MEDITERRANEAN UNIVERSITY OF REGGIO CALABRIA

Subject Code	1000365
Subject Name	Laboratorio di Rappresentazione - Rilievo dell'Architettura
Professor	Prof. Franco Prampolini
Department:	Patrimonio, Architettura e Urbanistica (PAU)
Degree course:	Scienze dell'Architettura
Class:	L 17
Type of educational activity:	**A**ttività formative di base (*Basic learning activities*)
Disciplinary Area:	Disegno e Rappresentazione (*Drawing and Representation*)
Scientific-Disciplinary Sector:	ICAR/17 – Disegno (*Drawing*)
Compulsory preliminary exams:	-
Course Year:	First
Semester:	Second
ECTS:	4
Hours:	40

Synthetic description:

The second module of the Representation Laboratory is mainly devoted to the survey and the three-dimensional representation of architecture. It aims to provide a broad overview and articulate the evolution and potential of detection techniques from the traditional ones to the more innovative based on three-dimensional photomodelling, the laser scanning and GPS..

Acquisition of knowledge on:

Topics - Second semester

1. Introduction: Accuracy Vs. Precision.
2. Elements of measure and error theory.
3. Structure and operational measurement techniques for the direct architectural survey: triangulations, trilateration, intersections. sketches, measures, transcription.
4. General Reference Systems: from geodesy to topographical networks for architectural and urban survey.
5. Measuring instruments. The instrumental survey of city and architecture.
    5.1. The "Total Station" and "Imaging Station"
    5.2. The "Laser Scanning" and "photomodelling" techniques
6. The photogrammetric techniques. Architectural restitutions by means of image processing: photo-plans, ortoprojection, 3D virtual models. Applications and operating software.
7. final project: creation of photorealistic virtual model of a small monument and its communication by a "drawn tale".

Student's independent work

In an independent way the student will be engaged in the deepening of the different topics, practicing on required applications.

Evaluation method:

The exam will be based on the critical evaluation of the final papers arranged with the teacher, consisting of the survey of a monument and the "drawn story" of the same with mixed techniques chosen by the student. It will also be necessary to prepare an original presentation (PowerPoint) about one of the theoretical topics of the course. At the end of the first semester a "self-assessment" test will be performed for the descriptive geometry program, with the chance to repeat it during the final examination.

Resources and main references:

Basic reference **

ARCHITECTURAL SURVEY AND PHOTOGRAMMETRY

Docci M., Maestri D., *Il rilevamento architettonico. Storia, metodi e disegno*, Laterza, Bari, 1984.

Link: http://circe.iuav.it/labfot/software/soft_rdf.html

De Luca L., *La photomodélisation architecturale*, Eyrolles, Paris 2009

De Rubertis R., *Il disegno dell'architettura*, Carocci Editore,   Roma 1994

Docci M. Maestri D., *Manuale di rilevamento architettonico e urbano*, Laterza, Roma 1994

Migliari R., *Geometria dei modelli*, Edizioni Kappa, Roma 2003

PHOTOGRAMMETRY:

K. KRAUS, *Fotogrammetria*, traduzione e introduzione a cura di S. Dequal, Bari, 1994.

** Contact your teacher for operational tips ...