



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Scanning probe microscopy: principles, applications in nanosciences and image handling (Intercurricular)

2223-94R-SCGA010

---

#### Title

Scanning probe microscopy: principles, applications in nanosciences and image handling

#### Teacher(s)

Marcello Campione

#### Language

English

#### Short description

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.

Lecture I: Basic concepts of nano-probe/surface interaction

Lecture II: Signal monitoring in SPM techniques and image reproduction

Lecture III: Case studies in nanosciences: functional nanostructures, nanotribology, and mineral surface physics

Lecture IV: Case studies in nanosciences: functional nanostructures, nanotribology, and mineral surface physics

Lecture V: Image handling: practical session with freeware software.

Lecture VI: Image handling: practical session with freeware software.

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.

Suggested years of attendance: I and II

Evaluation: NO

### **CFU / Hours**

1,5 CFU - 14 Hours (8h lecture - 6h computer practical sessions)

### **Teaching period**

I semester

---