

MATE130010	材料物理	学分：3	周学时：3
	Material Physics	总学时：54	
预修课程：大学物理、近代物理、高等数学、数学物理方法			
修读对象：材料物理专业			

中文课程简介（150 字以内）

介绍材料的各种物理特性的微观起源。具体涉及：晶体中原子和分子的结合方式；晶体结构；晶体的点缺陷、线缺陷和面缺陷；晶体的热学性质与晶格振动；固体电子论基础；能带理论初步；金属电导；超导电性；材料的介电特性；晶体的介电性；晶体的压电性质；晶体的热释电性质；晶体的铁电性质。

英文课程简介

An introduction about the micro-origins for the various physical properties of materials. Specifically related to: binding forces of atoms and molecules in crystal; crystal structure; point defects, line defects and planar defects in crystal; crystal thermal properties and its lattice vibrations; foundation of solid electronics; an introduction about energy band theory; metal conductivity; superconductivity; dielectric properties of materials; crystal dielectric; crystal piezoelectric properties; crystal pyroelectric properties; crystal ferroelectric properties.