山东科技大学留学生学术博士研究生培养方案

（学科门类：工学　一级学科代码：0802　一级学科名称：机械工程 ）
（ 二级学科代码：　 二级学科名称：　）

一、学科简介

机械工程是以相关自然科学理论为基础，结合生产实践的客观需要，研究各类机械在设计、制造、运行和服务等全寿命周期中的理论、技术及其应用的工程学科,是为国民经济建设和社会发展提供各类机械装备和生产制造技术以创造物质财富和提高社会文明水准的重要工程领域。山东科技大学机械工程学科2016年首批列入山东省一流学科建设名单，而且是建设名单中唯一的机械工程学科，依托“十一五”、“十二五”、“十三五”山东省强化建设重点学科“机械电子工程”、山东煤炭安全高效开采技术与装备省级协同创新中心、山东省强化建设重点实验室“矿山机械工程实验室”、山东省高校重点实验室“运输提升实验室”和“矿山机电技术与装备实验室”、首批国家虚拟仿真实验教学项目“煤矿工作面采煤机虚拟仿真实验”、山东省省级新旧动能转换行业（专项）公共实训基地“先进装备制造公共实训基地”等学科平台，拥有一支实力雄厚、结构合理的学术队伍，已形成虚拟样机与并行设计、特种机器人研究与开发、矿山机电一体化、运输提升、高效加工技术等特色突出、优势明显，具有较高的学术水平且在国内有一定影响的研究方向，取得了一系列高水平的科研成果，为国家和地方科技发展和经济建设发挥了重要作用。

Mechanical engineering is an engineering discipline based on relevant natural science theories and combined with the objective needs of production practice to study the theories, technologies and applications of various types of machinery in the life cycle of design, manufacturing, operation and service. It is an engineering discipline for the national economy. Construction and social development provide various types of machinery and equipment and manufacturing technology to create material wealth and improve the important engineering field of social civilization. The mechanical engineering discipline of Shandong University of Science and Technology was included in the list of first-class discipline construction in Shandong Province in 2016, and it is the only mechanical engineering discipline in the construction list, relying on the "Eleventh Five-Year", "12th Five-Year" and "13th Five-Year" Shandong Province Strengthen the construction of key disciplines "Mechatronics Engineering", Shandong Provincial Collaborative Innovation Center for Safe and Efficient Coal Mining Technology and Equipment, Shandong Province Strengthen the Construction of Key Laboratory "Mining Machinery Engineering Laboratory", Shandong Province University Key Laboratory "Transportation Improvement Laboratory" "And "Mine Electromechanical Technology and Equipment Laboratory", the first batch of national virtual simulation experiment teaching project "Coal Mine Face Shearer Virtual Simulation Experiment", Shandong Provincial Public Training Base for New and Old Kinetic Energy Conversion

Industry (Special Project) "Advanced Equipment "Manufacturing Public Training Base" and other discipline platforms, with a strong and reasonable structured academic team, has formed virtual prototypes and parallel design, special robot research and development, mine mechatronics, transportation improvement, high-efficiency processing technology and other outstanding characteristics , Obvious advantages, high academic level and influential research directions in the country, and achieved a series of high-level scientific research results, which played an important role in national and local scientific and technological development and economic construction.

二、培养目标

培养对中国的政治、经济、文化、历史和社会有较为深刻的了解，掌握本学科坚实宽广的理论基础和系统深入的专门知识，具备良好的批判思维和创新能力，具有良好的国际视野，能独立从事科学研究工作，具备团队领导和协作能力的高层次研究型人才，能够参与并促进中国与其所在国之间友好合作关系的高素质人才。

Cultivate a relatively deep understanding of China’s politics, economy, culture, history and society, master a solid and broad theoretical foundation and systematic and in-depth expertise in this discipline, possess good critical thinking and innovative abilities, have a good international perspective, and High-level research talents who are independently engaged in scientific research, have team leadership and collaboration capabilities, and can participate in and promote friendly and cooperative relations between China and the country where they are located.

三、研究方向及简介

1. 机械制造及其自动化
2. 机械电子工程
3. 机械设计及理论
4. 矿山机电技术与装备
5. 车辆工程
6. 材料加工与再制造工程

1. Machinery Manufacturing and Automation
2. Mechatronics Engineering
3. Mechanical Design and Theory
4. Mine electromechanical technology and equipment
5. Vehicle Engineering
6. Material processing and remanufacturing engineering

四、学制与学习年限

本学科博士研究生基本修业年限为4年，最长学习年限为8年。其中课程学习时间为1年。

The basic length of study for doctoral students in this discipline is 4 years, and the maximum length of

study is 8 years. The course study time is 1 year.

五、培养方式

六、课程设置与学分要求

博士生课程学习实行学分制，在学期间至少应修满16学分,其中学位课不少于11学分，必修环节3学分。

要求：博士总学分不少于16学分，其中学位课不少于11学分，必修环节3学分。

The doctoral course study implements the credit system, and at least 16 credits should be taken during the study period, including no less than 12 credits for degree courses and 3 credits for compulsory courses.

Requirements: The total number of credits for doctoral degree is no less than 15 credits, including no less than 12 credits for degree courses and 3 credits for compulsory courses.

课程设置与学分要求1

课程设置与学分要求2

七、其他培养环节

八、学术论文发表

九、学位论文

（1）发表学术论文

博士研究生在攻读学位期间发表高水平学术论文是研究生培养质量和学位授予质量的重要标志之一。对博士生发表学术论文的基本要求见《山东科技大学研究生攻读学位期间发表学术论文及外国语水平要求的规定》。

（2）学位论文撰写

博士学位论文是博士生科学研究工作的全面总结，是描述其研究成果、反映其研究水平的重要学术文献资料，是申请和授予博士学位的基本依据。学位论文撰写是博士生培养过程的基本训练之一，必须按照规范认真执行，具体要求见《山东科技大学研究生学位论文撰写规定》。

（3）预答辩及答辩

博士学位论文预答辩是切实检查博士学位论文工作，保证博士学位论文质量的重要环节。博士生在学位论文初稿完成并经导师审阅认可后，可向所在学科点提出预答辩申请。

博士学位论文答辩是对博士生科学研究工作和学位论文水平的全面考核，是申请和授予博士学位的重要程序。申请博士学位论文答辩的条件及有关要求可见学校论文答辩和论文申请的要求。

(1) Published academic papers

The publication of high-level academic papers by doctoral students during their degree studies is one of the important indicators of the quality of graduate training and the quality of degree awarding. For the

basic requirements for the publication of academic papers by doctoral students, please refer to the "Regulations on Academic Papers and Foreign Language Proficiency Requirements for Postgraduates of Shandong University of Science and Technology".

(2) Thesis writing

A doctoral dissertation is a comprehensive summary of the scientific research work of doctoral students, is an important academic document that describes their research results and reflects their research level, and is the basic basis for applying for and awarding a doctorate. Dissertation writing is one of the basic trainings in the training process of doctoral students and must be carried out in accordance with the specifications. For specific requirements, please refer to the "Shandong University of Science and Technology Graduate Dissertation Regulations".

(3) Pre-defense and defense

The pre-defense of the doctoral dissertation is an important link to check the work of the doctoral dissertation and ensure the quality of the doctoral dissertation. After the first draft of the dissertation is completed and approved by the supervisor, the doctoral student can apply for pre-defense to the subject.

The defense of the doctoral dissertation is a comprehensive assessment of the scientific research work and dissertation level of doctoral students, and is an important procedure for applying for and awarding a doctorate. The conditions and related requirements for applying for a doctoral thesis defense can be found in the school thesis defense and thesis application requirements.

课程设置与考试要求

课程类别	课程编号	课程名称	学分	学时	学期	分组情况
A公共基础课程	9994001	基础汉语（1）	2	64	1	第1组，选9-9学分
	9994002	基础汉语（2）	2	64	2	第1组，选9-9学分
	9994003	中国概况	2	32	1	第1组，选9-9学分
	9994004	现代数学基础	3	48	1	第1组，选9-9学分
B专业基础课程	0054001	"先进机械设计与制造理论 Advanced mechanical design and manufacturing theory"	2	36	1	第2组，至少选2学分
	0054002	现代液压控制工程Hyundai Hydraulic Control Engineering	2	36	1	第2组，至少选2学分
D专业选修	0054003	"机电一体化分析与建模 Mechatronics analysis and modeling"	1	20	2	第3组，至

课程						少选2学分
	0054004	"智能设计与制造 Intelligent design and manufacturing"	1	20	2	第3组，至少选2学分
	0054005	"高等振动理论 Advanced vibration theory"	1	20	2	第3组，至少选2学分
	0054006	"现代制造工艺与设备 Modern manufacturing technology and equipment "	1	20	2	第3组，至少选2学分
	0054007	"分析与计算流体力学 Analysis and Computational Fluid Dynamics"	1	20	2	第3组，至少选2学分
	0054008	"现代矿山机电技术与装备 Modern mine electromechanical technology and equipment"	1	20	2	第3组，至少选2学分
F必修环节	0054009	"文献综述与开题报告 Literature Review & Thesis Proposal"	1	16	1	第4组，选3-3学分
	0054010	"学术活动 Academic Activities"	1	16	1	第4组，选3-3学分
	0054011	"实践活动 Professional Practice"	1	16	1	第4组，选3-3学分

培养环节

培养环节代码	培养环节名称	培养环节类型	培养环节学分	备注