Information Form for SJTU Graduate Profession Courses

Basic Information					
* Course Name	Optical, Electronic and Magnetic Properties of Materials				
* Credits	3	* Teaching Hours	48 1 =16		
* Semester	Fall	* Cross-semester?	No	Spanning over Semesters	
* Course Type	Program Core Course	* Course Type	For full-time students		
* Course Category	Specialized Course	Targeting Students	All graduates		
* Instruction Language	Chinese	Teaching Method	In class teaching		
* Grade	Letter grading	Exam Method	Essay		
* School					
Subject					
Person in charge	Name	ID	School	E-mail	
				ksun@sjtu.edu.cn	

Extended Information	
* ( ) Course Description	200
* English Course Description	The optical, electronic and magnetic properties of materials are of great importance in materials sciences, and are the basement for functional materials. This course mainly focuses on the quantum mechanism of these properties, describing and interpretating the functions and structure-function relationship. The course is setup for both Master students and PhD students. The course intends to let students understand the significance, principle, characterization and controlling protocols of these properties on one hand, and presenting the research methodologies on these functional materials. Additionally, the state-of-the-art of these materials would also be introduced.
* ( ) Syllabus	1. 2 2. 4 3. 12 4. 12 5. 12 6. 4 7. 2

* English Syllabus	1. Overview of optical, electronic and magnetic properties, 2units 2. Fundamental quantum mechanics, 4units 3. The optical properties of materials, 12units 4. The electronic properties of materials, 12units 5. The magnetic properties of materials, 12units 6. Papers reading and discussion, 4units 7. Classwork, 2units
* Requirements	50 1 2 3
* English Requirements	The grading would be given according to the classwork, behavior in class discussion and final exam.
* Resources	1)J. Simmons, K. S. Potter, Optical Materials, Academic Press, 1999 2) R. E. Hummel, Electronic Properties of Materials, Springer, 1985 3) R. C. O'Handley, Modern Magnetic Materials: Principle and Applications; John Wiley & Sons Inc, 2000.
* English Resources	1)J. Simmons, K. S. Potter, Optical Materials, Academic Press, 1999 2) R. E. Hummel, Electronic Properties of Materials, Springer, 1985 3) R. C. O'Handley, Modern Magnetic Materials: Principle and Applications; John Wiley & Sons Inc, 2000.
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