

Information Form for SJTU Graduate Profession Courses

Basic Information				
	Chinese			
Extended Information				
	<p>The course will systematically introduce the composition, microstructure and properties of all kinds of cast iron, cast steel and cast non-ferrous alloy, and the principle of melting and fundamental production knowledge for different alloys will also be introduced. The content emphasizes the basic theory, practice and quality of casting alloys.</p> <p>Aim of course Learning and possessing the basic theory and production</p>			

knowledge of composition, microstructure properties, melting, production and quality control of all kinds of cast iron, cast steel and cast non-ferrous alloy. There are nineteen chapters in the course. Chapter 1: Introduction to casting alloys. Chapter 2: Basic metallurgy of cast iron. Chapter 3: Solidification of casting iron. Chapter 4: Solid transformation of casting iron. Chapter 5: Alloying of casting iron. Chapter 6: Microstructure and properties of casting iron. Chapter 7: Casting carbon steel. Chapter 8: Casting low alloying steel. Chapter 9: Casting high alloying steel. Chapter 10: Casting aluminum alloy. Chapter 11: Casting copper alloy. Chapter 12: Casting magnesium, zinc, titanium and nickel-based alloy. Chapter 13: Casting metal matrix composites. Chapter 14: Melting of cupola. Chapter 15: Melting of arc furnace. Chapter 16: Melting of induction furnace. Chapter 17: Melting of non-ferrous alloy. Chapter 18: Refining of melt. Chapter 19: New technology for melting.

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Content	Hours	
, 2	2	Teaching
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