Three-dimensional digitization. Data, representation, design

Prof. Leopoldo Repola

12 hours – 3 CFU

Short Program of the Course:

1. Real numerical models _ The virtual as a method for analysis and design. The module will investigate the founding principles of the discipline related to the use of digital technologies for the production, management and representation of data to support the phases of study of the territory and the development of project strategies - 3 hours

2. Technologies for the terrestrial, marine and coastal three-dimensional survey. A complete overview will be made of laser and photogrammetric devices and technologies for the three-dimensional survey of large and local contexts. Case study: Marzamemi Project – Università Suor Orsola Benincasa, Stanford University, Soprintendenza del Mare Regione Sicilia - 3 hours

3. Tools and processes for the survey of architectures and urban contexts. Systems and methodologies will be presented for the rapid 3D digitization of architectures and urban contexts to support the analysis and characterization of historical artefacts - 3 hours

4. Data management software and procedures _ From point clouds to polygonal models. Data connection and BIM - Building Information Modeling – design. Case study: DáidalOS | Cumae Knowledge Spaces | intelligent systems for analysis, enhancement and visualization of cultural heritage - 3 hours

Prerequisites:

Basic knowledge: CAD