

# 上海交通大学研究生专业课程信息收集表

## Information Form for SJTU Graduate Profession Courses

课程基本信息 Basic Information				
<b>*课程名称</b> Course Name	(中文 Chinese) 焊接冶金			
	(英文 English) Welding Metallurgy			
<b>*学分</b> Credits	2	<b>*学时</b> Teaching Hours	32 (1 学分=16 课时)	
<b>*开课学期</b> Semester	秋季学期 Fall	<b>*是否跨学期</b> Cross-semester?	否 No	跨 Spanning over 一个学期 Semesters (含夏季学期)。
<b>*课程类型</b> Course Type	专业前沿课 Program Frontier Course	<b>*课程分类</b> Course Type	全日制课程 For full-time students	
<b>*课程性质</b> Course Category	专业课 Specialized Course	课程层次 Targeting Students	硕士课程 Master Level	
<b>*授课语言</b> Instruction Language	中文 Chinese	主要授课方式 Teaching Method	课堂教学 In class teaching	
<b>*成绩类型</b> Grade	等第制 Letter grading	主要考核方式 Exam Method	论文 Essay	
<b>*开课院系</b> School	材料科学与工程学院			
所属学科 Subject	材料科学与工程			
负责教师 Person in charge	姓名 Name	工号 ID	单位 School	联系方式 E-mail
	何国		材料学院	ghe@sjtu.edu.cn
课程扩展信息 Extended Information				
<b>*课程简介</b> (中文) Course Description	(分段概述课程定位、教学目标、主要教学内容、先修课程等；不少于 200 字。)			
	<p>该课程的任务是阐述金属材料，特别是比较重要的焊接结构典型材料，例如低合金高强度钢、不锈钢、镍基合金、铝合金等，在焊接过程中物理冶金、化学冶金和力学冶金的基本规律，揭示材料焊接过程中组织与相的转变规律与机制，分析材料焊接过程中缺陷的形成机制与预防措施，各种材料的焊接性，焊接工艺的制定及焊接接头质量检测等内容。通过该课程教学，使学生了解和掌握关键焊接结构材料的焊接性，焊接冶金的基本规律和组织相变机制；具有针对特定材料制定焊接工艺的能力；具有针对特定材料焊接缺陷的分析能力；并能够从焊接冶金的角度找到解决焊接缺陷的途径。</p>			
<b>*课程简介</b> (English) Course Description	<p>(须与中文一致，翻译请力求信达雅。)</p> <p>The purpose of this course is to elaborate on the principles of physical metallurgy, chemical metallurgy and mechanical metallurgy of the metallic materials in the welding process, including the microstructure and phase transition, the formation of the welding defects, weldability, welding procedure, weld inspection, etc. The focus will be put on the low alloy high strength steel, stainless steel, nickel based alloy, aluminum alloy, etc. The aim of this course is to enable students to understand and master the weldability of materials in some key welding structures, the basic law of welding metallurgy, and the mechanism of the microstructure and phase transition in the welding process. After the teaching, the students will have the ability to design welding structure and develop welding process for the specified materials, to analyze the welding defects for particular material, and to find the way to solve the welding problems by utilizing the knowledge of the welding metallurgy.</p>			



备注 Note	
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