

# 力学来华留学博士研究生培养方案

## Doctoral Degree Program of Mechanics

### 一、适用学科 (Applicable Discipline)

学科名称: 力学

学科代码: 0801

Discipline: Mechanics

Discipline Code: 0801

### 二、主要研究方向 (Main Research Field)

1. 非线性动力学与控制 / Nonlinear Dynamics and Control
2. 先进复合材料与结构力学 / Advanced Composite Material and Structural Mechanics
3. 弹性波动理论及应用 / Elastic Wave Theory and Application
4. 结构可靠性及优化设计 / Structural Reliability and Optimization Design
5. 多相流体力学 / Multi-fluid Mechanics
6. 水动力学 / Hydrodynamics
7. 计算流体力学 / Computational Fluid Mechanics
8. 水下爆炸 / Underwater Explosion

### 三、培养方案 (Curriculum)

1. 课程设置与学分要求 (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
	202032020003	数值计算 Numerical Computation	32	2	1	必选 1 门 1 Course Compulsory
	202032023009	科学与工程计算 Scientific and Engineering Computing	48	2	1	
专业必修课 Professional Compulsory Courses	202010223980	连续介质力学 Continuum mechanics	32	2	1	必选 2 门 2 Courses Compulsory
	202010220981	弹塑性力学 Elastic-Plastic Mechanics	32	2	1	
	202010223143	力学前沿与进展 Mechanics Frontier and Advance	32	2	1	
选修课 Optional Courses	202010220001	论文写作指导 Thesis/Dissertation Writing	16	1	1	≥2 学分 No less than 2 credits
	202032020902	汉语交际 Chinese Communication	64	3	1	

选修课 Optional Courses	202032020903	HSK 辅导 HSK Tutoring	48	3	2	≥2 学分 No less than 2 credits
	202010220982	弹性固体中波的传播 Wave Propagation in Elastic Solids	32	2	1	
	202010220983	复合材料力学 Mechanics of Composite Materials	32	2	1	
	202010113157	塑性动力学 Plastic Dynamics	32	2	1	
	202010120153	冲击动力学 Impact Dynamics	32	2	1	
	202010120152	非线性动力学 Nonlinear Dynamics	48	3	1	
	202010121052	高等水动力学 Advanced Hydrodynamics	32	2	1	
	202010120151	极端海浪力学 Extreme Wave Mechanics	32	2	1	
	202010121151	水下爆炸与冲击动力学 Underwater Explosion and Shock Dynamics	32	2	1	
学分要求 Credit Requirement	<p>应修总学分≥18 学分，其中课程学分≥14 学分，必修环节≥4 学分。 Students should achieve no less than 18 credits totally, including course part 14 credits, compulsory part 4 credits.</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 are 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>					
<b>2.必修环节及要求（Compulsory Parts and Requirements）</b>						
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

<p><b>学术活动</b> <b>Academic activities</b></p>	<p>1</p>	<p>5</p>	<p>博士生在答辩前至少应参加5次以上由学校组织的学术活动，鼓励参加本专业或相关专业国内、国际会议；本人在博士生论坛或国内、国际会议上做学术报告至少1次，并应有书面文稿。学术报告的内容要与所研究的课题相关。</p> <p>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，经导师签字后交院教务办公室保留，并给予相应学分。</p> <p>Doctoral students should participate in no less than 5 academic activities organized by the university before defense, Better to participate in domestic and international conferences on mechanics and related majors, and should make at least once academic reports in a doctoral forum or domestic or international conferences with written contributions. The content of the academic report should be related to the topic being studied.</p> <p>A summary report of about 500 words is needed for each academic activity, indicating the time, place, reporter, and academic report title of the academic activity, a brief description of the content and clarification of academic views or opinions on related issues, signed by the supervisor and submitted to the Academic Affairs Office of the College for archiving and then to be granted the corresponding credits.</p>	<p>由院系负责考核 Assessed by the related college</p>	<p>至少选择1个环节 Select one part at least</p>
<p><b>创新竞赛与创业活动</b> <b>Innovation competition and entrepreneurial activities</b></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>If the graduate participates in the "China Graduate Innovation Practice Series Competition" or national level innovation and entrepreneurship activities, etc., and meet the relevant regulations of the university, the student can get innovation competitions and entrepreneurship activities grades and credits.</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>博士生应在导师的指导下，根据自己所选定的研究方向和学位论文课题要求，查阅国内外相关文献，撰写文献阅读综述，确定学位论文选题，并就选题的科学根据、目的、意义、研究内容、预期目标、研究方法、课题可行性等做出论证。</p> <p>学位论文开题报告时间应由导师根据博士研究生本人研究进展确定，一般应于第 4 学期完成,特殊情况在报学院备案后可适当调整时间。</p> <p>博士研究生应填写规定格式的文献综述与开题报告，并公开进行开题报告会。开题报告小组成员应由 5 或 7 名本学科及相关学科具有正高级专业技术职务人员或博士生导师组成。</p> <p>文献综述与开题报告的内容及要求：</p> <ol style="list-style-type: none"> <li>1.选题的目的、依据和国内外研究进展。</li> <li>2.论文研究方案。</li> <li>3.所需科研条件。</li> <li>4.主要参考文献。</li> <li>5.开题报告的字数应不少于 1 万字。</li> </ol> <p>开题报告小组考核通过后，文献综述和开题报告计 2 学分。</p> <p>With the guidance of a supervisor, consulting the relevant domestic and foreign literature, doctoral students should do a literature review, determine the topic of the dissertation, and demonstrate the scientific basis, purpose, significance, research contents, expected goals, research methods, project feasibility, etc.</p> <p>The dissertation proposal time should be determined by the supervisor based on the research progress of the doctoral student. Generally, it should be completed at 4<sup>th</sup> semester. In special cases, the time can be appropriately adjusted after reporting to the college.</p> <p>Doctoral students should fill in the literature review and proposal report in the prescribed format, and make the opening report meeting public. The proposal report assessment team should be composed of 5 or 7 experts with senior professional and technical titles or doctoral supervisors in or related to mechanics.</p> <p>Contents and requirements of the proposal report and literature review:</p> <ol style="list-style-type: none"> <li>1. Purpose, basis and research progress at home and abroad.</li> </ol>	<p>由开题报告 小组负责考 核 Assessed by the thesis/disserta tion proposal group</p>	<p>必选 Compulsory</p>
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<p>文献综述与 开题报告 Literature review and thesis proposal</p>	2	4	<p>2. Dissertation research plan. 3. The required scientific research conditions. 4. References. 5. Proposal report with no less than 10,000 words. After the assessment of proposal report, the literature review and the proposal report counted 2 credits.</p>	<p>由开题报告 小组负责考 核 Assessed by the thesis/disserta tion proposal group</p>	<p>必选 Compulsory</p>
<p>中期检查 Process assessment</p>	1	6	<p>中期检查一般不晚于第 6 学期完成。中期检查须成立中期检查考核小组，由 3 或 5 名具有正高级专业技术职务人员或博士生导师组成。博士研究生须填写《哈尔滨工程大学博士生学位论文中期检查表》经导师同意后提交中期检查小组。检查小组对博士生论文工作计划完成情况等内容予以评价，中期检查通过后计 1 学分。 The In-Process Inspection should be completed at 6<sup>th</sup> semester. The In-Process Inspection assessment team is composed of 3 or 5 experts with senior professional and technical titles or doctoral supervisor. Doctoral students must fill in the "In-Process Inspection Checklist for Doctoral Dissertation of Harbin Engineering University" and submit it to the In-Process Inspection Team with the consent of the supervisor. The inspection team evaluates the completion of the doctoral dissertation work plan and other contents if it is qualified, 1 credit is counted.</p>	<p>由中期检查 小组负责考 核 Assessed by process assessment group</p>	<p>必选 Compulsory</p>

### 3.学位论文要求 (Degree Thesis/Dissertation 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：**  
**The degree thesis/dissertation requirements with the contents of academic level, academic ethics, creative outcome, thesis/dissertation writing, pre-defense and final defense of graduation:**

**学术道德：**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 3000 字的学习报告或心得体会，由导师审阅同意后交院系存档。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：**进行科学研究，撰写学位论文，是博士生培养工作的主要内容。导师应对博士生学位论文工作进行阶段性检查，博士生应定期作论文研究工作阶段报告，博士生通过开题报告后，每年必须做一次研究进展报告，方式为学生自己阐述研究进展情况，导师组点评，最后由专家组点评博士生的研究进展情况。博士生在开题至答辩之间必须进行 2 次年度进展报告，对有问题的学生由导师做出说明，对连续 2 次不能继续学业的学生，由学院上报研究生院处理。

**创新性成果：**博士学位论文的课题研究，可以是基础研究、应用基础研究，也可以是工程应用研究，尤其要加强对学科前沿和学科交叉渗透领域的研究，提出新概念、新理论、新方法、新技术等；参与解决高科技发展前沿和国民经济建设中的重大理论和工程技术问题，并尽可能参与导师和本单位所承担的国家重要科研课题。博士生在学期间必须按本学科《博士学位申请者发表学术论文的有规定》发表学术论文。

**论文撰写:** 学位论文应在导师指导下, 由博士生本人完成, 学位论文撰写按学校《研究生学位论文撰写规范》进行。

**预答辩:** 预答辩是博士学位论文质量控制的重要环节, 所有申请博士学位的博士生都必须进行学位论文预答辩。申请预答辩的条件: (1) 修完培养方案规定的课程, 并取得相应的学分。(2) 达到学校和学院申请博士学位发表学术论文的要求, 并注明与博士学位论文章节的对应关系。(3) 撰写完成博士学位论文文稿。

**论文答辩:** 申请答辩的要求: (1) 通过学位论文相似度检测和评阅; (2) 按学位论文撰写规范完成博士学位论文。

博士学位论文的预答辩以及答辩等工作应严格按照《中华人民共和国学位条例暂行实施办法》、《哈尔滨工程大学博士学位研究生学位授予工作细则》、《哈尔滨本工程大学关于博士学位申请者发表学术论文的规定》等文件执行。

**Academic Ethics:** supervisors should conduct postgraduate academic ethics education and academic norm training, and make clear requirements for students; postgraduates should participate in academic ethics and academic norm lectures organized by university and college and make reports with no less than 3,000 words, which should be submitted with the supervisor revision and approval to the college for archiving. Students should focus on cultivating and improving the academic morals during studies, abide by the basic norms of academic research, and consciously resist academic misconduct.

**Academic Level:** conducting scientific research and writing a dissertation are the main contents of doctoral training. The supervisor should conduct periodic inspections of doctoral dissertation work, and doctoral students should make periodic reports on the research phase of the dissertation. After the proposal, doctoral students must make a research progress report once a year to show the research progress. Finally, the experts group reviews the research progress of doctoral students. Doctoral students must make two annual progress reports between the proposal and the defense. The supervisor has the duty to report the student's problems in finishing and give an explanation to the college, and students who cannot continue their studies for two consecutive times should be reported to the Graduate Department.

**Creative Outcome:** the research of doctoral dissertation can be on basic research, applied basic research, or engineering applied research. It is particularly necessary to strengthen research on the frontiers of disciplines and cross-disciplinary fields, and propose new concepts, theories, methods, technologies, etc. The researches should aim at solving major theoretical and engineering technical issues in the forefront of high-tech development and national economic construction, and students should participate in national important scientific research undertaken by the supervisor and the college as much as possible. Doctoral students must publish academic papers in accordance with the "the Requirements of Publication for Academic Degrees for PhD Applicants".

**Dissertation Writing:** Dissertation writing should be completed by the doctoral students under the guidance of the supervisors. The dissertation should be written according to the university's "Writing Standards for Graduate Degree Dissertation".

**Pre-defense:** Pre-defense is an important part of the quality control of doctoral dissertations. All doctoral students applying for PhD must conduct pre-defense for dissertations. Conditions for applying for pre-defense: 1. Completing the courses specified in the training plan and obtaining corresponding credits. 2. Meet the academic papers publishing requirements of the university/college for PhDs applicants, and indicate the corresponding relationship between the papers and the chapters of PhD dissertation. 3. Completing the doctoral dissertation.

**Dissertation Defense:** The requirements for applying: 1. Passing the plagiarism test and review of the dissertation; 2. Complete the doctoral dissertation according to the dissertation writing specifications.

The pre-defense and defense of doctoral dissertation should be in strict accordance with the "Interim Implementation Measures for the Degree Regulations of the People's Republic of China", "Detailed Rules of Harbin Engineering University Doctoral Degree Awarding", "Regulations on Publishing Academic Papers of degree Applicant's" and other regulations.