

Electronic Engineering

I . Degree

Bachelor of Science (ScB)

II . Normal Period of Study

4 years

III. Objectives

This Discipline is intended to equip the graduates with good qualities of modern sciences, humanities, sense of social responsibility and professional ethics, a solid grasp of basic theories and professional skills of the discipline, a strong sense of innovation and engineering practice ability, to enable the graduates to practice at enterprises, research institutes, and high education institutions in the field of electronic engineering, computer and other related fields, to specialize in telecommunication, electronic information, electronic devices and systems, optoelectronics, microelectronics in areas such as product design and manufacturing, technology development and engineering design, science research, education and teaching, operation management, and etc., to meet the requirements of the rapid high-tech development of the information society, and to further grow into high-level multi-skill talents sophisticated in both research and application.

IV. Requirements

Students majoring this discipline are required to focus on the basic theory and basic knowledge of Electronic Engineering, to go through basic training in connection with the analysis and design of electronic information systems, and to master basic skills to design, develop, integrate and apply the electronic information systems.

Graduates are expected to acquire the following knowledge and abilities:

1. To have good qualities in humanities and social sciences, good sense of social responsibility and engineering professional ethics;
2. To be equipped with knowledge of mathematics and natural sciences, and ideas of economic and management sufficient for engineering work;
3. To grasp the basic theoretical knowledge of foundation courses such as electronic circuit, electromagnetic field and wave, signal and system, digital signal processing, telecommunication, wireless communication systems, image processing, software design, optical information processing, optical fiber communications, computer technology, and to understand the leading edge and development trend of electronic engineering.
4. To have complete and all round study experience in engineering, and ability to design and analyze engineering experiments, to master basic knowledge of electronic and optical information collection, sending, transmission, processing, storage and display, and to have skills in the analysis,

research, development, design, manufacturing and other engineering application skills in connection with relevant systems and devices;

5. To master the basic innovative approach with the pursuit of innovation and awareness of sustainable development; to be equipped with basic skills in application of scientific theories and techniques along with comprehensive consideration and analysis of economic, environmental, legal, safety, health, ethics and other factors in the solving of engineering problems;

6. To grasp basic method in documentation study, data research, and the use of modern information technology to obtain relevant information;

7. To understand the laws and regulations in connection with the production, design, research and development in the profession and industry of electronic engineering, and principles, policies, laws and regulations in terms of environmental protection, and to have a positive attitude to and correct understanding of the impact of the current status and development of engineering on the objective world and human society.

8. To have certain organization and management skills, presentation skills and social skills, as well as the ability of cooperation and team working;

9. To have the ability to adapt to development, and to recognize the necessity of lifelong learning and to maintain the ability to study.

10. To have international vision, and ability of cross-cultural communication, competition and cooperation.

V. Core courses

Circuit, analog electronic circuit, digital logic circuit, signal and systems, the principle and application of microcomputer, electromagnetic fields and waves, principles of communications, wireless and mobile communication technology , digital signal processing, VLSI design, principles of optoelectronic imaging and display Technology, physical optics, applied optics.

VI. Components of the 4-year Curriculum

Category	Credits
1. General Education Courses	22
2. Discipline Education Courses	42
3. Specialized Courses	76.5
Total	140.5

VII. Table of Teaching Plan for Major of Electronic Engineering

课程编码 Course No	课程名称 Course Name	学 分	总学 时	讲 课	实 验	上 机	实 践	学年-学期 Academic Year-Semester												开课 单位
								I-0	I-1	I-2	II-0	II-1	II-2	III-0	III-1	III-2	IV-0	IV-1	IV-2	
必修课程●通识教育课 (22 学分) Compulsory Course●Course of General Education																				
140228E1	中国概况【英】 Introduction to China[E]	2	32	32							2									114
210206E1	太极拳【英】 Tai Chi[E]	2	32	32							2									122
581113E2	汉语入门 (I) 【英】 Fundamental Chinese (I)[E]	4	64	64							4									371
580116E1	中国历史与文化【英】 Chinese History and Culture[E]	2	32	32							2									371
582113E2	汉语入门 (II) 【英】 Fundamental Chinese (II)[E]	4	64	64							4									371
581114E1	汉语进阶 (I) 【英】 Chinese for Specific Purpose (I)	4	64	64									4							371
582114E1	汉语进阶 (II) 【英】 Chinese for Specific Purpose (II)	4	64	64										4						371
必修课程●学科教育课 (42 学分) Compulsory Course●Course of Discipline Education																				
050217E1	工程制图【英】 Engineering Drawing[E]	3	48	48							3									101
060007E2	Visual C++程序设计【英】 VISUAL C++ Programming[E]	4	64	48		16					4									106
111233E4	高等数学 (I) 【英】 Advanced Mathematics (I)[E]	6	96	96							6									113
060009E1	Visual C++课程设计【英】 Course Design of VISUAL C++[E]	1	40			16	24				1									106
111208E6	大学物理 (I) 【英】 College Physics (I)[E]	4.5	72	72							4.5									113
111209E4	大学物理实验 (I) 【英】 Experiments on College Physics (I)[E]	1.5	24		24						1.5									113
112233E1	高等数学 (II) 【英】 Advanced Mathematics (II)[E]	6	96	96							6									113
110240E1	工程数学【英】 Engineering Mathematics[E]	4	64	64									4							113
110312E3	线性代数【英】 Linear Algebra[E]	3	48	48									3							113
112208E6	大学物理 (II) 【英】 College Physics (II)[E]	4.5	72	72									4.5							113
112209E4	大学物理实验 (II) 【英】 Experiments on College Physics (II)[E]	1.5	24		24								1.5							113

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								I-0	I-1	I-2	II-0	II-1	II-2	III-0	III-1		III-2	IV-0	IV-1
110226E1	概率与统计【英】 Probability and Statistics[E]	3	48	48								3							113
必修课程●专业基础课 (76.5 学分) Compulsory Course●Fundamental Specialized Course																			
230201E4	金属工艺实习【英】 Metal Technics Practice[E]	2	80				80			2									369
040339E2	电子工艺实习【英】 Practice on Electronic Technology[E]	2	80				80				2								369
040616E1	电路综合实验【英】 Comprehensive Experiments on Circuits[E]	1	40				40				1								104
100221E4	电路【英】 Electric Circuits[E]	4.5	72	64	8						4.5								104
040263E2	数字逻辑电路【英】 Digital Logic Circuits[E]	4	64	56	8						4								104
040268E1	模拟电子线路【英】 Analog Electronic Circuits[E]	4	64	56	8						4								104
040611E1	模拟电子线路 EDA【英】 Analog Circuits EDA[E]	1	40				40						1						104
040617E1	电子线路综合实验【英】 Comprehensive Experiments on Electronic Circuits[E]	1.5	60		60								1.5						104
040213E1	电磁场与电磁波【英】 Electromagnetic Fields and Waves[E]	3	48	48										3					104
040308E3	信号与系统【英】 Signal and System[E]	4.5	72	72										4.5					104
040349E1	应用光学【英】 Applied Optics[E]	4	64	64										4					104
040612E1	数字系统综合设计【英】 Comprehensive Design on Digital System[E]	2	80				80								2				104
040619E1	微处理器原理与应用【英】 Microprocessor Principles and Applications[E]	3	48	48											3				104
040620E1	微处理器原理与应用综合实验【英】 Comprehensive Experiments on Microprocessor Principles and Applications[E]	1	40		40										1				104
041409E4	光学综合实验 (I)【英】 Comprehensive Experiments on Optics (I) [E]	0.5	20				20								0.5				104
040226E1	物理光学【英】 Physical Optics[E]	4	64	64												4			104
040277E5	数字信号处理【英】 Digital Signal Processing[E]	3.5	56	48	8											3.5			104

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								I-0	I-1	I-2	II-0	II-1	II-2	III-0	III-1	III-2	IV-0		IV-1	IV-2
040283E2	通信原理【英】 Communication Principles[E]	3	48	48												3				104
040375E2	通信原理综合实验【英】 Comprehensive Experiments of Communication Principles[E]	1	40				40									1				104
040431E1	光电信号处理【英】 Optoelectronic Signal Processing[E]	3	48	48												3				104
040515E1	微波、毫米波系统【英】 Microwave and Millimeter-Wave System[E]	2	32	32												2				104
040561E1	无线与移动通信技术【英】 Wireless Network and Mobile Communication Technology[E]	2	32	32												2				104
042409E4	光学综合实验(II)【英】 Comprehensive Experiments on Optics (II) [E]	1	40				40									1				104
040275E3	数字图像处理【英】 Digital Image Processing[E]	2	32	32														2		104
040282E1	通信系统【英】 Communication System[E]	3	48	48														3		104
040434E1	超大规模集成电路设计【英】 VLSI Design[E]	2	32	24	8													2		104
040601E1	半导体器件基础【英】 Fundamentals of Semiconductor Devices[E]	2	32	32														2		104
040627E2	毕业设计【英】 Graduation Project[E]	10	560				560												10	104
	必修课程汇总 Compulsory Courses Total	140.5	2984	1760	188	32	1004	0	21	21	2	22.5	15	2.5	18	19.5	0	9	10	

注：学期为“0”的表示夏季学期，“1”秋季学期，“2”春季学期。

Notes: semester '0' stands for Summer semester, '1' and '2' stands for Autumn semester and Spring semester.

