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* Course Name	Chinese			
	English Modern Laser manufacturing technology			
* Credits	2	* Teaching Hours	32 1 =16	
* Semester	Spring	* Cross-semester?	No	Spanning over Semesters
* Course Type	Program Frontier 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	Essay	
* School	School of Materials Science and Engineering			
Subject				
Person in charge	Name	ID	School	E-mail
	HUANG Jian		School of Materials Science and Engineering	jhuang@sjtu.edu.cn
Gzvpgfgf "kphqt o cvkqp"				
* () Course Description	3D /			
* English Course Description	<p><u>Laser manufacturing technology is one of the hot technologies nowadays. Due to its advancement, high efficiency and intelligentization, it has been considered as an advanced manufacturing technology with the highest development potential in the manufacturing industry in the current century, and been widely applied in industries. This course introduces the physical base of laser generating, the interactions between laser and materials, operation principles of lasers and laser manufacturing system, and the main laser manufacturing technologies such as laser welding, laser hardening, laser cladding, laser shocking, laser 3D printing, laser cutting and laser drilling, including principles, processing bases and current development. Furthermore, laser manufacturing process features of typical materials and application cases as well as laser safety and protection have been also introduced. Through laser welding and laser surfacing s. Finally, through the course the</u></p> <p><u>students can initially grasp the advanced laser manufacturing methods in field of materials processing, broaden their vision, and improve their adaptability in the future career. Students should occupy the knowledge of materials processing principles as pre-knowledge.</u></p>			

<p>* () Syllabus</p>	<table border="1"> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>6</td><td></td></tr> <tr><td></td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>6</td><td></td></tr> <tr><td></td><td>3D</td><td>3</td><td></td></tr> <tr><td></td><td></td><td>4</td><td></td></tr> <tr><td></td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>1</td><td></td></tr> <tr><td></td><td>+</td><td>2</td><td></td></tr> </table>							6				2				6			3D	3				4				2				2				2				2				1			+	2	
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<p>* Requirements</p>	<p>25% 75%</p>																																																
<p>* English Requirements</p>	<p>The course assessment consists of two parts: Class Participation and Final Project. The class participation includes assignments, experiment reports and attendance, 25% of the total score. The final project is a literature review report, 75% of the total score.</p>																																																
<p>* Resources</p>	<p>1 ISBN: 9787118109849 2016 2 / / (2) ISBN: 712225609X, 9787122256096 2016 3 2011</p>																																																
<p>* English Resources</p>	<p>1) Laser Manufacturing and its Applications, YU Gang, et al, ISBN: 9787118109849, in Chinese, National Defense Industry Press , 2016 2) Laser Welding, Cutting and Cladding Technologies, LI Yajiang, et al, ISBN: 9787122256096, in Chinese, Chemical Industry Press, 2016 3) Advanced Laser Manufacturing Technology, ZHANG Yongkang, et al, ISBN: 9787811303001, in Chinese, Jiangsu University Press, 2011</p>																																																
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