

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				
*课程名称 Course Name	(中文 Chinese) 材料科学与工程前沿专题			
	(英文 English) Frontiers of Materials Science and Engineering			
*学分 Credits	2	*学时 Teaching Hours	32 (1 学分=16 课时)	
*开课学期 Semester	春秋学期 Spring & Fall	*是否跨学期 Cross-semester?	否 No	跨 Spanning over 一个学期 Semesters (含夏季学期)。
*课程类型 Course Type	专业选修课 Program Elective Course	*课程分类 Course Type	全日制课程 For full-time students	
*课程性质 Course Category	专业课 Specialized Course	课程层次 Targeting Students	博士课程 Doctoral Level	
*授课语言 Instruction Language	中文 Chinese	主要授课方式 Teaching Method	网络教学 Online teaching	
*成绩类型 Grade	通过/不通过 Pass/Fail	主要考核方式 Exam Method	论文 Essay	
*开课院系 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
	金学军		材料科学与工程学院	jin@sjtu.edu.cn
课程扩展信息 Extended Information				
*课程简介 (中文) Course Description	<p>(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> <p>本课程(解决“听”和理解能力)与学术英语课程(解决“说读写”能力)相配合,训练和培养研究生在学术交流活动中,有效理解吸收学术演讲,特别是英文发表演讲的信息,也可帮助掌握发表学术演讲的能力。主要涉及内容包括:推荐学科前沿专题讲座;自选学科前沿讲座;演讲的意义;听讲前准备;听讲时怎么做交流沟通;国外留学/访学时听讲建议。全学期聆听推荐的英语演讲不少于 8 次,选择两个演讲主题,完成报告,并通过面试。</p> <p>教学目标:了解相关学科方向前沿最新发展概况;理解演讲的意义,会为听演讲作好准备;在学术交流中高效吸收学术演讲中的信息;学会与演讲专家沟通交流;中国学生理解英文演讲内容的相关注意点。</p> <p>无需先修课程</p>			
*课程简介 (English) Course Description	<p>This course (Solving "listening" and understanding ability) and the academic English Course (to solve the "read and write" ability), training graduate students in academic exchanges, the effective understanding of academic speech, especially in English speech, also help to master the ability of academic frontier speeches. The main contents include: The introduction to speech, Prepare before hearing How to take notes when listening, After listening to the speech, Suggestions for studying abroad or visiting school. During the whole semester, there are no less than 8 English listening speeches, and two topics are chosen to complete the report and pass the interview.</p>			

		Teaching objectives: Understanding the latest developments in the direction of the related disciplines. Understanding the meaning of a speech will prepare for listening to a speech. Absorbing information in academic speeches efficiently in academic exchanges. Learning to communicate with speech experts. Related points of Chinese students' understanding of English speech content.				
*教学大纲 (中文) Syllabus		教学内容 Content	授课学时 Hours	教学方式 Format	授课教师 Instructor	
	1.	引言：国际会议报告示范，实例说明演讲报告；结合专家 PPT 文件讲解英文演讲的主要内容和特点；	3	讲座	金学军/肖飞	
	2.	“绿色固态相变制冷技术的核心材料 NiTi 记忆合金的若干研究进展”	3	讲座	邀请香港科技大学孙庆平教授	
	3.	“数据驱动模式加速材料研发”	3	讲座	邀请致远讲席教授汪洪教授	
	4.	“高强钢中的应变强化机制”	3	讲座	邀请香港大学黄明欣教授	
	5.	“商用航空发动机及其关键材料应用”	3	讲座	邀请中国航空商发雷力明高工	
	6.	“三维原子探针在材料表征中的最新应用”	3	讲座	邀请悉尼大学陈翊昇博士	
	7.	“超塑性成型钛合金中微结构演变的表征与建模”	3	讲座	邀请英国帝国理工姜军博士	
	8.	模块六，自选主题前沿 b	3	讲座	邀请或顺访学者	
	8.	模块六，自选主题前沿 c	3	讲座	邀请或顺访学者	
	9.	模块六，自选主题前沿 d	3	讲座	邀请或顺访学者	
11.	针对提交报告，面试	3	面谈	金学军/肖飞		
*教学大纲 (English) Syllabus		Content	Hours	Format	Instructor	
	10.	Introduction to the course and case study	3	Lecture	Xuejun JIN/Fei XIAO	
	11.	Research progress in the environmental-friendly NiTi shape memory alloy refrigerant basing on the solid phase transformation	3	Lecture	Hong Kong University of Science and Technology Prof. QingPing Sun	
	12.	Accelerating developing materials based on data	3	Lecture	SJTU Prof. Wanghong	
	13.	Strain hardening mechanisms in high strength steels	3	Lecture	Hong Kong University Prof. Mingxin Huang	
	14.	Commercial aeroengine and related key materials	3	Lecture	AECC Commercial Aircraft Engine Co., Ltd Prof. Liming Lei	

	15.	Latest Applications of Atom Probe Tomography in Materials Characterization	3	Lecture	Sydney University Dr. Yisheng Chen	
	16.	Characterizing and Modelling Microstructure Evolution in Superplastic Forming of a Titanium Alloy	3	Lecture	Imperial College London Dr. Jun Jiang	
	8.	Mode 6, Free Topics B	3	Lecture	Expert	
	17.	Mode 6, Free Topics C	3	Lecture	Expert	
	18.	Mode 6, Free Topics D	3	Lecture	Expert	
	11.	Interview on the reports	3	Interview	Xuejun Jin/Fei Xiao	
*课程要求 (中文) Requirements	(课程考核方式、考核标准等; 不少于 50 字) 出席率, 过程考核为主; 针对讲座提交两个报告, 面试考核					
*课程要求 (English) Requirements	(须与中文一致, 翻译请力求信达雅。) Mainly based on the attendance of the students and at least 8 seminar should be present. Two of the modes will be interviewed and relevant questions will be asked to evaluate the performance of the students.					
*课程资源 (中文) Resources	(教材、教参、网站资料等。) 最新文献以及 Canvas 网站: https://oc.sjtu.edu.cn/courses/19995					
*课程资源 (English) Resources	(须与中文一致, 请力求信达雅。) <u>Latest literatures</u> Website of the course at Canvas: https://oc.sjtu.edu.cn/courses/19995					
备注 Note						