

MATE130057	扫描探针显微技术及其应用	学分：2	周学时：2
	Scanning Probe Microscopy: Principles and Applications	总学时：36	
预修课程：			
修读对象：材料科学系本科生以及其他感兴趣的外系学生选修			

中文课程简介（150 字以内）

扫描探针显微技术 (SPM) 是在上世纪 80 年代初发展起来的一种新的高分辨成像技术，由于其在材料表征、操纵及加工方面的重要应用，SPM 日益受到关注。本课程主要讲授与 SPM 相关的基础理论、基本构造、工作模式及相关应用，以及在 SPM 基础上发展起来的各类新型探针显微镜，并展望 SPM 的未来发展趋势。

英文课程简介

Scanning probe microscopy (SPM) is a newly developed technique which occurred in 1980's. Since its invention, SPM has attracted much attention due to its high atom-scale resolution and also due to its applications in the characterization, fabrication and modification of morphologies and physical and even chemical properties of the surfaces or sub-surfaces in all kinds of materials and devices. This course will focus on the principles, the basic structures, the operation modes and the possible applications of SPM and their variations. Furthermore, this course will also forecast the further developments of SPM.