

船舶与海洋工程来华留学博士研究生培养方案

Doctoral Degree Program of Naval Architecture and Ocean Engineering

一、适用学科 (Applicable Discipline)

学科名称: 船舶与海洋工程

学科代码: 0824

Discipline: Naval Architecture and Ocean Engineering

Discipline Code: 0824

二、主要研究方向 (Main Research Field)

- 船舶设计制造理论与方法/ Theory and Method of Ship Design and Manufacture
- 船舶与海洋工程力学/ Mechanics of Naval Architecture and Ocean Engineering
- 深海工程科学与技术/ Science and Technology of Deep Sea Engineering
- 智能海洋机器人技术/ Technology of Intelligent Unmanned Marine Vehicles
- 船舶动力装置总体性能与系统/ General Performance and System of Marine Power

Equipment

- 船舶动力装置振动噪声控制/ Vibration and Noise Control of Marine Power Equipment
- 船舶动力装置自动化/ Automation of Marine Power Equipment
- 船舶特种动力/ Special Power of Ship

- 海洋声场分析与模拟仿真技术/ Ocean Acoustic Field Analysis and Simulation Analysis

Technology

- 水下目标声学特性分析与水声对抗技术/ Acoustic Characteristics Analysis of Underwater Targets and Underwater Acoustic Countermeasures

- 水下声系统与水声电子技术/ Underwater Acoustic System and Underwater Acoustic Electronic Technology

- 水声信号处理与水声通信技术/ Underwater Acoustic Signal Processing and Underwater Acoustic Communication Technology

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	202032020900	中国概况 Survey of China	48	3	2	必选 Compulsory

Compulsory Courses	202032020901	汉语 Chinese	64	3	1	必选 Compulsory
	202032020001	数学物理方法 A Math in Physics A	48	2	1	必选 1 门 1 course compulsory
	202032020003	数值计算 Numerical Methods	32	2	1	
专业必修课 Professional Compulsory Courses	202010121051	高等结构力学 Advanced Structural Mechanics	32	2	1	必选 1 门 1 course compulsory
	202010121052	高等水动力学 Advanced Hydrodynamics	32	2	1	
	202010323001	计算流体力学进展 Progress of Computational Fluid Dynamics	32	2	1	
	202010323004	热力学与传热学进展 State of the Art in Thermodynamics and Heat Transfer	32	2	1	
	202010323006	非线性控制理论及应用 Nonlinear Control Theory and Application	32	2	1	
	202010513002	水声学原理 Principles of Hydroacoustics	48	3	1	
选修课 Optional Courses	2020****20001	论文写作指导 Thesis/Dissertation Writing	16	1	1	选修 1 门 1 Optional course at least
	202032020902	汉语交际 Chinese Communication	64	3	1	
	202032020903	HSK 辅导 HSK Tutoring	48	3	2	
	202010121152	海洋机器人智能感知与控制技术 Intelligent Perception and Control Technology for Unmanned Marine Vehicles	32	2	1	
	201910310302	高等热力学 Advanced Thermodynamics	48	3	1	
	201910310305	振动分析 Vibration Analysis	48	3	1	
	201910310306	动力装置现代控制理论 Power Equipment Modern Control Theory	48	3	1	
	201910310307	高等流体力学 Advanced Fluid Dynamics	64	4	1	
	202010013004	现代信号处理基础 Fundamentals of Modern Digital Signal Processing	48	3	1	
	202010511025	水下声信道 Underwater Acoustic Channel	32	2	1	
	202010511021	水声传播原理 Principles of Underwater Acoustic Propagation	48	3	1	
	202010511004	非线性声学 Nonlinear Acoustics	32	2	1	

学分要求 Credit Requirement	应修总学分≥15 学分，其中课程学分≥11 学分，必修环节≥4 学分。 Students should achieve no less than 15credits totally, including the course part that≥11 and the compulsory part≥4.				
其他要求 Others	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。 4.鼓励来华留学生选修中文授课课程。 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. 4. Encourage overseas students to take Courses teaching in Chinese.				
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	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审核，给予相应学分。 Doctoral students shall attend at least 5 domestic and international conferences or academic activities organized by the University in their major or related major before the oral defense; they shall make academic reports at Doctoral Forum or domestic and international conferences at least once. The content of the academic report should be related to the research topic. Each academic activity should have a summary report of about 500 words, indicating the time, place, reporter, title of the academic report, outlining the content and clarifying their own academic opinions or views on relevant issues. After being signed by the supervisor group, it shall be submitted to the Academic Affairs Office of the college for filing. After being summarized by the academic affairs office, it should be submitted to the graduate school, and then credit will be given accordingly.	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
创新竞赛与创业活动 Innovation	1	5	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	由研究生院学术办公室考核	

<p>competition and entrepreneurial activities</p>		<p>新竞赛与创业活动成绩及学分。 Graduate students who participate in the "China Graduate Innovation Practice Series Competitions" or the national-level innovation and entrepreneurial activities that meet the relevant requirements of the university can obtain the scores and credits of innovation competition and entrepreneurial activities.</p>	<p>Assessed by the Academic Affairs Office of the Graduate School</p>	
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<p>文献综述与 开题报告 Literature review and thesis proposal</p>	<p>2</p>	<p>3</p>	<p>博士研究生入学后，在导师指导下针对拟定的博士学位论文课题开始全面查阅论文课题有关国内外文献资料，总数不少于 50 篇，近五年文献不少于 50%，深入了解本研究领域的现状与发展趋势，掌握本学科方向的国际学术前沿发展动态，并于开题前完成不少于 5000 字的文献综述。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。</p> <p>在文献综述的基础上，确定拟进行博士学位论文课题的研究内容及研究方法和研究进度等，撰写论文开题报告，内容主要包括：论文研究的目的意义，论文课题领域的国际学术前沿发展动态，论文研究内容与技术途径，论文预期的创新点，研究计划，参考文献目录等。</p> <p>开题报告具体细则按学校和学院规定执行。</p> <p>After the doctoral students enter the University, under the guidance of their tutors, they should comprehensively consult the relevant domestic and foreign literature of the proposed doctoral dissertation project, with a total number of no less than 50, the literatures in the past five years should be no less than 50%. They should have a deep understanding of the current situation and development trend of the research field, master the international academic frontier development trend of the discipline direction, and complete a literature review of no less than 5000 words before the opening report. Literature review should include the research history, current situation, frontier, development trends, development tendency, existing problems and their own opinions in this field at home and abroad.</p> <p>On the basis of literature review, determine the research content, research methods and research progress of the proposed doctoral dissertation project, and write the thesis opening report, which mainly includes: the purpose and significance of the thesis research, the international academic frontier development trend of the thesis project field, the content and technical approach of the thesis research, the expected innovation points of the thesis, the research plan, and the bibliography of references, and so on.</p> <p>The doctor's thesis proposal and dissertation plan shall be implemented in accordance with the relevant documents of the university and college.</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>
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<p style="text-align: center;">中期检查 Process assessment</p>	1	4	<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。</p> <p style="text-align: center;">具体细则按学校和学院规定执行。</p> <p>The process assessment is one of the important parts in the training process, which is helpful to find out the problems in the work of postgraduate dissertation in time, so as to ensure the quality of dissertation. Process assessment is generally carried out at the latest within one year after the opening of the thesis, and the postgraduates who pass the process assessment obtain corresponding credits.</p> <p>The detailed rules shall be implemented in accordance with the regulations of the University and the college.</p>	<p style="text-align: center;">由中期检查 小组负责考 核</p> <p style="text-align: center;">Assessed by process assessment group</p>	<p style="text-align: center;">必选 Compulsory</p>
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3.学位论文要求 (Degree Thesis/Dissertation Requirement)

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:

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：具体要求参照学校和学院的相关规定执行。

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，其中 2 个应已公开发表。

论文撰写：具体要求和流程等参照学校和学院的相关规定执行。

预答辩及答辩：具体要求和流程等参照学校和学院的相关规定执行。

Within 3 months after the doctoral students enter the school, they should complete the research plan of thesis work under the guidance of the tutor group. The contents include: requirements and schedule of research direction, course learning, literature reading, thesis proposal, scientific research, academic exchange, dissertation and practice parts, 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 relevant work of publishing academic papers and dissertations, postgraduates should strictly abide by professional ethics and maintain scientific integrity in strict accordance with "Administrative Measures for the Academic Ethics of Postgraduates of Harbin Engineering University". In the process of postgraduate training, the postgraduate tutor shall carry out academic moral education and academic standard training for the postgraduates, and make clear requirements for the postgraduates; the postgraduates shall participate in the academic moral and academic standard lectures organized by the University and the college, and at the same time, write a learning report or experience of no less than 1500 words, which shall be reviewed and approved by the supervisor and then submitted to the Academic

Affairs Office for filing. Postgraduates 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 specific requirements shall be implemented in accordance with the relevant documents of the University and the college.

Creative Outcome: the degree thesis/dissertation should contain at least three innovation points, two of which should have been published.

Thesis Writing: the specific requirements shall be implemented in accordance with the relevant documents of the University and the college.

Pre-defense and defense: the specific requirements shall be implemented in accordance with the relevant documents of the University and the college.