

PROVA ORALE -TRACCIA 1

1. Il candidato descriva come strutturerebbe un rilievo laser scanner di un edificio a pianta circolare.
2. Il candidato legga e traduca:
Geomatics allows to carry out this operation in different ways and with different techniques, but, at any rate, all the methods have a common outcome which is the 3d point-based database. Obtained by photogrammetry or laser-scanner, the 3D database allows to make observations and measurements and to integrate the existing documentation, but in a safety way. All techniques aim at diminishing the survey time on site, and to allow to obtain detailed information during the post processing stage and to elaborate drawings, plans, sections and elevations in a very safe way. The survey after the earthquake presents quite a number of difficulties or problematic elements related mainly to safety aspects. The biggest risk for the operator is to stay at the presence of unsafe parts that can fall because of successive shocks or stresses of the structure.
3. Dato un modello fotogrammetrico elaborato con Metashape di Agisoft, Il candidato indichi come estrarre le informazioni relative alla compensazione topografica e ricavare una tabella in Excel (Office) per l'organizzazione e l'analisi dei risultati.
4. Cosa è il Dipartimento, come è strutturato e quali sono le attività che si svolgono all'interno di esso.

PROVA ORALE -TRACCIA 2

1. Il candidato indichi come eseguire un rilievo con SAPR (drone) di una copertura di un edificio situato nel centro storico di Mantova. Indichi le procedure e le modalità di acquisizione.
2. Il candidato legga e traduca:

After the earthquake of 2012, the ecclesiastical heritage of Mantua was so damaged to render unusable many buildings. Especially churches show a higher vulnerability in relation to their architectural features. From a recognition after the seismic event, more that 40% of the churches of Mantua were damaged with different intensity.

After the first phase of expeditious damage detection, a methodical analysis has allowed to know the real state of conservation of many architectures.

The Diocese of Mantua commissioned to the Mantua Campus of Politecnico di Milano the survey and digital documentation of 25 churches differently affected by the seismic event. The goal of the survey was double: a) realize the documentation necessary for the shoring and protection of damaged structures; b) prepare the drawing for the following interventions on the buildings such as restoration, reconstruction and retrofitting.

Five years after the earthquake, many interventions of those identified were completed and concluded. Numerically, 129 churches were damaged and, nowadays, 115 have been restored and now they are fully open. The paper aims to illustrate the operational criteria used in the survey activity and repair operations carried out in order to identify guidelines that can direct operators in cases of new consolidation measures.
3. Data una lista di valori, il candidato indichi come calcolerebbe con un foglio Excel di Office i valori della media, della varianza e della deviazione standard.
4. Quali sono gli organi di governo del Polo territoriale e, in particolare, come è composto e quali sono le funzioni e prerogative del Consiglio di riferimento.