

# Evaluation of natural hazards through GIS and digital data

*Giovanni Forte, Gerardo Carpentieri*

**Credits:** 3 CFU

**Number of hours:** 24

**Objectives:**

The course represents an introduction to natural hazards and the disaster risk concept in urban and territorial settings. It aims to provide the basic concepts for analysing, studying and managing natural hazards in Geographic Information Systems (GIS). Students will learn how geo-information and geomatics tools are uniquely suited to study, monitor, and quantify several aspects of spatial data, and GIS plays an important role in it. Elements on landscape survey and the elaboration of the acquired 3D point clouds will also be provided. The latter will be used for analysing natural hazards and evaluating their impacts. Finally, the students will have hands-on experience in using software tools for handling and processing geospatial data aimed at developing practical applications on some phenomena such as earthquakes and landslides.

<b>Date</b>	<b>Time</b>	<b>N° of hours</b>	<b>Topic / Teacher</b>
February 7	10.00 – 13.00	3	Introduction <i>Gerardo Carpentieri</i>
February 9	10.00 – 13.00	3	Geographic Information Systems (GIS) <i>Gerardo Carpentieri</i>
February 10	10.00 – 13.00	3	The use of spatial data in GIS <i>Gerardo Carpentieri</i>
February 14	10.00 – 13.00	3	The spatial analysis in GIS <i>Gerardo Carpentieri</i>
February 16	10.00 – 13.00	3	An overview of the natural hazards in Campania <i>Giovanni Forte</i>
February 17	10.00 – 13.00	3	Survey techniques and 3D points clouds <i>Giovanni Forte</i>
February 21	10.00 – 13.00	3	Assessment of susceptibility to trigger flowslides <i>Giovanni Forte</i>
February 23	10.00 – 13.00	3	Generation of seismic scenario maps <i>Giovanni Forte</i>