

MATE110020	材料失效分析	学分：2	周学时：2
	Failure Analysis of Materials	总学时：36	
预修课程：普通物理，普通化学，高等数学			
修读对象：自然科学类、技术科学类、经济管理类、数学类和医学类			

中文课程简介（150 字以内）

材料失效分析作为一门新兴的综合性学科，在产品开发、安全生产、事故分析和社会发展等方面和具有重要的地位和作用。

本课程由理论和应用二部分组成：一是失效分析的基本概念和基础理论的概要介绍，二是重大失效案例的示范分析及其预防。该课程特别强调理论与实际相结合，以主讲老师近年来在我国许多行业完成的几十项失效案例为教案，深入浅出地介绍了如何运用已有的基础知识分析实际问题及其预防方法，并遴选若干案例在课堂上开展师生间的互动讨论和分析，旨在培养学生的专业素养和综合素质，提高其分析能力和创新能力。

英文课程简介

As an emerging and interdisciplinary subject, failure analysis of materials plays an important role in the fields of product exploitation, safety production, accident analysis and social development.

This course consists of two parts: theory and application. The first part involves brief introduction of basic concept and fundamental theory related to failure analysis; the second part is concerned with demonstration analyses of major failure cases and their prevention methods. It specially focuses on combining theory with practice taking as lesson cases dozens of failure incidents which were undertaken by the teachers in many sectors in recent years as well as their prevention methods. The teachers are good at describing how to apply the existing fundamental knowledge to solving practical issues, select a number of typical cases for interactive discussion and analysis among teacher and students during class, and aim at fostering students' professional attainment and comprehensive quality and enhancing their analytical and innovative abilities.