

电子信息工程专业培养方案

专业名称代码: 电子信息工程专业 080603 (080701)

专业培养目标: 本专业培养具有电子技术和信息系统的基础知识,能从事各类电子设备和信息系统的研究、设计、制造、应用和开发,在德智体等方面全面发展,具有创新精神和实践能力的高级工程技术人才。

专业培养要求: 本专业学生主要系统学习信号的获取与处理,电子设备与信息系统等方面的专业知识,受到电子与信息工程实践的基本训练,具有设计、开发、应用和集成电子设备和信息系统的基本能力。

毕业生获取以下几方面的知识和能力:

- 1.系统地掌握本专业领域的基础理论知识,主要包括:电路理论、电子技术、通信技术、检测技术、控制理论、信息处理、计算机软、硬件基础及应用;
- 2.掌握电子电路的基本理论和实验技术,具有分析和设计电子电路的基本能力;
- 3.掌握信息获取、处理的基本理论和应用的一般方法,具有应用计算机模拟信息系统的基本能力;
- 4.了解信息产业的基本方针、政策和法规,了解企业管理的基本知识;
- 5.了解电子设备和信息系统的理论基础和发展前沿,具有研究、开发相关电子产品的创新能力;
- 6.掌握文件检索、资料查询的基本方法,具有主动获取专业信息的能力,较强的外语能力,计算机应用的能力,和具有一定的科学研究和实际工作的能力。

主干学科: 电子科学与技术、信息与通信工程、计算机科学与技术。

核心课程: 电路分析、单片及原理及应用、通信电子线路、电磁场与电磁波、数字信号处理、现代可编程逻辑器件、信息论与编码、嵌入式系统及应用、自动控制原理等。

主要专业实验: 电路分析实验、电子电路/数字电路系列实验、信号与信息处理实验、嵌入式系统实验等。

主要实践性教学环节: C 语言程序设计、电子线路教学实习、电子工程教学实习、信息工程教学实习、应用系统设计教学实习、生产实习、毕业设计等。

修业年限: 四年。

授予学位: 工学学士。

相近专业: 通信工程。

Program for Electronics Information Engineering

Specialty and Code: Electronics Information Engineering, 080603 (080701)

Education Objective: Our program will cultivate advanced engineering technical talents who are developed completely in morality, intelligence and physique to equip the students with basic knowledge of electronic techniques and information system, and who can be engaged in researching, designing, manufacturing, applying and developing various electronic equipments and information systems.

Education Requirements: Students of this specialty must study systemically the signal acquisition and processing and the special knowledge in the domain of electronic equipments and information systems. They will undertake various practical activity and training that help them to grasp the basic ability of designing, developing, applying and integrated electronic equipment and information system.

Graduates Are Required:

1. To grasp systematically the wide elementary theoretical knowledge of this specialty, mainly including the electronic circuit theory、electronic technology、telecommunication technology、detecting technology、automation theory、signal processing、the base and application of computer software and hardware.
2. To grasp the basic theory and practical techniques of electronic circuit and possessing the basic ability for analyzing and designing electronic equipments.
3. To grasp the basic theory and the generic methods of signal acquisition and processing and the basic ability to simulate information system in computer.
4. To understand the basic policy and laws of information industry and the knowledge of enterprise management.
5. To understand the advanced theory of electronic equipment and information system, possessing the innovation ability for researching and developing new system and technique.
6. To grasp the basic method of document index and information inquisition, possessing the ability for obtaining specialty information actively, a good capacity of English and computer and the ability for scientific and practice.

Major Disciplines: Electronic Science and Technology; Information and Communication Engineering; Computer Science and Technology.

Main Courses: Circuit Analysis; Principle and Application of Single Chip Microcomputer; Communication Electronic Circuits; Electromagnetic Field and Wave; Digital Signal Processing; Modern Programming Logic Device; Information Theory and Coding; Principle and Application of Embedded System; Principles of Control System Engineering.

Lab Experiments: Circuit Analysis Experiment, Electronic Circuit Experiment, Digital Electronic Circuit Experiment, Signal and Information Processing Experiment, Embedded System Design Experiment.

Practical Work: Computer Program Design; Circuit and Engineer Practice; Electronic Engineering Practice; Information Engineer Practice; Productive Practice; Graduate Design.

Duration: Four years.

Degree Granted: Bachelor of Engineering.

Related Specialties: Communication Engineering.

电子信息工程专业课程教学计划表
Course Descriptions of Electronics Information Engineering

课程 类别 Classi- fication	课程 编号 Code	课程名称 Course Name	学 分 Crs	学 时 Hrs	学时分类 Class Hours		学期学分分配 Semester Credits							
					讲 课 Lec	实 验 Lab	一	二	三	四	五	六	七	八
							1st	2nd	3rd	4th	5th	6th	7th	8th
通 识 教 育 课 Liberal Education Courses	必修 Compulsory	11706200 马克思主义基本原理 Principles of Marxism	3	48	48			3						
		11706500 毛泽东思想和中国特色社会主义理论体系概论 Mao Tse-tung Thought and Introduction to the Theoretical System of Socialism with Chinese Characteristics	4	64	64					4				
		11711800 中国近现代史纲要 The Essentials of Modern Chinese History	2	32	32				2					
		120002*0 思想道德修养与法律基础 Morality Education and Fundamentals of Law	3	48	48		1.5	1.5						
		113027*0 体育 Physical Education	6	96	96		1.5	1.5	1.5	1.5				
		109005*0 大学英语 College English	12	192	192		2.5	2.5	3.5	3.5				
		11904100 计算机高级语言程序设计 (C) Computer High-level Language (C)	3.5	56	40	16		3.5						
		14300100 军事理论 Military Theory	2	32	32		2							
		20714100 电子信息学科导论 Introduction to Electrical information Science	1.5	24	24		1.5							
	选修 Elective	TX35000Z 自然科学类 Natural Science	2	32										
		TX35000G 工程技术类 Engineering	2	32										
		TX35000S 社会科学类 Social Science	2	32										
		TX35000R 人文艺术类 Humanities & Arts	2	32										
		TX35000J 经济管理类 Economy & Management	2	32										
		其他类 Other Courses	2	32										
		小计 Sum	49	784	576	16	9	12	7	9				
学 科 基 础 课 Disciplinary Fundamental Courses	20714200 工程制图 Engineer drawing	2.5	40	36	4	2.5								
	212028*1 高等数学 A Advanced Mathematics A	12.5	200	200		5.5	7							
	21208803 线性代数 C Linear Algebra C	2.5	40	40		2.5								
	21201901 复变函数与积分变换 A Function of Complex Variables & Integral Transformation A	3.5	56	56				3.5						

课程 类别 Classi- fication	课程 编号 Code	课程名称 Course Name	学 分 Crs	学 时 Hrs	学时分类 Class Hours		学期学分分配 Semester Credits							
							一 1st	二 2nd	三 3rd	四 4th	五 5th	六 6th	七 7th	八 8th
					讲课 Lec	实验 Lab								
	21202400	概率统计与随机过程 Probability Theory & Stochastic Process	3.5	56	56					3.5				
	212093*0	大学物理 C College Physics C	7	112	112			3.5	3.5					
	21209212	物理实验 B Physics Experiments B	3.5	56	0	56		2	1.5					
	20702700	电路分析 Theory of Circuitry	4.5	72	64	8		4.5						
	20708801	模拟电路技术基础 A Introductory Analog Electronics A	4	64	54	10			4					
	20710701	数字电路技术基础 A Digital Electronics A	4	64	50	14			4					
	21109700	信号与系统 Signal and System	3.5	56	56					3.5				
	20701901	单片机原理及应用 A Single Chip Computer and Application A	3.5	56	46	10				3.5				
	小计 Sum		54.5	872	770	102	10.5	17	16.5	10.5	0	0	0	0
专业主干课 Main Specialty Courses	20715601	通信电子线路 A Communication Electronic Circuits A	3	48	40	8				3				
	20711600	现代可编程逻辑器件 Modern Programming Logic Device	2.5	40	16	24					2.5			
	20704801	光电检测技术 A Photoelectron Detecting Technology A	3.5	56	40	16					3.5			
	21918500	数据结构与 C++ Data Structure and C++	3.5	56	48	8					3.5			
	20715700	数字信号处理 A Digital Signal Processing A	3.5	56	48	8					3.5			
	21909601	数字图象处理 A Digital Image Processing A	3	48	40	8					3			
	21905400	信息论与编码 A Information Theory and Coding A	3	48	40	8					3			
	20715800	电磁场与电磁波 Electromagnetic Waves	3	48	48							3		
	20715900	机器人设计 Robotic Design	2.5	40	30	10						2.5		
	20716000	嵌入式系统及应用 Principle and Application of Embedded Systems	3	48	28	20						3		
	20716101	DSP 技术及应用 A DSP Technologies and Application A	3	48	28	20						3		
	20716200	无线传感器网络原理及应用 Principle and Application of Wireless Sensor Networks	3	48	40	8						3		

课程类别 Classification	课程编号 Code	课程名称 Course Name	学分 Crts	学时 Hrs	学时分类 Class Hours		学期学分分配 Semester Credits							
					讲课 Lec	实验 Lab	一 1st	二 2nd	三 3rd	四 4th	五 5th	六 6th	七 7th	八 8th
	21108401	通信原理 A Communication Principle A	4	64	52	12						4		
	小计 Sum		40.5	648	498	150				3	19	18.5		
专业选修课 Specialty Elective Courses		具体见专业选修课列表	8.5	136										
合计 Sub-total			152.5	2440	1844	268	19.5	29	23.5	22.5	19	18.5		
实践环节 Practical Work	40000100	劳动教育 Labor Education	1	1 周			1							
	44300200	军事训练 Military Training	2	2 周			2							
	40707404	金工实习 D Metalworking Practice D	1.5	1 周			1.5							
	41904300	计算机高级语言课程设计 (C) Course Design for High-level Computer Language (C)	2	1.5 周				2						
	40715300	电子线路教学实习 Electronic circuit Practice	3	2 周					3					
	40715400	电子工程教学实习 Electronic Engineering Practice	4.5	3 周						4.5				
	40711700	信息工程教学实习 Information Engineer Practice	4.5	3 周							4.5			
	40715500	应用系统设计教学实习 Application Systems Design Practice	4.5	3 周								4.5		
	40710200	生产实习 Production Practice	4.5	3 周									4.5	
	40700500	毕业实习与毕业设计 Practice for Graduation and Design for Graduation	24	16 周										24
	小计 Sum		51.5	35.5 周			4.5	2	3	4.5	4.5	4.5	4.5	24
自主学习 Autonomous Learning	ZZ35S	社会调查 Social Investigation	2											
	ZZ09Y	大学英语 (自主学习) College English(Autonomous Learning)	3											
		其它(学科竞赛、发明创造、科研报告) Others(Contest, Invention Innovation & Research Presentation)	3											
	小计		8											
总计 Total			212	2440 +35.5 周	1844	268	24	31	26.5	27	23.5	23	4.5	24

课程 类别 Classi- fication	课程 编号 Code	课程名称 Course Name	学 分 Crs	学 时 Hrs	学时分类 Class Hours		学期学分分配 Semester Credits							
					讲课 Lec	实验 Lab	一 1st	二 2nd	三 3rd	四 4th	五 5th	六 6th	七 7th	八 8th
专业 选修 课列表 Specialty Optional Courses	电子工程方向													
	20716300	片上系统设计 Design of system on a chip	2	32	20	12						2		
	20716400	AVR 单片机原理及应用 Principle &Application of AVR Microcomputer	2	32	24	8							2	
	20716500	射频识别技术 RFID Technology	2	32	24	8							2	
	20716600	工业控制网络 Industrial Control Network	2	32	24	8							2	
	21915400	物联网技术概论 Introduction of Internet of Things	2	32	32	0							2	
	20717500	虚拟仪器技术 Virtual instrument technology	2	32	16	16							2	
	20718603	传感器及检测技术 C Sensors and Measuring Technology C	2	32	24	8							2	
	20711300	微波与天线 Microwave Techniques and Antenna	2.5	40	40								2.5	
	20716700	光纤传感技术及应用 Optical Fiber Sensing Techniques and Applications	3	48	32	16							3	
	信息工程方向													
	20716800	现代通信系统 Modern Communication System	2	32	24	8							2	
	20712904	自动控制原理 D Automatic Control Theory D	2.5	40	40								2.5	
	20716900	误差理论与数据处理 Error Theory and Data Processing	3	48	48								3	
	20717000	图象分析初步 Basic Concept of Image Analysis	2	32	16	16							2	
	21915500	模式识别 B Pattern Recognition B	2	32	24	8							2	
	20717100	机器视觉 Machine Vision	2	32	16	16							2	
	20717200	CDMA 通信原理 The principle of CDMA communication system	2	32	24	8							2	
	20717300	光纤通信 Optical Fiber Communication	2	32	16	16							2	
	21905301	计算机网络 A Computer Networks A	3	48	40	8							3	
	20717400	现代交换技术 Technology of Modern Exchange	2	32	24	8							2	
	20711200	数字语音处理 Digital Speech Processing	2.5	40	30	10							2.5	

注：通识教育选修课学分和自主学习学分未列入具体学期。

电子信息工程专业课程分类统计

	通识教育课程 Liberal Education Courses		学科基础课 Disciplinary Fundamental Courses	专业主干课 Main Specialty Courses	专业选修课 Specialty Elective Courses	实践环节 Practical Work	自主学习 Autonomous Learning	学时总计 Total Hours	学分总计 Total Credits
	必修	选修							
学时/ 学分	592/37	192/12	872/54.5	648/40.5	136/8.5	35.5 周/51.5	8	2440+35.5 周	212
学分所 占比例	23%		26%	19%	4%	24%	4%		100%