

信息与通信工程来华留学博士研究生培养方案

Doctoral Degree Program of Information and Communication Engineering

一、适用学科 (Applicable Discipline)

学科名称: 信息与通信工程

学科代码: 0810

Discipline: Information and Communication Engineering

Discipline Code:0810

二、主要研究方向 (Main Research Field)

- 1.水下目标探测与识别技术/ Underwater Target Detection and Identification Technology
- 2.水下通信与网络技术/ Underwater Communication and Network Technology
- 3.水下定位与导航技术/ Underwater Positioning and Navigation Technology
- 4.雷达对抗技术/ Radar Counter Technology
- 5.通信与通信对抗技术/ Communication and Communication Countermeasure Technology
- 6.智能信息与图像处理技术/ Intelligent Information and Image Processing

三、培养方案 (Curriculum)

| 1.课程设置与学分要求 (Courses and Credits) | | | | | | |
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| 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 |
| | 202032020009 | 科学与工程计算 Science and Engineering Computing | 48 | 2 | 1 | 必选 Compulsory |
| 专业必修课 Professional Compulsory Courses | 202010021001 | 信息与通信工程技术前沿 The frontier of Modern Information and Communication Technology | 16 | 1 | 1 | 必选 Compulsory |
| | 202010523003 | 现代信号处理理论 Modern Signal Processing Theory | 32 | 2 | 1 | 必选 1 门 1 compulsory course |
| | 202010823001 | 现代信息与通信技术基础 The Foundation of Modern Information and Communication Technology | 32 | 2 | 1 | |
| 选修课 Optional | 2020***20001 | 论文写作指导 Thesis/Dissertation Writing | 16 | 1 | 1 | 选修 Optional |

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| Courses | 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 |
| | 202010523001 | 水声物理专题 Acoustical Physics Subject | 32 | 2 | 1 | 选修 Optional |
| | 202010523002 | 声呐信号处理专题 Sonar Signal Processing Subject | 32 | 2 | 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 the course part 10credits and the compulsory part4 credits.</p> | | | | | |
| 其他要求 Others | <p>1.对于跨学科攻读本学科博士学位的研究生，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.鼓励留学生在导师指导下从“全校研究生课程目录”中选择部分中文课程作为选修课程。 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. With the guidance of a supervisor, international students are encouraged to choose some courses teaching in Chinese from the postgraduate course catalog of the university as elective courses.</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 次以上由学校或学院组织的学术活动，鼓励参加本学科或相关学科国内、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不少于 1 次，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，经导师组签字后交学院教务办公室保留，由教务办公室汇总后统一报送研究生院，给予相应学分。</p> <p>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</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 |

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| <p>学术活动 Academic activities</p> | <p>1</p> | <p>5</p> | <p>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。</p> <p>Doctoral students should participate in at least 5 academic activities organized by the university or college before their defense. Encourage doctoral students to participate in domestic or international conferences of this major or related majors; doctoral students must give an academic report at the doctoral forum or domestic or international conferences at least once, the content of the academic report should be related to the research topic</p> <p>Each academic activity must have a summary report of about 500 words, indicating the time, place, reporter, and academic report title, a brief description of the content and clarification of their academic views or opinions on related 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, it should be submitted to the graduate school, and then credit will be given accordingly.</p> <p>Graduate mentors need to conduct graduate moral education and academic norm training, and make clear requirements for graduate students; graduate students should participate in academic moral and academic norm lectures organized by the university and college, and write a study report or experience of no less than 1500 words, which should be reviewed and approved by the tutor and then submitted to the Academic Affairs Office for filing. Doctoral candidates should attach importance to the cultivation and improvement of their own academic ethics, abide by the basic norms of academic research, and consciously resist academic misconduct.</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> |
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| <p>创新竞赛与 创业活动 Innovation competition and entrepreneurial activities</p> | <p>1</p> | <p>5</p> | <p>博士研究生参加“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>The doctoral candidates who participate in the “China Postgraduate Innovation & Practice Competitions” or the national-level innovation and entrepreneurship activities that meet the relevant requirements of the university can obtain the scores and credits of innovation & practice 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>博士研究生在文献综述中，要全面反映与本课题直接相关的国内外研究成果，特别是近年来的最新成果和研究趋势。同时要指出课题所需要进一步解决的问题，阐明本课题选题的意义；博士开题一般应于开学后两年内完成，开题报告基本包括选题目的和意义、国内外研究现状、研究内容、研究方案、预期成果和参考文献，其中参考文献总数不少于 50 篇（外文文献不少于 25 篇），近五年文献不少于 50%，开题报告不少于 1 万字。具体要求和流程参照《哈尔滨工程大学博士学位研究生学位授予工作细则》。</p> <p>The literature review should contain the research results related with the research topic at home and abroad; especially the latest achievements and research trends in recent years. At the same time, students should point out the problems that need to be solved further and clarify the significance of this topic. The opening of a doctoral degree should be completed within two years after entering the university. The opening report basically includes the topic selected and the significance, research status at home and abroad, research content, research plans, expected results and references. The relevant domestic and foreign literature should be consulted, with a total number of no less than 50, the literatures in the past five years should be no less than 50%. The opening report is no less than 10,000 words. For specific requirements and procedures, please refer to the “Working Rules for the Award of Doctoral Degrees of Harbin Engineering University”.</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> |

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| <p style="text-align: center;">中期检查 Process assessment</p> | 1 | 6 | <p>中期检查最迟应于开题后 1 年内完成，按照开题报告的预定内容和进度安排的进展情况，已完成的内容和阶段性研究成果，目前存在的问题和解决方案，后续研究计划，形成中期检查报告。具体要求和流程参照《哈尔滨工程大学博士学位研究生学位授予工作细则》。</p> <p>The process assessment should be completed no later than 1 year after the opening of the topic. The process assessment report should be completed, according to the planned research content, progress of the schedule, completed tasks, phases fruits, existing problems , solutions, follow-up research plan and reference. For specific requirements and procedures, please refer to the "Working Rules for the Award of Doctoral Degrees of Harbin Engineering University".</p> | <p>由中期检查小组负责考核</p> <p>Assessed by process assessment group</p> | <p>必选</p> <p>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：

The degree thesis requirements with the contents of academic ethics, academic level, creative outcome, thesis writing, pre-defense and final defense of graduation:

学术道德：博士生在攻读学位期间，首先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。应参加学校和学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学院教务办公室存档。在发表学术论文和撰写学位论文等有关工作中，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。博士生导师在博士生培养过程中需对博士生进行学术道德教育和学术规范训练，并对博士生做出明确要求。

学术水平：应在本学科领域上具备坚实宽广的基础理论和系统深入的专业知识；具有独立分析及解决本学科领域关键技术问题的能力和素质，并符合学校和学院相关文件要求。

创新成果：学位论文应对所研究的课题有新的见解，对学术发展、经济建设和社会进步有一定的理论意义或现实意义，论文中应至少有一个创新点。

论文撰写：博士学位论文撰写的要求按学校及学院相关文件执行。

论文预答辩及答辩：博士学位论文预答辩及答辩的要求按学校及学院相关文件执行。

Academic Ethics: PhD 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 during the period of studying. They should attend lectures on academic ethics and academic norms 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. In the relevant work of publishing academic papers and dissertations, students should strictly abide by professional ethics and maintain scientific integrity in accordance with "Administrative Measures for the Academic Ethics of Postgraduates of Harbin Engineering University". Supervisors should carry out academic moral education and academic norm training, and make clear requirements for the doctoral students.

Academic Level: PhD students are required to have solid and broad basic theories and systematic and in-depth professional knowledge in the field of the discipline. They should have the ability and quality to independently analyze and solve key technical problems in the field of the discipline, and meet the requirements of relevant documents of the university and the college.

Creative Outcome: The thesis should have new opinions on the research topic, and have certain theoretical or practical significance for academic development, economic construction and social progress. There should have at least

one innovation point in the thesis.

Thesis Writing: The thesis writing requirement of thesis should be implemented in accordance with the relevant documents of the university and the college.

Pre-defense and Final Defense of Graduation: The pre-defense and defense of the doctoral thesis requirement of thesis should be implemented in accordance with the relevant documents of the university and the college.