Bachelor Program of Electronic Information Engineering

（in English）

“电子信息工程专业”本科培养方案（英文授课）

(This document is the text compression version of the same major taught in Chinese and only for international students)

School of Electronic Information Engineering & International School

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一、 专业简介

I. Major Introduction

信息科学和技术的发展对人类进步和社会发展产生了重大的影响，信息产业的迅速发展，已经成为经济增长和社会发展的关键要素。电子信息类专业是伴随着电子、通信、信息和光电子技术的发展而建立，以数学、物理和信息论为基础，以电子、光子和信息相结合的元器件以及电子工程、通信系统和信息网络为研究对象，从元器件到系统，从网络到服务，基础理论完备，专业内涵丰富，应用领域广泛，发展极为迅速，是推动信息产业发展和提升传统产业的基础专业之一。

The blossom of information science and technology has a significant influence on human progress and social development. Electronic Information major is set up accompanied by the development of electronic, communication, information and the photo-electronic technology, based on mathematics, physics and information theory. It regards components combining electron, photon and information as well as electronic engineering, communication system and information network as research objects. The major features complete theory basis, rich professional connotation and broad application fields from components to system, from network to service. With a rapid development, it’s one of the basic majors that boost the development of information industry and promote the traditional industry.

电子信息类专业的主干学科是包含信息与通信工程、电子科学与技术、光学工程，相关学科包括计算机科学与技术、控制科学与工程、仪器科学与技术、交通运输等，相关专业包括计算机类、自动化类、电气类、仪器类、交通类等专业。电子信息类专业是具有理工融合特点的专业，主要包括信息与通信工程、电子科学与技术、光学工程学科领域的基础理论、工程设计和系统实现技术。

The main subjects of Electronic Information major include information and communication engineering, electronic science and technology and optical engineering, its related disciplines cover computer science and technology, control science and engineering, instrument science and technology, transportation, etc... Majors such as computer, automation, electric, instruments, traffic are all related to it. Featuring an integration of science and engineering, Electronic and Information major includes information and communication engineering, electronic science and technology, as well as basic theory, project design and system implementation technologies in the field of optical engineering discipline.

二、 培养目标

II. Educational Objectives

针对留学生的教育背景、认知特点及发展需求，培养具有扎实的自然科学基础知识和必备的专业知识，具有良好的学习能力、实践能力、专业能力、创新能力，团队合作精神与国际视野，具备从事各种电子信息系统、设备和器件的研究、设计、开发、制造、维护、管理等工作的高级人才。

Based on the education background and cognitive feature development need of oversea students, our Electronic Information Sciences are committed to developing advanced talents that have a solid grasp of natural science basics and essential expertise; possess good ability in learning, practice, specialty and innovation, as well as team spirit and international outlook; are engaged in a variety of works including studying, designing, developing, manufacturing, maintaining and managing electronic information systems, equipment and devices.

三、 毕业要求

III. Degree Requirements

来华留学生应具有一定的基础汉语水平，了解中国法律法规、传统文化和风俗习惯等，热爱母校，亲华、知华、优华。

Foreign students should have some basic level of Chinese language, understanding Chinese laws and regulations, traditional culture and customs, etc., loving alma mater, knowing China and loving China.

在专业方面，能够将数学、自然科学、工程基础和电子信息专业知识用于解决复杂工程问题；能够设计针对电子信息类复杂工程问题的解决方案，设计满足特定需求的系统、单元（部件）或工艺流程，并能够在设计环节中体现创新意识；能够基于科学原理并采用科学方法对电子信息类复杂工程问题进行研究；能够针对电子信息类复杂工程问题开发、选择与使用恰当的技术、资源、现代工程工具和信息技术工具；能够基于电子信息工程相关背景知识进行合理分析，评价专业工程实践和复杂工程问题解决方案；具有人文社会科学素养、社会责任感，能够在电子信息工程实践中理解并遵守工程职业道德和规范；能够就电子信息类复杂工程问题与业界同行及社会公众进行有效沟通和交流，并具备较强的国际视野，能够在跨文化背景下进行沟通和交流。

The students should have the ability to solve complex engineering problems by mathematics, natural sciences, engineering, electronic information knowledge, to design the solutions for complex electronic information engineering problems, to design the system, unit (parts) or process to meet the specific needs, to reflect the sense of innovation in the design phase, to use scientific methods in research of complex electronic information engineering problems based on scientific principles, to develop choose and use appropriate technology, resources, modern engineering tools and IT tools for complex electronic information engineering problems, to analyze and evaluate professional engineering practice and solutions to complex engineering problems based on relative background knowledge of electronic engineering, to understand and comply professional ethics and norms with humanities and social science literacy, social

responsibility in electronic engineering practice, to communicate and exchange complex engineering problems with industry peers and the public effectively, and to communicate and exchange in a cross-cultural context with a strong international view.

四、 学制、学位

IV. Study Period

学制：四年

Study Period：4 Years， Maximum: 6 Years (not including military service time)

授予学位：工学学士

Degrees Conferred: Bachelor of Engineering

五、 专业特色

V. Characteristics

本专业按电子信息工程大类培养“学术型与工程型相结合”的宽口径人才。本专业重视未来高水平人才所应具有的人文素养，强化数理知识及学科基础理论，秉承“寓教于研”的办学理念，依托学校、学院优势课程、实验教学平台、科学研究平台与师资队伍，联合航空航天、通信电子领域的大型企业，注重系统级知识体系的培养，鼓励学生跨专业跨学科学习。

The program of Electronic Information Engineering trains "Academic and Engineering combined" talents with the wide caliber. The program focuses on importance of the humanities, mathematical knowledge and basic theory for disciplines in future high-level professional people. Adhering to the "instruction in research" philosophy and relying on advantage curriculums of university and school, experimental teaching platform, scientific research platform and joint large aerospace, aviation and electronic communications enterprises, the program pays attention to cultivate the system level knowledge and to encourage students joining interdisciplinary learning.

六、 主干学科

VI. Main Disciplines

- 信息与通信工程
  Information and Communication Engineering
- 电子科学与技术
  Electronic Science and Technology
- 光学工程
  Optical Engineering

七、 课程体系

VII. Program Structure and Modules

共分为三个课程模块：基础课程、语言及文化课程、通识课程和专业课程。

There are three course modules: Foundation Courses, General Education (GE) Courses and Major Courses.

表 1 课程体系及各课程类别的最低学分要求示意图

Table 1 The Credit Requirement (Minimum) of each Course Type for Bachelor in Electronic Information

课程模块 Course Module	Order	课程类别 Course Type	学分 Credits
I 基础课程 Foundation Courses (FC)	A	数学与自然科学类 Mathematics and Natural Sciences (MNA)	33.0
	B	工程基础类 Engineering Fundamentals (EF)	12.0
	C	语言和文化 Language and Culture (LC)	10.0
II 通识课程 General Education Courses (GE)	D	思政类 Ideology and Politics (IP)	——
		军理类 Military Theory (MT)	——
	E	体育类 Physical Education (PE)	--
	F	核心通识课程 Core GE Courses (C-GE)	2.0
	G	一般通识 General GE Courses (G-GE)	2.0
	H	博雅类 Liberal Arts (LA)	
III 专业课程 Major Courses (MC)	I	核心专业基础课 Core Major Course (C-MC)	58.0
	J	一般专业课 General Major Course (G-MC)	
	L	专业实践课 Practical Major Course (PMC)	

基础课程模块，主要包括数学与自然科学类（如数学、物理等）、工程基础类（如机械和电子工程训练、C 语言编程等），以及语言类。其中，《汉语》和《中国概况》是来华留学英文授课本科生的必修课。通识课程模块，旨在培养和提高学生在人文、社科等方面的知识和修养。

Foundation Courses (FC) include Mathematics and Natural Sciences courses (Mathematics, Physics, etc.), Engineering Fundamentals courses (Mechanism, Electronics Engineering, C language, etc.). Language courses include Chinese courses for oversea student studied in China. General Education courses are courses to improve knowledge and cultivation in humanities and social sciences.

博雅类主要含暑期学校和社会实践。

Liberal Arts (LA) mainly include summer school course and social practice course.

专业课程模块，分为专业基础课程、实践课程（含毕业设计）、专业核心课程以及一般专业选修课程。学生可根据个人的兴趣及发展方向，在学业指导老师的指导下学习。

Major courses are divided into Fundamental Major Course, Major-oriented Course, General Major Courses and Practical Major Courses (including Graduation Project). The students can select based on their own interest and direction under the guidance of school academic advisors.

八、 主要课程

VIII. Main Major courses

电路分析、电子电路Ⅰ、电磁场理论、信号与系统、微波技术、电子电路Ⅱ、数字电路与系统、数字信号处理、随机过程理论、通信原理、信息论基础、自动控制原理

Circuit analysis, Electronic circuit I, Electromagnetic field theory, Signal and systems, Microwave technology, Electronic circuit II, Digital circuit and system, Digital signal processing, Stochastic process theory, Communication principles, Information theory fundamental, Automatic control principle.

九、 主要实践教学环节及安排

IX. Main Internship and Practical (Including experiments)

表 2 实践课程清单

Table 2 Practical Courses

序号 No.	课程名称 Course Title	课程类别 Course Type	开课学期 Semester	学分 Credits	总学时 Hours
1	机械工程技术训练 A Mechanical Technology Practice A	EF	2	3.0	140
2	基础物理实验 B (1) Fundamental Physics Experiments B (1)	MNA	3	2.0	32
3	基础物理实验 B (2) Fundamental Physics Experiments B (2)	MNA	4	2.0	32
4	电子工程技术训练 Electronic Technology Practice	EF	4	2.0	64
5	模拟电路技术实践 Basic Practice on Electrical Technology Ⅰ	EF	4	1.0	32
6	数字电路技术实践 Basic Practice on Electrical Technology Ⅱ	EF	5	1.0	32
7	社会实践 Social Practice	LA	6	1.0	16
8	综合创新系列-综合设计 Comprehensive Innovation- Comprehensive Design	PMC	6	2.0	32
9	生产实习 Production Practical	PMC	6.5	3.0	3 weeks

序号 No.	课程名称 Course Title	课程类别 Course Type	开课学期 Semester	学分 Credits	总学时 Hours
10	毕业设计 Graduation Project	PMC	7-8	8.0	16weeks

十、 毕业最低学分

X. Minimum Required for Graduation

毕业最低学分要求：在满足各课程类别最低学分的要求下，总学分不低于 125 学分。

Minimum Required for Graduation=125 credits, and meet the credit requirement of each Course Type at the same time.

十一、 教学进程计划

XI. Education Curriculum

the 1st Semester

Code	Title	Hours	Credits	Note	Course Type	Evaluation
A09A101I	工科高等数学 (1) Advanced Mathematics for Engineering (1)	90	6.0	Compulsory	MNA	Examination
B25D111I	中国概况 Introduction to China	32	2.0	Compulsory	LC	Examination
B1C251131L	汉语 (1) Chinese (1)	64	4.0	Compulsory	LC	Examination
C05D101I	航空航天概论 B Introduction to Aeronautics and Astronautics B	32	2.0	Compulsory	C-GE	Examination
C06D101I	大学计算机基础 University Computer Foundation	44	2.0	Compulsory	G-GE	Examination
C32D101I	工程认识 Engineering Experience and Cognition	20	0.5	Compulsory	EF	Examination
E02D111I	电子信息工程导论 Introduction to Electronic Information Engineering	16	1.0	Compulsory	EF	Examination
	学期学分小计 Semester Credits		17.5			

the 2nd Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
A09A102I	工科高等数学 (2) Advanced Mathematics (2)	86	5.0	Compulsory	MNA	Examination
A19A101I	工科大学物理 (1) University Physics for Engineering (1)	64	4.0	Compulsory	MNA	Examination
B1C251141L	汉语 (2) Chinese (2)	64	4.0	Compulsory	LC	Examination
A09A103I	工科高等代数 Advanced Algebra	90	6.0	Compulsory	MNA	Examination

Code	Title	Hours	Credits	Note	Type	Evaluation
G32A201I	机械工程技术训练 A Mechanical Technology Practice A	144	3.5	Compulsory	EF	Examination
C25D121I	C 语言程序设计与实践 C Programming Language Design and Practice	32+16	2.5	Compulsory	EF	Examination
	学期学分小计 Semester Credits		25.0			

the 3rd Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
A09B204I	概率统计 A Probability Statistics A	48	3.0	Compulsory	MNA	Examination
A09B2060	复变函数 Complex Variables	32	2.0	Compulsory	MNA	Examination
A19A202I	工科大学物理 (2) University Physics for Engineering (2)	64+16	4.0	Compulsory	MNA	Examination
A19A103I	基础物理实验 B (1) Fundamental Physics Experiments B (1)	28	1.5	Compulsory	MNA	Examination
C02D222I	计算机软件技术基础 Software Technical Fundament	48+16	3.5	Compulsory	EF	Examination
E02B231I	电路分析 Circuit Analysis	48+16	3.5	Compulsory	C-MC	Examination
	学期学分小计 Semester Credits		17.5			

the 4th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
A19A104I	基础物理实验 B (2) Fundamental Physics Experiments B (2)	24	1.5	Compulsory	MNA	Examination
E02B251I	信号与系统 Signals and Systems	48+16	3.5	Compulsory	C-MC	Examination
E02B241I	电磁场理论 Electromagnetic Field Theory	48+16	3.5	Compulsory	C-MC	Examination
E02B253I	电子电路Ⅰ Analog Electronic CircuitⅠ	48+16	3.5	Compulsory	C-MC	Examination
E03A201I	模拟电路技术实验 Basic Practice on Electrical TechnologyⅠ	32	1.0	Compulsory	EF	Examination
G32A204I	电子工程技术训练 Electronic Technology Practice	64	2.0	Compulsory	EF	Examination
	学期学分小计 Semester Credits		15.0			

the 5th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E02B352I	随机过程理论 Stochastic Process	32	2.0	Compulsory	C-MC	Examination
E02B334I	数字电路与系统 Digital Circuit	48+16	3.5	Compulsory	C-MC	Examination
E02B342I	微波技术 Microwave Technology	48+16	3.5	Compulsory	C-MC	Examination
E02B333I	电子电路Ⅱ Analog Electronic CircuitsⅡ	48+16	3.5	Compulsory	C-MC	Examination

E03A302I	数字电路技术实践 Basic Practice on Electrical Technology Ⅱ	32	1.0	Compulsory	EF	Examination
	学期学分小计 Semester Credits		13.5			

the 6th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E02D362I	自动控制原理 Principle of Automatic Control	26+12	2.0	Compulsory	C-MC	Examination
E02D323I	微机原理与接口技术 Principle and Interface Technique of Microcomputer	40+16	3.0	Compulsory	EF	Examination
E02B353I	数字信号处理 Digital Signal Processing	48+16	3.5	Compulsory	C-MC	Examination
E02D354I	信息论基础 Basis of Information Theory	32	2.0	Compulsory	C-MC	Examination
B3J023930	综合创新系列-综合设计 Comprehensive Innovation- Comprehensive Design	64	2.0	Compulsory	PMC	Examination
	学期学分小计 Semester Credits		12.5			

the 7th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E02B371I	通信原理 Principle of Communication	48+16	3.5	Compulsory	C-MC	Examination
F02D414I	通信天线与馈电系统（留学生） Antennas and Feed System for Communication	32+16	2.5	Compulsory	G-MC	Examination
F02D411I	无线电导航 Radio Navigation	32	2.0	Compulsory	G-MC	Examination
	学期学分小计 Semester Credits		8.0			

the 8th Semester

	论文 Graduation Project	16weeks	8.0	Compulsory	PMC	Test

备注：

（1）只列出各学期必修课程目录

Only compulsory courses are listed

（2）课程类别的相关说明

Explanation of course type**:**

数学与自然科学类　Mathematics and Natural Sciences (MNA)

工程基础类　Engineering Fundamentals (EF)

语言和文化　Language and Culture (LC)

核心通识课程　Core GE Courses (C-GE)

一般通识	General GE Courses (G-GE)
核心专业基础课	Core Major Courses(C-MC)
一般专业课	General Major Course(G-MC)
专业实践课	Practical Major Course (PMC)

如下课程留学生可选修
Other courses student can select

Course Type	Title	Credits	Note
PE	体育课 Physical Education	0.5 Credit/Semester	International students can select from the 2nd semester.
LA	文化素质拓展 Culture Quality Developing	1.0 Credit/Semester	International students can select from the 3rd semester.
G-GE	暑期学校系列课程 Courses in Summer Camp	Max 6.0 Credits /Summer Semester	International students can select the courses in summer semester (3rd semester) during the 2nd or the 3rd academic year.
G-GE	专业英语阅读与写作 Professional English Reading and Writing	2.0 Credits/Semester	International student can select since 5th semester.
	社会实践 Social Practice	1.0 credit	
	汉语水平考试 HSK	1.0 credit	One credit will be offered if the international student passed HSK 3 or over.
	其他课程 Other Courses		See the time-table at the beginning of each semester.

十二、 联系方式

XII. Contact Detail

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