UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Scanning Probe Microscopy: Principles, Applications, and Image Handling

2425-1-124R007

Title

Scanning probe microscopy: principles, applications 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 physiscs

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

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: YES (Self-evaluation)

CFU / Hours

1 CFU - 12 Hours (6h lecture - 6h computer practical sessions)

Teaching period

I semester

Sustainable Development Goals