

Syllabus 2020/21

Teacher (name and affiliation)	Federico Agliardi and Andrea Bistacchi (UNIMIB, DISAT)
Title	Field and remote-sensing techniques for the advanced characterization of rock fractures in outcrops
Language	<i>English</i>
CFU	<i>2: lessons, field & lab work</i>
Hours	<i>20h: 8h lessons, 6h fieldwork, 6h lab work</i>
Program	<p>A proper characterization of rock fractures is the key to reconstruct the geological evolution and to model the hydro-mechanical behavior of fractured rock masses. Nevertheless, a statistically sound characterization of rock fractures is very difficult to achieve, due to a combination of inherent complexity, scale effects, statistical biases and practical survey difficulties.</p> <p>The fast development of remote-sensing 3D survey techniques (LiDAR and photogrammetry), survey platforms (terrestrial and airborne) and 3D geo-modeling tools (DOM, DFN, DFM, FEM) has opened new and accessible routes towards an improved characterization of rock fractures for geological and engineering problems.</p> <p>In this course, we will introduce and apply a workflow for the geometrical and mechanical characterization of fractured media to: (i) improve conceptual models in geological and engineering applications; (ii) provide consistent input datasets for 2D and 3D discrete, continuum-based and hybrid numerical models.</p>
Evaluation: YES/NO	<i>NO</i>
Calendar	<i>II semester</i>