

电气工程（0808）

学科门类：工学（08）一级学科：电气工程（0808）

一、专业描述

电气工程一级学科(0808)覆盖五个二级学科，即电机与电器(080801)、电力系统及其自动化(080802)、高电压与绝缘技术(080803)、电力电子与电力传动(080804)、电工理论与新技术(080805)，主要研究方向覆盖了电能生产、传输、变换、应用、检测、控制、调试和管理的全过程。该学科成立于 1987 年，经过多年的发展，已在电力系统运行与控制、地区电力系统自动化、电力设备故障诊断、电力电子与电气传动、电机与控制、风力发电等方面取得显著成果。我校电气工程及其自动化专业是国家特色专业，电气工程学科是校重点学科。本学科科研条件良好，建有“可再生能源发电技术教育部工程研究中心”、“电力系统动态模拟实验室”和“电力系统健康诊断实验室”，拥有“电力系统自动化”、“电力电子与电气新技术”、“智能电网”和“新能源”等多个研究所。近年来，本学科快速发展，每年招收数十名海外博士生和硕士生，为国际电气工程领域的人才培养和科学进步做出了重要贡献。

二、培养目标

在本门学科上掌握坚实的基础理论和系统的专门知识；具有从事科学研究工作或独立担负专门技术工作的能力。

三、研究方向

1. 电力系统运行与控制（Power System Operation and Control）
2. 地区电力系统自动化（Automation of Distribution Power Systems）
3. 电气设备故障诊断与信息处理（Fault Diagnosis and Information Processing for Electrical Equipments）
4. 新型交直流电气传动系统（Novel AC/DC Electrical Drive System）
5. 可再生能源发电系统（Renewable Energy Conversion System）
6. 电力系统过电压与保护（Overvoltage and Protection of Power System）

四、申请条件

1. 已在我国认可的海内外高校或学术机构获得硕士学位者。
2. 能够用英语进行课程学习、阅读文献和进行学术写作，能够用英语进行日常交流。

五、培养年限

攻读博士学位的标准学制为 4 年，实行弹性学制，学习年限最短不低于 3 年，最长不超过 6 年。

六、学分要求和课程设置

本专业博士留学研究生课程总学分为 15 学分，其中学位课程为 11 学分，非学位课程为 4 学分。另设教学环节。具体开设课程见附表。

Electrical Engineering (0808)

Discipline: Engineering (08)

First-Class Discipline: Electrical Engineering (0808)

1. Discipline Description

The Discipline of electrical engineering (0808) covers 5 secondary disciplines. They are Electric Machine and electric appliance(080801), power system and its automation (080802), high voltage and Insulation technology (080803), power electronics and electric drive (080804), Electrician principles and new technologies(080805). The main research directions cover the whole procedure of energy production, transmission, conversion, usage, detection, control, testing and management. This discipline was set up in 1987. The Discipline of electrical engineering in Hohai university had got much success in Power System Operation and Control, Automation of Distribution Power Systems, Fault Diagnosis and Information Processing for Electrical Equipments, Novel AC/DC Electrical Drive System, Renewable Energy Conversion System, power electronics and electric drive. The major of power electrical engineering and its automation in Hohai university is state-class major. The Discipline of electrical engineering is university-class key discipline. The discipline of electrical engineering has good research conditions. We have the Research Center for Renewable Energy Generation Engineering (Hohai University), Ministry of Education, power system dynamic simulation lab., and power system healthy diagnosis lab. and the research center of power system automation, power electronics and new electrical technology, smart grid and renewable energy. In recent years, the graduates go to utilities, large state companies, academic institutions and universities.

2. Program Description

To take up the principle theories and systemic major knowledge in electrical engineering, have capability of doing research works or independently taking on specialized technical works.

3. Research Directions

- Power System Operation and Control
- Automation of Distribution Power Systems
- Fault Diagnosis and Information Processing for Electrical Equipments
- Novel AC/DC Electrical Drive System
- Renewable Energy Conversion System
- Overvoltage and Protection of Power System

4. Application Requirements

(1) You have received the master degree from the domestic and overseas universities or academic institutions accredited by the Ministry of Education.

(2) You have the ability to read and write academic papers and communicate in English.

5. Educational System and Duration

The doctorate program is 4 years, the duration is minimum 3 years and no more than 6 years.

6. Credits and Courses

A doctoral student must take at least 15 credits of courses, including 11 credits of Required course of the degree and 4 credits of Non-required course of the degree.

电气工程全英文留学博士留学研究生课程设置

Courses for Doctoral Students of Electrical Engineering

课程类别 Categories		课程编号 No	课程名称 Course	学时 Hours	学分 Credit	开课学 期 Term	备注 Note
学位课程 11 学分 Required course of the degree 11Credits	公共课程 General Courses	2015LXS01	*汉语 I Chinese Language I	32	2	秋 fall	必修 Required Course
		2015LXS03	*中国概况 Introduction to China	32	2	秋 fall	
	专业基础 课程 Major BasicCou rses	2015JC03	数值分析 Numerical Analysis	48	3	秋 fall	必修 Required Course
		2015JC04	最优化方法 Optimization Methods	32	2	秋 fall	
	专业课程 Major Courses	2015ND01	电力系统分析与控制 Power System Analysis & Control	32	2	春 spring	选修 2 学分 2Credits at least
		2015ND02	电力系统建模 Power System Modeling	32	2	春 spring	
		2015ND03	现代电力系统 与清洁能源 Modern Power Systems and Clean Energy	32	2	春 spring	
非学位课程 4 学分 Non-required course of the degree 4 Credits	2015LXS07	英文科技写作 The Art of Scientific Presentation and Writing in English	32	2	秋 fall	必修 Required Course	
	2015JC25	程序设计方法 Methods of Programming	32	2	秋 fall	选修 2 学分 2Credits at least	
	2015JC26	计算机辅助设计 Computer-Aided Design	32	2	春 spring		
	2015LXS05	*跨学科选修 Interdisciplinary Elective	32	2			
教学环节 Academic Activities	学术活动 Seminar and Conferences					必修 Required Course	
	科学研究 Scientific Research						
	文献阅读与综述 Literature Reading and Reviewing						