IND/22

Reference course DIAGNOSTICS FOR CULTURAL HERITAGE

Course type Laurea Magistrale

Credits 6.0

Teaching hours Front activity hours: 42.0

For enrolled in 2018/2019

Taught in 2018/2019

Course year 1

Language ENGLISH

Curriculum PERCORSO COMUNE

Location

Semester Second Semester

Exam type Oral

Assessment Final grade

Course timetable https://easyroom.unisalento.it/Orario

BRIEF COURSE DESCRIPTION

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.

REQUIREMENTS

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

COURSE AIMS

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.

TEACHING METHODOLOGY

Theory lessons, seminars, laboratory experiences.

ASSESSMENT TYPE

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.

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

FULL SYLLABUS

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, row 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.

REFERENCE TEXT BOOKS

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.