

Syllabus 2022-2023

Teacher (name and affiliation)	Marcello Campione (UNIMIB, Dep. Earth and Environmental Sciences)
Title	Scanning probe microscopy: principles, applications in nanosciences and image handling
Language	<i>English</i>
CFU	1.5
Hours	14 (8 lessons + 6 practical sessions on laptop)
Program	<p><i>The aim of the course is to provide the basic principles of scanning probe microscopy (SPM) and related techniques, a summary of the methods applied in nanosciences, and basic knowledge of image artifact recognition and image handling.</i></p> <p><i>Lecture I: Basic concepts of nano-probe/surface interaction</i></p> <p><i>Lecture II: Signal monitoring in SPM techniques and image reproduction</i></p> <p><i>Lecture III: Case studies in nanosciences: functional nanostructures, nanotribology, and mineral surface physics</i></p> <p><i>Lecture IV: Case studies in nanosciences: functional nanostructures, nanotribology, and mineral surface physics</i></p> <p><i>Lecture V: Image handling: practical session with freeware software.</i></p> <p><i>Lecture VI: Image handling: practical session with freeware software.</i></p> <p><i>Expected outcome: Knowledge of potentiality of SPM techniques applied in cross-disciplinary fields. Acquisition of basic skills in interpreting and handling of false-colour SPM images.</i></p> <p><i>Suggested years of attendance: I and II</i></p>
Evaluation: YES/NO	NO
Calendar	<i>I semestre</i>