

课程大纲 COURSE SYLLABUS

1.	课程代码/名称 Course Code/Title	表面物理学 Introduction to Surface Physics
2.	课程性质 Compulsory/Elective	专业选修课 Elective Course
3.	课程学分/学时 Course Credit/Hours	3 学分/48 学时
4.	授课语言 Teaching Language	中文
5.	授课教师 Instructor(s)	徐虎 Hu Xu
6.	是否面向本科生开放 Open to undergraduates or not	是 YES
7.	先修要求 Pre-requisites	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 固体物理 PHY321-15 Introduction to Solid State Physics
8.	教学目标 Course Objectives	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 本课程内容涵盖表面结构, 表面热力学, 表面吸附, 表面电子性质, 表面动力学过程等, 这些内容对于了解和掌握发生在表面上的现象以及对表面相关的深入研究至关重要。 This course covers the physics and theories related to surfaces, including surface structure, surface thermodynamics, surface adsorption, surface electronic properties, surface dynamic processes, etc., which are of prime importance in understanding different surface phenomena and performing further surface related research works.
9.	教学方法 Teaching Methods	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 课堂讲授为主 48 Lectures
10.	教学内容 Course Contents	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)
	Section 1	表面结构 Surface Structures
	Section 2	表面动力学 Surface Thermodynamics
	Section 3	表面吸附 Surface Adsorption

	Section 4	表面电子结构 The electronic structure of surfaces
	Section 5	表面振动性质 Surface vibrational properties
	Section 6	表面扩散和成核 Surface Diffusion and Nucleation
	Section 7	表面催化简介 Introduction to Surface Catalysis
11.	课程考核 Course Assessment	
	<p>(1.考核形式 Form of examination; 2.分数构成 grading policy; 3.如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>作业 25%, 随堂测试 15%, 期末报告 60%</p> <p>Homework 25%, in-class quiz 15%, Final Presentation 60%</p>	
12.	教材及其它参考资料 Textbook and Supplementary Readings	
	<p>1. Physics of Surfaces and Interfaces, Harald Ibach, ISBN-13 978-3-540- 34709-5 Springer Berlin Heidelberg New York</p> <p>2. Introduction to Surface and Thin Film Processes, JOHN A. VENABLES, Original ISBN 0 521 62460 6 hardback, Original ISBN 0 521 78500 6 paperback, Cambridge University Press</p> <p>3. Solid Surfaces, Interfaces and Thin Films, Hans Lüth, ISBN 978-3-642-13591-0, Springer Heidelberg Dordrecht London New York</p>	