

电气工程及其自动化专业（英文授课）留学生本科培养方案

（专业代码：080601）

一、培养目标

1. 本专业培养适应电气工程和石油工业发展需要，德智体美全面发展，掌握电气工程领域的系统知识，具有电气工程领域相关的专业知识和实践能力，毕业后能从事电气工程规划设计、装备制造、技术开发、生产过程的运行与控制、技术管理和科学研究等方面工作的高级工程技术人才。

2. 熟悉中国历史、地理、社会、经济等中国国情和文化基本知识，理解中国社会主流价值观和公共道德观念。

3. 毕业时中文能力应当达到《国际汉语能力标准》四级水平。

4. 在本学科领域中具有一定的国际视野，能够在多个国家的实际环境中运用和发展本学科的知识、技能和方法，并具备参与国际交流与合作的初步能力。

二、业务要求

毕业生应获得以下几方面的知识和能力：

1、具有扎实的数学和物理等自然科学理论知识，基本掌握汉语，能够较顺利阅读本专业的中文书刊、具有听、说、读、写、译的技能；

2、掌握本专业所必需的电路理论、电机学、电子技术和自动控制理论等基础理论知识，并具有一定的石油石化方面的科学知识。

3、掌握电气工程相关领域的专业知识与技能，并了解本专业学科前沿的趋势。

4、具有较强的工作适应能力，具备一定的科学研究、技术开发和组织管理的实际工作能力，能够从事电气工程设计、研发与制造、运行调度和管理能力。

5、掌握文献检索和资料查询的基本方法，具有自我学习、自我提高和自我发展的能力。

三、毕业要求及学时、学分分配

分类	学分	学时	备注	
必修	理论	132.5	2144	含实验学时 254，上机学时 24
	实验	2	48	
	实践	25		
毕业要求	1、本专业学生需修满教学计划要求的 159.5 学分，以及通过 HSK4 级，方可毕业。 2、符合条件，授予工学学士学位。 3、本专业学生可以使用英语撰写毕业论文，但须有汉语论文摘要。			

四、课程设置、教学环节及进程

第一学年

第 1 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2091199	初级汉语口语 (2-1)	4.0	64	64		
2092199	初级汉语精读 (2-1)	4.0	64	64		
0911199	高等数学(2-1)	6.0	96	96		
0434199	工程制图	4.0	64	64		
0522399	程序设计语言 (C/C++)	3.5	56	32		24
2092099	道德与法律	1.0	16	16		
学期总计		22.5	360	336		24

第 2 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2091299	初级汉语口语 (2-2)	4.0	64	64		
2092299	初级汉语精读 (2-2)	4.0	64	64		
0911299	高等数学(2-2)	5.0	80	80		
0711399	大学计算机	1.0	24	24		
0531899	电路分析	5.0	80	64	16	
2010199	金工实习	2.0	2.0 周			
学期总计		21	312	296	16	

第二学年

第 3 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2094199	中国概况 (2-1)	3.0	48	48		
2095199	中级汉语 (2-1)	4.0	64	64		
0931199	大学物理(2-1)	4.0	64	64		
0941199	大学物理实验(2-1)	1.0	24		24	
0910399	线性代数	3.0	48	48		
0540699	模拟电子技术	3.0	48	32	16	
0540599	数字电子技术	3.0	48	32	16	
学期总计		21.0	344	288	56	

第 4 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2094299	中国概况 (2-2)	3.0	48	48		
2095299	中级汉语 (2-2)	4.0	64	64		
0931299	大学物理(2-2)	3.5	56	56		
0941299	大学物理实验(2-2)	1.0	24		24	
0520199	信号与系统	3.0	48	40	8	
0521199	微机原理与接口技术	3.5	56	40	16	
0533399	电机学	4.0	64	48	16	
学期总计		22.0	360	296	64	

夏季小学期

课程编码	课程名称	学分	学时	实验	上机
0594299	电子技术课程设计	2.0	2.0 周		
0592199	电气认识实习	1.0	1.0 周		
学期总计		3.0	3.0 周		

第三学年

第 5 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2096199	高级汉语 (2-1)	4.0	64	64		
0540999	电力电子技术	4	64	48	16	
0592499	电力工程课程设计	2.0	2.0 周			
0511199	自动控制原理	3.5	56	48	8	
0532099	电力工程	4.5	72	60	12	
学期总计		18	256	220	36	

第 6 学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
2096299	高级汉语 (2-2)	4.0	64	64		
0530599	电力系统分析	3.0	48	48		
0514099	计算机控制	3.0	48	36	12	
0521399	单片机原理及测量技术	3.0	48	32	16	
0510799	电气测控技术	3.5	56	44	12	
0530699	电力系统继电保护	3.0	48	40	8	
学期总计		19.5	312	264	48	

夏季小学期

课程编码	课程名称	学分	学时	实验	上机
0590299	电机控制综合实践	2.0	2.0周		
0590499	电气生产实习	2.0	2.0周		
学期总计		4.0	4.0周		

第四学年

第7学期

课程编码	课程名称	学分	学时	讲授学时	实验	上机
0533699	DSP 原理及应用	3.0	48	36	12	
0533999	电气工程数字仿真与分析	3.0	48	48		
0530999	电气控制及可编程控制技术	3.5	56	42	14	
0530499	电力拖动自动控制系统	3.0	48	40	8	
学期总计		12.5	200	166	34	

第8学期

课程编码	课程名称	学分	学时	实验	上机
0599999	毕业设计	16.0	16.0周		
学期总计		16.0			

电气工程及其自动化专业（英文授课）留学生本科培养方案-（秋季）

（专业代码：080601）

Undergraduate Program of Electrical Engineering (Lecturing in English) for International Students – (Enrolled in Fall Semester)

Major Code: 080601

I. Educational Objectives

1.The objectives of the major of Electrical Engineering are to prepare students with both systematic knowledge and technology in the area of electrical engineering, basic skills in electrical engineering practice, as well as a full development of ideological and moral qualities, physical and psychological competence, to meet the requirements of the electrical engineering and petroleum industry. The graduates will be able to engage in planning and design in electrical engineering, mechanical and manufacturing engineering, development of technologies, operation and control of production processes, technical management and scientific research.

2.To be familiar with basic knowledge of Chinese national situation and culture,such as Chinese history, geography, society and economy, etc.. To understand the mainstream values and public morality of Chinese society.

3.Be able to use Chinese language to complete the course study and research tasks smoothly, and have the ability to use Chinese language to engage in work related to the major; Upon graduation, Chinese proficiency should reach HSK level 4.

4.To possess a certain international perspective in the field of this discipline, and be able to apply and develop the knowledge, skills and methods of this discipline in the actual environment of multiple countries, and have the initial ability to participate in international exchanges and cooperation.

II. Requirements

Graduates should acquire the following knowledge and skills.

1. Graduates should have a solid foundation in the theoretical knowledge of natural science such as math and physics. They should master the basic Chinese language. Specifically they should be able to read Chinese books, journals related to this major and have skills of listening, speaking, reading, writing and translation.

2. Graduates should grasp the basic theoretical knowledge of circuit, electric machinery, electronic technology and automatic control as well as basic knowledge of petroleum and petrochemical engineering.

3. Graduates should gain specialty knowledge and skills related to electrical engineering and acquaint themselves with state-of-the-art of the disciplines in electrical engineering.

4. Graduates should have good professional adaption ability, abilities in real work such as scientific research, technology development and management as well as skills in design, R&D, manufacturing, operation, scheduling and management in electrical engineering.

5. Graduates should master basic methods of searching for specialty literature, enable themselves with self-study, self-improvement and self-development.

III. Graduation Requirements and Allocation of Course Hours and Credits

Classification		Credits	Hours	Note
Required Courses	Theory	132.5	2144	Including 254 experiment hours and 24 hands-on hours
	Experiment	2.0	48	
	Practical Training	25		
Graduation Requirements	1. Students will graduate after they earn 159.5 credits required in the teaching program of their specialty and get HSK 4 certificate. 2. The bachelor's degree of engineering will be conferred to the qualified students. 3. The students can write their thesis in English and are required to provide a Chinese version of the thesis' abstract.			

IV. Courses and Teaching Process

The First Academic Year

1.Semester

Code	Courses	Credits	Class Hours	Teaching hours	Experiment Time	Hands-on Time
2091199	Oral Chinese (2-1)	4.0	64	64		
2092199	Chinese Intensive Reading (2-1)	4.0	64	64		
0911199	Advanced Math (2-1)	6.0	96	96		
0434199	Engineering Drawing	4.0	64	64		
0522399	Program Design Language	3.5	56	32		24
2092099	Moral Education and Jurisprudence Fundamentals	1.0	16	16		
Total		22.5	360	336		24

2.Semeste

Code	Courses	Credits	Class Hours	Teaching hours	Experiment Time	Hands-on Time
2091299	Oral Chinese (2-2)	4.0	64	64		
2092299	Chinese Intensive Reading (2-2)	4.0	64	64		
0911299	Advanced Math (2-2)	5.0	80	80		
0711399	Computer technology	1.0	24	24		
0531899	Circuit Analysis	5.0	80	64	16	
2010199	Metalwork Practice	2.0	2.0 Weeks			
Total		21	312	296	16	

The Second Academic Year

3. Semester

Code	Courses	Credits	Class Hours	Teaching hours	Experiment Time	Hands-on Time
2094199	A Survey of China (2-1)	3.0	48	48		
2095199	Intermediate Chinese (2-1)	4.0	64	64		
0931199	Physics (2-1)	4.0	64	64		
0941199	Physics Experiment (2-1)	1.0	24		24	
0910399	Linear Algebra	3.0	48	48		
0540699	Analogue Electronics Technology	3.0	48	32	16	
0540599	Digital Electronics Technology	3.0	48	32	16	
Total		21.0	344	288	56	

4. Semester

Code	Courses	Credits	Class Hours	Teaching hours	Experiment Time	Hands-on Time
20904	A Survey of China (2-2)	3.0	48	48		
20905	Intermediate Chinese (2-2)	4.0	64	64		
09301	Physics(2-2)	3.5	56	56		
09401	Physics Experiments(2-2)	1.0	24		24	
05201	Signals and Systems	3.0	48	40	8	
05211	Microcomputer Principle and Interface Technology	3.5	56	40	16	
05333	Electrical Machinery Theory	4.0	64	48	16	
Total		22.0	360	296	64	

Summer Semester

Code	Courses	Credits	Practice Training Time	Experiment Time	Hands-on Time
0594299	Course Project of Electronics Technology	2.0	2.0 weeks		
0592199	Cognitive Practice on Electrical Engineering	1.0	1.0 week		
Total		3.0	3.0 weeks		

The Third Academic Year

5. Semester

Code	Courses	Credits	Class Hours	Teaching hours	Experiment Time	Hands-on Time
2096199	Senior Chinese(2-1)	4.0	64	64		
0540999	Electric Power and Electronics Technology	4.0	64	48	16	
0592499	Course Project of Electrical Power Engineering	2.0	2.0 Weeks			
0511199	Principle of Automatic Control	3.5	56	48	8	
0532099	Power Engineering	4.5	72	60	12	
Total		18	256	220	36	

6. Semester

Code	Courses	Credits	Class Hours	Teaching hours	Experiment Time	Hands-on Time
2096299	Senior Chinese(2-2)	4.0	64	64		
0530599	Electric Power System Analysis	3.0	48	48		
0514099	Digital Control and Interfaces	3.0	48	36	12	
0521399	Principle of Single-Chip Microcomputer and Measuring Technology	3.0	48	32	16	
0510799	Basics of Sensor and Testing Technology	3.5	56	44	12	
0530699	Relay Protection of Electric Power System	3.0	48	40	8	
Total		19.5	312	264	48	

Summer Semester

Code	Courses	Credits	Practice Training Time	Experiment Time	Hands-on Time
0590299	Comprehensive Practice on Motor Control	2.0	2.0 weeks		
0590499	Production Practice on Electrical Engineering	2.0	2.0 weeks		
Total		4.0	4.0 weeks		

The Fourth Academic Year

7. Semester

Code	Courses	Credits	Class Hours	Teaching hours	Experiment Time	Hands-on Time
0533699	Principle and Applications of DSP	3	48	36	12	
0533999	Digital Simulation and Analysis of Electric Engineering	3	48	48		
0530999	Electrical Control and Programmable Logic Control Technology	3.5	56	42	14	
0530499	Control Systems of Electric Drives	3	48	40	8	
Total		12.5	200	166	34	

8. Semester

Code	Courses	Credits	Class Hours	Experiment Time	Hands-on Time	
0599999	Graduation Project and Thesis	16.0	16.0 weeks			
Total		16.0				