控制科学与工程学术学位全日制硕士研究生(留学生)培养方案

（代码： 081100 授 工学硕士 学位）

一、培养目标

致力于培养德、智、体、美、劳全面发展，恪守学术道德和学术规范，拥有严谨求实、开拓进取的科学态度和学风，能够从事本专业的理论和应用研究的学术创新型人才。所培养的硕士生应面向知识创新发展需要，瞄准学科理论前沿，厚植理论基础，拓宽学术视野，通过“真问题”研究强化科学方法训练以及学术素养提升，勇于尝试学科交叉，在多种形式的科研任务和学术研讨交流中，提高科学求真的原始创新能力。

具体要求包括：

（一）具有高度的社会责任感和创新精神，综合素质高；

（二）具有控制科学与工程领域坚实的基础理论和专业知识，了解本学科国内外发展动态及相关学科知识；

（三）能运用现代科学研究的方法和手段，开展本学科重要问题的研究，取得高质量的研究成果；

（四）具有从事控制科学与工程领域研究工作的能力。

This program aims to cultivate well-rounded individuals who possess a rigorous, truth-seeking, pioneering, and enterprising scientific attitude, and are capable of conducting theoretical and applied research in their field.The master students should align with the demands of knowledge innovation and development, aim at the theoretical frontiers of the discipline, consolidate a solid theoretical foundation, and broaden their academic horizons. Through research on "real-world problems," they will enhance training in scientific methodologies and academic literacy, courageously engage in interdisciplinary exploration, and improve their original innovation capabilities in scientific inquiry by undertaking various forms of research tasks and participating in academic discussions and exchanges. Specific requirements:

1.Students should demonstrate commitment to their academic goals and society, and possess a spirit of innovation, reflecting high overall quality and ethical standards.

2. Students must have a comprehensive understanding of fundamental theories and specialized knowledge in Control Science and Engineering, as well as an awareness of current developments and interdisciplinary connections both domestically and internationally.

3. Students should possess the capability to conduct academic research,

employing modern scientific methods and tools to address significant issues within their discipline and produce high-quality research outcomes.

4. Capable of conducting research in the field of control science and engineering.

二、主要研究方向

（一）控制理论与控制工程 Control theory and control engineering

（二）模式识别与智能系统 Pattern recognition and intelligent systems

三、学习年限及培养方式

本学科（专业）学术学位硕士研究生的基本学习年限为 2 年，最长学习年限（含休学）不超过 4 年。

培养方式为全日制。

四、课程设置及学分分配

总学分要求≥29 学分，其中学位课程学分要求≥26 学分，研究环节学分要求=3 学分。具体课程设置及学分分配如下：

类别 / 课程		学分要求	课程类别备注	分组情况	课程代码	课程名称	是否核心课程	学时	学分	季节	开课单位	备注
学位课程总学分≥26 学分	校级公共必修课	7			922130001	中国概况	否	32	2	春秋学期	国际教育学院	
					922130003	国际学生新生导入课	否	16	1	春秋学期	国际教育学院	
					922130006	汉语	否	160	4	春秋学期	国际教育学院	
	学科通识课	1			181131018	论文写作	否	16	1	春秋学期	电子信息与通信学院	
	硕士专业课	16			131111003	电路分析	否	48	3	春学期	电气与电子工程学院	
					181131009	现代数字信号处理	否	48	3	秋学期	电子信息与通信学院	
					181131015	计算机网络安全	否	32	2	秋学期	电子信息与通信学院	
					181131021	下一代无线网络系统	否	32	2	春学期	电子信息与通信学院	
					184211018	机器学习 II	否	32	2	春秋学期	人工智能与自动化学院	
					184211023	智能电网	否	32	2	春秋学期	人工智能与自动化学院	
					184231009	光学与光子学中的分析与数值方法	否	16	1	春学期	人工智能与自动化学院	
					184231010	人工智能导论	否	32	2	秋学期	人工智能与自动化学院	
					210111014	Computer Graphics 计算机图形学	否	32	2	春学期	计算机科学与技术学院	
					210111022	Database System Design and Implementation 数据库系统设计与实现	否	32	2	春学期	计算机科学与技术学院	

类别 / 课程		学分要求	课程类别备注	分组情况	课程代码	课程名称	是否核心课程	学时	学分	季节	开课单位	备注
					210111024	媒体技术基础	否	32	2	春学期	计算机科学与技术学院	
					210111025	模式识别 Pattern Recognition	否	48	3	春秋学期	计算机科学与技术学院	
					210121012	深度学习及高级课题	否	32	2	春学期	计算机科学与技术学院	
	跨一级学科课	2			184211022	机器学习 I	否	32	2	春秋学期	人工智能与自动化学院	
					210111023	高级软件工程 Adavanced Software Engineering	否	32	2	春秋学期	计算机科学与技术学院	
研究环节=3学分	研究环节	3			650139001	开题报告	否		1		研究生院	
					650139002	论文中期进展报告	否		1		研究生院	
					650139004	学术活动	否		1		研究生院	

五、科研训练和实践训练要求

（一）培养指导和培养计划

学术型硕士生的培养实行导师负责制。导师负责硕士研究生的培养、指导和考核工作。

硕士生个人培养计划根据本学科培养方案，结合培养条件、研究方向和硕士生个人特点，由硕士生导师和硕士生在第一学期开学后指定时间内共同制定。在培养计划中，所选的跨一级学科课程，学生必须跟班听课并同堂参加考试（考核）。

（二）开题答辩与开题报告

硕士生在正式进入课题研究之前应在广泛阅读相关文献（不少于 40 篇，其中外文文献至少占三分之一）的基础上撰写学位论文开题报告。开题答辩时，硕士生提供不少于 15 篇精读文献目录，考核小组在目录中随机抽取 1 篇由硕士生进行讲解并提问。

开题答辩一般于第一学期（最迟在第二学期）完成，通过后方可正式进入硕士学位论文工作阶段。具体要求见《人工智能与自动化学院硕士研究生培养环节（开题答辩、中期检查）实施细则》。

（三）中期检查与论文中期进展报告

学位论文课题研究进行到中期时（开题答辩通过后一年内），硕士生应申请参加中期检查，向本学科相关专家作学位论文中期进展报告，汇报论文工作进展情况，提出下一阶段的计划和措施。中期检查一般于第四学期（最迟在第五学期）完成。具体要求见《人工智能与自动化学院硕士研究生培养环节（开题答辩、中期检查）实施细则》。

（四）学术活动

硕士生应积极参加国内外学术会议，与国内外同行进行学术交流。硕士生在读期间必须参加不少于 6 次的公开学术报告，其中至少有 1 次在国内外学术会议、校级或院级各类学术论坛或研讨会上作公开学术报告。每次均需按要求记录参会相关信息，并由学术会议主持人或导师签字。硕士生在第五学期内，向学院研究生科提交参会记录汇总材料，经学位评定分

委员会认可后，方可获得相应学分。

1. Training Guidance and Plan

The training of academic master's students follows a supervisor responsibility system. The supervisor is responsible for the training, guidance, and assessment of the master's students. The individual training plan for the master's student is developed by the supervisor and the student within a specified time after the start of the first semester, based on the training program of the discipline, combined with the training conditions, research direction, and the personal characteristics of the student. Students must attend lectures and take exams (assessments) alongside their peers for any selected cross major disciplinary courses.

2. Thesis Proposal Defense

Before formally starting their research project, master's students should write a thesis proposal report based on extensive reading of related literature (no fewer than 40 articles, with at least one-third being foreign literature). During the thesis proposal defense, the student must provide a detailed list of at least 15 key literature sources. The assessment committee will randomly select one article from the list for the student to explain and answer questions about.

The thesis proposal defense is typically completed in the first semester (or no later than the second semester). Only after passing this defense can students officially begin the master's thesis work. For detailed requirements, please refer to the "Detailed Implementation Rules for the Training Process of Master's Students (Thesis Proposal Defense, Interim assessment) in the School of Artificial Intelligence and Automation."

3. Interim assessment

When the thesis research reaches the mid-term (within one year after passing the thesis proposal defense), the master's student should apply for the Interim assessment. The student is required to present a mid-term progress report on their thesis to relevant experts in the discipline, detailing the progress of their research and proposing the next steps and measures. The Interim assessment is generally completed in the third semester (no later than the fourth semester). For specific requirements, see the "Detailed Implementation Rules for the Training Process of Master's Students (Thesis Proposal Defense, Interim assessment) in the School of Artificial Intelligence and Automation."

4. Academic Activities

Master's students are encouraged to actively participate in academic

conferences both domestically and internationally, engaging in scholarly exchanges with peers. During their studies, they are required to attend at least six public academic presentations, with at least one being delivered at a national or international academic conference, or at a university or school-level academic forum or seminar. For each presentation, students must record the relevant information as required and obtain signatures from the conference chair or their advisor. By the third semester, students must submit a summary of their participation records to the Graduate Office of the School. These records will be reviewed by the Degree Evaluation Subcommittee, and only after approval will the corresponding credits be awarded.

六、学位论文与创新性成果要求

（一）硕士生用于申请硕士学位的创新成果，应当由申请学位的硕士生在攻读学位期间独立完成，并以学位论文的形式完整呈现。论文选题应属于控制科学与工程学科专业相关研究方向的基础研究、应用基础研究或应用研究课题，对学科发展或国家需求有重要学术意义或应用价值。学位论文是进行学位评定的主要依据。

（二）硕士生可以以学术期刊论文、学术会议论文、专著、专利、软件著作权等多种形式展现其创新成果，作为评价学位论文水平的重要参考。

（三）学位论文内容应体现论文作者具有控制科学与工程学科较宽广的基础理论和系统深入专门知识，并对所研究领域的前沿动态和发展趋势有广泛了解。论文应有作者本人创造性思维，主要研究结果应具有创新性。

（四）学位论文应遵照《华中科技大学博士硕士学位论文撰写规定》，具有系统性和完整性，表达清楚，论证严谨，引文准确、全面，行文规范。

1. The innovative achievements for which a master's student applies for a degree must be independently completed during their studies and should be fully presented in the form of a thesis. The thesis topic should align with the field of Intelligent Science and Technology, focusing on basic research, applied basic research, or applied research. It should hold significant academic value or practical relevance to the discipline's development or national needs. The thesis serves as the primary basis for degree evaluation.

2. A master's student may demonstrate their innovative achievements through various forms, including journal articles, conference papers, monographs, patents, or software copyrights (collectively referred to as relevant academic achievements). These achievements can serve as important references for assessing the quality of the thesis.

3. The content of the thesis should reflect that the author possesses a broad foundation of basic theory and in-depth specialized knowledge in Control Science and Engineering, and has a comprehensive understanding of the frontier dynamics

and development trends in the research field. The thesis should showcase the author's creative thinking, and the main research results should be innovative.

4. The thesis should comply with the "Regulations on Writing Doctoral and Master's Theses of Huazhong University of Science and Technology," demonstrating systematic and complete structure, clear expression, rigorous argumentation, accurate and comprehensive citations, and standardized writing.

七、毕业结业及授予学位要求

硕士生的毕业、结业、授予学位要求按照《华中科技大学研究生学籍管理规定》《华中科技大学研究生学籍管理实施细则》《华中科技大学学位授予管理规定》执行。

The requirements for graduation, completion, and awarding of degrees for master's students shall be implemented in accordance with the "Regulations on the Administration of Graduate Student Status at Huazhong University of Science and Technology," the "Implementation Rules for the Administration of Graduate Student Status at Huazhong University of Science and Technology," and the "Regulations for Degree Awarding at Huazhong University of Science and Technology."

八、其他要求

鼓励学生养成体育锻炼习惯，保持身心健康。其他要求参照学校相关管理规定执行。

Students are encouraged to develop the habit of physical exercise to maintain physical and mental health. Other requirements shall be implemented in accordance with the relevant regulations of the university.