

MATE130004	材料物理与化学实验	学分：3	周学时：3
	Experiments in Materials Physics and Chemistry	总学时：54	
预修课程：普通化学，高分子化学，普通物理，计算机应用			
修读对象：本科四年级			

中文课程简介（150 字以内）

本课程包括两部分内容，一部分涉及材料制备，包括甲基丙烯酸甲酯-苯乙烯共聚物、羟基磷酸钙和荧光材料 $\text{YBO}_3:\text{Eu}$ ；另一部分是材料物性的测量，包括差示扫描热量测定、热失重分析，拉伸强度测定、荧光性能测试、四探针法测电阻率、光弹性测量、电子散斑干涉测量和 ANSYS 分析。

通过本课程，使学生初步掌握一些基本的材料制备方法和物理性能测定方法。

英文课程简介

This experiment course consists of two parts, part one is materials preparation, including methyl methacrylate-styrene copolymer, hydroxyapatite and fluorescent material $\text{YBO}_3:\text{Eu}$; part two is the characterization of material properties, including differential scanning calorimetry, thermogravimetric analysis, tensile strength test, fluorescence test, resistivity measurement with four-point probes, photoelastic measurement, electronic speckle pattern interferometry and ANSYS analysis.

Through the course, the students in materials chemistry may have preliminary knowledge of some basic methods of material preparation and determination methods of the physical properties.