

材料科学与工程来华留学博士研究生培养方案

Doctoral Degree Program of Materials Science and Engineering

一、适用学科 (Applicable Discipline)

学科名称: 材料科学与工程

学科代码: 0805

Discipline: Material Science and Engineering

Discipline Code:0805

二、主要研究方向 (Main Research Field)

- 1.金属材料/Metal Material
- 2.复合材料/Composite Material
- 3.无机功能材料/Inorganic Functional Material
- 4.高分子材料/High Polymer Material
- 5.腐蚀防护及表面功能化/Corrosion Protection and Surface Functionalization

三、培养方案 (Curriculum)

1.课程设置和学分要求 (Courses and Credits)						
课程类别 Category	课程编号 Code	课程名称 Course	学时 Hour	学分 Credit	开课学期 Semester	备注 Remark
公共必修课 General Compulsory Courses	202032020900	中国概况 Survey of China	48	3	2	必选 Compulsory
	202032020901	汉语 Chinese	64	3	1	必选 Compulsory
专业必修课 Professional Compulsory Courses	202032020001	数学物理方法 A Mathematics Method in Physics A	48	2	1	必选 2 门 2 courses compulsory
	202032023009	科学与工程计算 Scientific and Engineering Computing	48	2	1	
	202011020901	功能材料 Functional Materials	32	2	2	
	202011020902	材料表面表征方法与原理 Surface Characterization Methods and Principles	32	2	1	
	202011021008	经典学术专著选读 Selected Readings of Science Classic	-	2	1	

选修课 Optional Courses	202011020001	论文写作指导 Thesis/Dissertation Writing	16	1	1	选修 Optional
	202032020902	汉语交际 Chinese Communication	64	3	1	选修 Optional
	202032020903	HSK 辅导 HSK Tutoring	48	3	2	选修 Optional
	202011021001	材料科学与工程进展 Progress in Materials Science and Engineering	32	2	1	选修 Optional
	202011021002	金属材料科学前沿 The Frontiers of Metal Materials Science	16	1	1	选修 Optional
	202011021003	非金属材料科学前沿 The Frontier of Nonmetallic Materials Science	16	1	1	选修 Optional
学分要求 Credit Requirement	<p>应修总学分≥14 学分，其中课程学分≥10 学分，必修环节≥4 学分。 Students should achieve no less than 14 credits totally, including 10 credits for course part, 4 credits for compulsory part.</p>					
其他要求 Others	<p>1.对于跨学科攻读本专业博士学位的研究生，应由导师根据研究方向需要指定若干门专业核心课程进行补修，只记成绩，不计学分。 2.硕士阶段没有修读“论文写作指导”课程的，一般应选其作为选修课。 3.毕业前中文能力应当达到《国际汉语能力标准》三级水平。 1. The interdisciplinary doctoral candidates are required to take several professional core courses designated by their supervisors, which record grades only without any credits. 2. Those who have not taken the course of "Thesis/Dissertation Writing" in the master's degree programs is required to study it as an optional course. 3. Before the graduation, all international students are required to pass HSK band III(level) at least.</p>					

2.必修环节及要求 (Compulsory Parts and Requirements)

必修环节名称 Compulsory Part	学分 Credit	开课 学期 Semester	考核内容或要求 Assessment Requirement	考核方式 Exam Method	备注 Remark
学术活动 Academic activities	1	5	<p>博士生在答辩前至少应参加5次以上本专业或相关专业国内、国际会议或由学校组织的学术活动；在博士生论坛或国内、国际会议上做学术报告不少于1次。学术报告的内容要与所研究的课题相关。每次学术活动要有500字左右的总结报告，注明参加学术活动的时间、地点、报告人、学术报告题目，简述内容并阐明自己对相关问题的学术观点或看法，经导师组签字后交学院教务办公室存档。</p> <p>Doctoral students should attend at least 5 domestic or international conferences or academic activities organized by the school for the major or related major before dissertation defense; no less than 1 academic presentation should be made at the doctoral forum or national or international conference. The topic of the academic presentation should be relevant to the ongoing research project. A summary should be written after each academic activity for about 500 words, in which the information like the time, place, rapporteur, and academic report title of the academic activity, briefly describing the content and clarifying your academic views or opinions on related issues can be covered. The summary will be archived in the Academic Affairs Office after signed by the tutor group File with the Academic Affairs Office of the College.</p>	由院系负责 考核 Assessed by the related college	至少 选择 1个 环节 Select one part at least

<p>创新竞赛与 创业活动 Innovation competition and entrepreneurial activities</p>	<p>1</p>	<p>5</p>	<p>研究生参加“中国研究生创新实践系列大赛”或国家层面组织的创新创业活动等，符合学校有关规定条件的，可获得创新竞赛与创业活动成绩及学分。</p> <p>Graduate students who participate in the "China graduate student innovation practice series competition" or the innovation and entrepreneurship activities Nationally organized and meet the relevant requirements stipulated by the university can obtain scores and credits of the innovation competition and entrepreneurship activities.</p>	<p>由研究生院 学术办公室 考核 Assessed by the Academic Affairs Office of the Graduate School</p>	
<p>文献综述与 开题报告 Literature review and thesis proposal</p>	<p>2</p>	<p>4</p>	<p>博士研究生入学后在导师指导下，结合拟进行博士学位论文工作，开始阅读本学科国内外有关文献资料，总数不少于 50 篇，外文文献不少于 30 篇，近五年文献不少于 25 篇，并于第二学期完成不少于 8000 字的文献综述报告。文献综述应反映国内外本领域的研究历史、现状、前沿、发展动态、发展趋势、存在的问题及自己的见解等。在文献综述的基础上，阐述拟进行博士学位论文工作的研究内容及研究方法和研究进度。文献综述必须经过导师组评审。</p> <p>博士生开题以答辩方式进行，答辩通过的研究生取得学分。</p> <p>After enrolling doctoral students, under the guidance of the mentor, referring to the proposed doctoral dissertation work, began to read the relevant literature domestic and foreign literature, the total number of literature readings shall be no less than 50, of which the foreign literature is not less than 30, and the literature is not less than 25 in the past five years' doctoral students are also required to a literature review report of not less than 8000 words in the second semester. The literature review should reflect the research history, current situation, frontiers, development trends, development trends, existing problems and own opinions of the field at home and abroad. On the basis of literature review, the research content, research methods and research progress of the proposed doctoral dissertation are elaborated. The literature review must be reviewed by the mentor group.</p> <p>PHD dissertation proposal should be carried out by way of defense, after which the graduate students who pass the defense get credits.</p>	<p>由开题报告 小组负责考 核 Assessed by the thesis proposal group.</p>	<p>必选 Compulsory</p>

<p style="text-align: center;">中期检查 Process Assessment</p>	1	6	<p>中期检查是培养过程的重要环节之一，有助于及时发现研究生学位论文工作中存在的问题，从而保证学位论文质量。中期检查一般最迟于开题后一年内进行，通过中期检查的研究生取得相应学分。 具体细则按学校和学院规定执行。 The mid-term examination is one of the important links in the training process, which is helpful to find out the problems in the postgraduate dissertation work in time, so as to ensure the quality of the dissertation. The mid-term examination is usually carried out within one year after the opening of dissertation proposal, and the graduate students who pass the mid-term examination get the corresponding credits. Detailed regulations shall be implemented in accordance with school and college regulations.</p>	<p>由中期检查小组负责考核 Assessed by process assessment group</p>	<p>必选 Compulsory</p>
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3.学位论文要求 (Degree Thesis Requirements)

对学位论文的学术道德、学术水平、创新性成果、论文撰写、预答辩以及答辩等方面的具体要求：

Requirements for dissertation on academic ethics, academic level, creative outcome, thesis writing, pre-defense and final reply of graduation:

博士生入学后 3 个月内，应在导师组的指导下完成论文工作研究计划的制定工作。内容包括：研究方向、课程学习、文献阅读、开题报告、科学研究、学术交流、学位论文及实践环节等方面的要求和进度计划，经导师组、学院审核批准后交学院教务办公室保留。

学术道德：研究生在发表学术论文和学位论文的有关工作中，应严格按照《哈尔滨工程大学研究生学术道德规范管理办法》要求，恪守职业道德，维护科学诚信。研究生导师在研究生培养过程中需对研究生进行学术道德教育和学术规范训练，并对研究生做出明确要求；研究生应参加校、院组织的学术道德和学术规范讲座，同时撰写不少于 1500 字的学习报告或心得体会，由导师审阅同意后交教务办公室存档。研究生在就读期间要注重培养和提高自身学术道德修养，遵守学术研究的基本规范，自觉抵制学术不端行为。

学术水平：学位论文应体现扎实宽广的基础理论和系统深入的专业知识，并反映出分析及解决本学科领域关键技术问题的水平。学位论文还要有创新性研究内容。具体要求参照哈工程校发[2016]163 号《哈尔滨工程大学博士学位研究生学位授予工作细则》执行。

创新性成果：博士学位论文中至少应包含 3 个及以上创新点。

论文撰写：具体要求和流程等参照哈工程校发[2016]163 号《哈尔滨工程大学博士学位研究生学位授予工作细则》执行。

预答辩及答辩：具体要求和流程等参照哈工程校发[2016]163 号《哈尔滨工程大学博士学位研究生学位授予工作细则》执行。

Within 3 months after the enrollment of the doctoral student, he/she shall complete the formulation of the dissertation research plan under the guidance of the supervisor group. The content includes: research direction, course study, literature reading, opening report, scientific research, academic exchange, dissertation and practice and other requirements and schedule, which shall be submitted to the Academic Affairs Office of the college for retention after being reviewed and approved by the tutor group and the college.

Academic ethics: in the work related to the publication of academic papers and academic dissertation, graduate students should strictly abide by professional ethics and maintain scientific integrity in accordance with the regulations on the management of academic ethics for graduate students of Harbin engineering university. In the process of postgraduate

training, the tutor should conduct the academic ethics education and the academic standard training for the postgraduate, and make clear requirements for the postgraduate. Graduate students should attend lectures on academic ethics and academic standards organized by the university or college, and write a study report or experience of no less than 1500 words, which should be reviewed and approved by the tutor and submitted to the Academic Affairs Office for archiving. Graduate students should pay attention to the cultivation and improvement of their own academic ethics, abide by the basic norms of academic research, and consciously resist academic misconduct.

Academic level: The degree dissertation should reflect a solid and broad basic theory and systematic in-depth professional knowledge, and reflect the level of analysis and solution of key technical problems in the subject area. Dissertation must also have innovative research content. On specific requirements, please refer to the detailed regulations for awarding doctoral degree of Harbin Engineering University ([2016] No.163).

Creative outcome: the doctoral dissertation should contain at least three or more innovative points.

Thesis writing: On specific requirements, please refer to the detailed rules for awarding doctoral degree of Harbin Engineering University ([2016] No.163).

Pre-defense and defense: On Specific requirements, please refer to the detailed rules for awarding doctoral degree of Harbin Engineering University ([2016] No.163).