

MATE130064	材料综合实验	学分：2	周学时：4
	Materials comprehensive experiment	总学时：72	
预修课程：基础物理、化学实验；仪器分析实验；材料结构与性能			
修读对象：材料系本科生			

中文课程简介（150 字以内）

《材料综合实验》是材料系本科生的一门专业必修课，内容涉及材料结构分析、加工制备工艺和物性测试三个方面，主要包括偏光显微镜原理及其高分子结晶形态观察，扫描电镜结构、原理及组织观察，光刻工艺、刻蚀工艺及刻蚀结果检测，溶胶凝胶法和沉淀法制备纳米粉末，材料力学性能测试及金属材料腐蚀性能表征等内容。

英文课程简介

The materials comprehensive experiment is a compulsory subject of the undergraduate in the materials department. The contents involve three aspects of material structure analysis, processing preparation and property test, including the polarizing microscope principle and the observation of polymer crystal morphology, scanning electron microscope structure, principle and microstructure observation, photolithographic process, etching process and etching measure, the preparation of nanometer powder using sol-gel method and precipitation, material mechanics performance testing and the characterization of metal material corrosion properties, etc.