

MATE110016	扫描探针显微镜：从宏观到微观	学分：2	周学时：2
	Scanning Probe Microscopy: An Approach to the Nano-World	总学时：36	
预修课程：			
修读对象：对探针显微镜、纳米表征感兴趣的本科生			

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。课程中包括大量 SPM 应用实例。

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.