

## 机械与动力工程学院博士生资格考试笔试大纲

## Syllabus of Ph.D. Qualification Examination (SJTU-ME)

*笔试主题 Exam Topic	(中文) 反应堆安全学 (English) Nuclear safety
*考核形式 Exam Format	闭卷考试, 1 小时 Closed-book exam, 1 hour
*考核目标 Exam Target	<p>考核核科学与技术专业博士研究生对于核安全相关知识的理解与掌握情况, 确认学生知晓核安全法规、认识核安全目标、掌握反应堆安全评价方法、明白安全系统设计改进、具有核安全意识, 具备后续从事核科学研究的核安全相关基础。</p> <p>The main exam target is to assess the understanding and mastery of nuclear safety related knowledge of doctoral candidates majoring in nuclear science and technology, and to confirm that they know nuclear safety regulations, nuclear safety objectives, reactor safety evaluation methods, safety system design improvement, nuclear safety awareness, which are nuclear safety related foundation for subsequent nuclear science research.</p>
*考核内容 Exam Contents	<ol style="list-style-type: none"> <li>1. 核安全基本概念</li> <li>2. 核电厂安全设计</li> <li>3. 核事故分类与事故分析</li> <li>4. 核安全管理体系</li> <li>5. 核安全法规体系</li> <li>6. 核安全文化</li> <li>7. 严重事故及管理措施</li> <li>8. 概率安全评价与风险管理</li> </ol> <ol style="list-style-type: none"> <li>1. Basic concepts of nuclear safety</li> <li>2. Nuclear power plant safety design</li> <li>3. Nuclear accidents classification and accident analysis</li> <li>4. Nuclear safety management systems</li> <li>5. Nuclear safety regulatory system</li> <li>6. Nuclear safety culture</li> <li>7. severe accident and management</li> <li>8. Probabilistic safety assessment and risk management</li> </ol>
*参考书目 References	<p>《反应堆安全分析》, 朱继洲, 西安交通大学出版社 "Reactor safety analysis," XI'AN JIAO TONG University Press.</p> <p>《中华人民共和国核安全行政法规系列》 "People's Republic of China on Nuclear Safety and administrative regulations Series".</p> <p>《中华人民共和国核安全行业规程系列》 "People's Republic of China Nuclear Industry Safety regulations Series".</p> <p>《压水堆核电厂安全与事故对策》, 濮继龙, 原子能出版社 "PWR nuclear power plant safety and accident management," Pu Jilong, Atomic Energy Press.</p> <p>《核安全文化与管理》, 苏圣兵, 原子能出版社 "Nuclear safety culture and management," Su Shengbing, Atomic Energy Press.</p>
备注 Notes	

