Information Form for SJTU Graduate Profession Courses

Basic Information				
* Course Name	Chinese			
	English	Intelligent Technologies for Manufacturing		
* Credits	2		* Teaching Hours	32 1 =16
* Semester	Fall		* Cross-semester?	No	Spanning over Semesters
* Course Type	Program Elective Course		* Course Type	For full-time students
* Course Category	Specialized Course		Targeting Students	Master Level
* Instruction Language	Chinese		Teaching Method	In class teaching
* Grade	Letter grading		Exam Method	Tests
* School	School of Materials Science and Engineering			
Subject	Material Processing Technology			
Person in charge	Name	ID	School	E-mail
	Shanben Chen		School of Materials Science and Engineering	sbchen@sjtu.edu.cn
Extended Information				

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Course Description

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Course

Description	This course belongs to the discipline of materials processing engineering and other related disciplines. It is a professional basic course for master graduate students. Through the study of this course, students need to understand the basic theory and basic methods of artificial intelligence in the process of material processing, including machine vision, neural network, fuzzy system, intelligent control and expert system, etc. The students need to have the basic skills of the main intelligent technology in the sensing, modeling, analysis and control system design of the of material processing, such as the intelligent manufacturing of robotic welding, laser manufacturing and intelligent heat manufacturing, etc. It lays the foundation for automation and intelligent technology for master graduate students who are engaged in intelligent technology of materials processing.

2020.04

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Syllabus

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* Resources	[1]. 2006 [2]. 2004 [3]. 2001 [4]. 2000 [5]. 2000 [6]. 2000 [7]. 2006 [8]. 1996 [9]. 2000
* English Resources	[1]. Shanben Chen et. Intelligent welding robotic technology. China Machine Press. 2006. [2]. Zixing Cai. Artificial intelligence principles & applications. Tsinghua University Press. 2004. [3]. Shanben Chen et. Modern control technologies of welding process. Harbin Institute of Technology Press. 2001. [4]. Lin Wu, Shanben Chen et. Intelligent welding technology. National Defense Industry Press. 2000. [5]. Shangyang Lin, Shanben Chen et. Welding robot and its applications. China Machine Press. 2000. [6]. Zixing Cai. Robotics. Tsinghua University Press. 2000. [7]. Yu Wang, Zhihua Zhou et. Machine learning and its applications. Tsinghua University Press. 2006. [8]. Jiansheng Pan et. Principles of chemical heat treatment for steel and iron. Shanghai Jiao Tong University Press. 1996. [9]. Jiluan Pan. Modern arc welding control. China Machine Press. 2000.
Note	