

# 电子信息工程

## 一、培养目标

坚持以电子信息技术为主,融电子、计算机于一体的电子电气信息类宽口径工程教育,着重培养理论基础厚、工程素质高、动手能力强、爱国爱民并具有社会责任感的电子信息工程领域的研究型与复合应用型人才。

要求学生具有良好的人文、科学及工程素养,了解电子信息工程领域的理论前沿与发展动态,掌握电子信息的基本理论、基础知识、基本方法及基本技能。学生毕业后具备从事通信、电子和计算机应用等相关领域的专业技术和管理的独立工作能力;培养具有求实创新精神和国际视野的高素质创新人才,预期毕业5年后,能够成长为电子信息工程及其相关领域的技术与科研骨干、高级管理人才。

## 二、基本规格要求

1. 掌握从事工程技术所需的数学、自然科学、工程基础和专业知识,并能够用于解决复杂工程问题。

2. 系统掌握本学科领域必需的应用数学、自然科学和工程科学基础理论知识,包括电路理论、电子技术、电磁场与电磁波、通信系统和网络、信号与信息处理、计算机软硬件基本理论与应用等,具有通过文献研究分析复杂工程问题的能力。

3. 具有创新意识和追求创新的态度,具有综合运用本学科领域的理论和技术手段对本专业新产品、新工艺、新设备进行设计和研发的能力,设计过程中能够综合考虑经济、环境、法律、安全、健康、伦理等制约因素。

4. 获得较好工程实践训练,具有综合运用电子信息工程学科理论和技术手段,分析与解释数据,并通过信息综合解决各类复杂工程问题的基本能力。

5. 具有熟练的计算机应用能力,能够针对复杂工程问题,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,包括对复杂工程问题的预测与模拟,并能够理解其局限性。

6. 熟悉国家宏观经济发展的电子信息类相关产业政策,了解相关行业法律法规,能正确认识和评价重大工程实施对社会、健康、安全、法律以及文化的影响。

7. 具有复杂系统的工程实践经验,能够理解和评价针对复杂工程问题的专业工程实践对环境、社会可持续发展的影响。

8. 具有较好的人文社会科学素养,正确的人生观和价值观,较强的社会责任感和诚实守信的工程职业道德。

9. 具有一定的组织管理能力、良好的人际交往能力、学术交流能力及团队合作能力。

10. 具有国际视野和跨文化的交流、竞争与合作能力,能够就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,包括报告撰写、文稿设计、发言陈述、清晰表达或回应指令。

11. 掌握本专业和了解其他学科交叉的新理论、新方法和新技术,具有较好的工程管理科学基础和经济决策方法,具备多学科环境研究学习的能力。

12. 掌握检索和获取信息的基本方法,了解本学科领域的前沿发展现状和趋势,具有自主学习和终身学习的意识、具备适应社会发展的能力。

### 三、培养特色

本专业培养特色是“以电子信息技术为核心，融电气、电子、计算机于一体的电子电气信息类宽口径研究型教育”。着重培养学生在电子技术、信号处理和通信系统等领域的理论基础和实践应用能力，多项专业竞赛和多个校企联合实习基地为学生们提供了专业技能提高的平台，致力使学生成为品学兼优、理论联系实际、具有创新意识和基本能力的工程技术人才。

### 四、学制、毕业基本要求及学位授予

1. 本科基本学制 4 年，弹性学习年限 3—6 年，按照学分管理制度管理。
2. 本专业学生毕业最低学分数为 170 学分，其中各类别课程及环节要求学分数如下表：

课程类别	通识必修	学门核心	学类核心	专业核心	专业选修	通识选修	集中实践	合计
学分数	27	24	43	11	25	8	32	170

3. 学生修满培养方案规定的必修课、选修课及有关环节，达到规定的最低毕业学分数，并修完规定必修但不记学分的所有课程和环节，德、智、体合格，即可毕业。满足学位授予相关文件要求的，授予工学学士学位。

### 五、课程设置及学分分布

#### (一) 通识教育课程〔必修 27+ (6) 学分+选修 8 学分〕

通识教育课程包括必修和选修两部分。通识选修课程按《湖南大学通识选修（文化素质教育）课程方案》实施，通识必修课程如下：

编码	课程名称	学分	备注
GE01101	毛泽东思想和中国特色社会主义理论体系概论	3+ (3)	
GE01039	思想道德修养与法律基础	1.5+ (1.5)	
GE01100	形势与政策	0.5+ (1.5)	
GE01102	中国近现代史纲要	2	
GE01103	马克思主义基本原理（上）	2	
GE01104	马克思主义基本原理（下）	2	
GE01012（-15）	大学英语	8	
GE01088	计算机基本能力测试	0.5	
GE01093	计算机导论与程序设计	2.5	
GE01107（-13）	心理素质与生涯发展	1	
GE01089（-92）	体育	4	

#### (二) 学门核心（24 学分，7 门课程）

编码	课程名称	学分	备注
GE03025	高等数学 A（1）	5	
GE03026	高等数学 A（2）	5	
GE03003	线性代数 A	3	
GE03004	概率论与数理统计 A	3	
GE03005	普通物理 A（1）	3	
GE03006	普通物理 A（2）	3	
GE03007（08）	普通物理实验 A	2	

**(三) 学类核心 (43 学分)**

编码	课程名称	学分	备注
EC04011	电路	4	必修
EC04012	电路实验	1	必修
EC04013	电磁场与波	3	必修
EC04014	模拟电子技术基础	4	必修
EC04015	模拟电子技术实验	1	必修
EC04016	数字电子技术基础	4	必修
EC04017	数字电子技术实验	1	必修
EC04018	微机原理及其应用	4	必修
EC04019	微机原理及其应用实验	1	必修
EC04020	积分变换	2	必修
EC04021	复变函数	2	必修
EC04022	工程图学	3	必修
EC04023	自动控制原理	4	必修
EC04024	信号与系统	3	必修
EC04025	传感与检测技术	3	必修
EC05003	电力电子技术基础	3	必修

**(四) 专业核心 (11 学分)**

编码	课程名称	学分	备注
EC05012	通信电路	4	必修
EC05013	通信原理	4	必修
EC05014	数字信号处理	3	必修

**(五) 专业选修课 (25 学分)**

编码	课程名称	学分	备注
EI07005	ASIC 设计初步	2	
EI06019	DSP 技术及其应用	2	
EC06001	EDA 技术基础	2	
EI06021	电磁兼容技术	2	
EI05017	光纤通信	2	
EI07006	计算机网络	2	
EI06028	微波与天线	2	
EI06029	卫星通信	2	
EI06031	无线通信技术	2	
EI05013	通信系统仿真	2	
EI06034	移动通信	2	
EC06065	语音信号处理	2	
EC06066	射频电子电路	2	
EI07003	信息论与编码技术	2	
EC06067	认知无线电技术	2	
EI06025	数字电视技术	2	
EC06068	超高频快速电路的信号完整性	2	
EC06069	集成电路设计软件模拟与仿真	2	
EI05011	嵌入式系统及其应用	2	
IA07004	科学与工程计算方法及应用	3	
EC06046	软件技术基础	3	

续表

编码	课程名称	学分	备注
EI05010	数字图像处理	2	
EC06033	智能控制	2	
EC06070	模式识别	2	
IA06003	PLC 技术及其应用	2	
EC06015	机器人及其控制	2	
EC06071	机器视觉检测	2	
EC06018	控制系统仿真技术	2	
IA06011	人工智能导论	2	
EC06060	数据挖掘技术	2	
EC06063	数控系统	2	
EC06025	系统辨识	2	
EC06026	系统工程导论	2	
EC06027	现场总线技术及应用	2	
EC07013	现代控制理论	2	
EC06031	运动控制系统	2	
EC06072	智能信息处理	2	
EC06035	自动化专业英语	2	
EC06073	大数据处理	2	
EC06074	C++面向对象程序设计	2	
EC06075	自适应控制	2	
EC06076	复杂网络导论	2	
EI05014	计算机视觉导论	2	
EC06077	移动平台嵌入式系统设计与应用	2	
EC06078	MEMS 基础	2	
IA07001	测控系统工程设计	2	
EC06079	光电测量技术	2	
EC06080	MATLAB 程序设计	2	
EC06081	无线传感技术	2	
IA06010	精密测量技术	2	
EC06082	虚拟仪器	2	
EC06083	智能仪器	2	
EC06084	过程控制与自动化仪表 B	2	
EC06085	电力系统分析	2	
EC06086	发电厂电气主系统	2.5	
EC06087	电力系统继电保护原理	2.5	
EC06088	高电压技术	2	
EC06089	电力系统自动控制技术	2	
EC06020	配电网络	2	
EC06008	电力系统微机保护	2	
EC06061	电力系统可靠性	2	
EC06090	电能质量检测与控制	2	
EC06091	电力系统优化基础	2	
EC06055	智能电网概论	2	
EC06007	电力系统规划	2	
EC06092	电机控制技术	2.5	
EC06093	电机设计	2.5	
EC06094	电力电子装置设计	2	
EC06095	电力伺服技术	2	

续表

编码	课程名称	学分	备注
EC06096	电气测量与电机试验技术	2	
EC07008	电器学	2	
EC06097	电气装备电磁设计基础	2	
EC06098	电气装备机械设计基础	2	
EC06045	Matlab 与电机系统仿真	2	
EC06099	微特电机技术	2	
EC06100	电力电子与电机系统可靠性	2	
EC06101	电力系统过电压	2	
EC06102	高压电力设备在线监测及故障诊断	2	
EC06103	特高压输电技术	2	
EC06013	发电厂动力部分	2	
EC06006	电力技术经济	2	
EC06041	电力市场	2	
EC06002	电气工程 CAD 技术	2	
EC06036	电气工程新技术导论	2	
EC06042	新能源发电技术	2	
EC06104	电气工程专业英语	2	
EC06105	建筑电气	2	
EC06106	通信原理 B	2	
IA06012	数字信号处理 B	2	

注：前面 19 门课程至少选修 12 学分，剩余学分既可在本专业选修，也允许跨专业、跨学院选修课程。

### (六) 集中实践 (32 学分)

编码	课程名称	学分	备注
GE09030	中文写作实训	1	
GE09006	金工实习 A	2	
GE09020	电工实习	2	
GE09020	电子实习	2	
EC10007	电子技术综合设计	2	
EC10008	微机应用系统综合设计	2	
EC10009	认识实习	1	
EC10010	生产实习	2	
EC10011	专业课程设计	2	
EC10012	专业综合实验	1	
EC10013	导师课程	1	
EC10014	毕业实习	2	
EC10015	毕业设计	12	

注：在读期间参加 SIT、学科竞赛，经学院认定，可将实践学分记录进成绩单，但此成绩不能替代其他课程学分，且不参与毕业学分计算。

## 六、课程责任教师一览表

序号	姓名	职称	学历学位	专业特长	课程 (专业核心、专业选修、通识选修)
1	刘宏立	教授	博士	现代网络与通信技术、智能信息处理与传输技术	数字信号处理 (专业核心) 计算机网络 (专业选修)
2	黎福海	教授	硕士	电子技术应用、嵌入式系统及其应用	模拟电子技术基础 (专业核心)、数字电子技术基础 (专业核心)

续表

序号	姓名	职称	学历学位	专业特长	课程（专业核心、专业选修、通识选修）
3	王 玲	教授	博士	现代网络通信技术、数字信号处理	通信原理（专业核心）、无线通信技术（专业选修）
4	周炎涛	教授	博士	计算机应用	模拟电子技术基础（专业核心）、计算机网络（专业选修）
5	彭 义	副教授	学士	电子技术应用、电子设计自动化	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）
6	曾文海	副教授	硕士	微波技术	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）
7	吴桂清	副教授	博士	嵌入式系统、信号处理	微机原理及其应用（专业核心）、嵌入式系统及其应用（专业选修）
8	朱 青	副教授	博士	信号处理技术、现代通信技术	通信电路（专业核心）、数字信号处理（专业核心）
9	王绍源	副教授	博士	数字信号处理、数字图像处理	通信原理（专业核心）、软件技术基础（专业选修）、数字图像处理（专业选修）
10	毛建旭	副教授	博士	数字图像处理、模式识别与人工智能	模拟电子技术基础（专业核心）、软件技术基础（专业选修）、数字图像处理（专业选修）
11	苏 娟	副教授	硕士	嵌入式系统及应用、电子技术应用、信号处理技术	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）
12	全惠敏	副教授	博士	数字语音处理、模式识别与人工智能、微波通信	通信电路（专业核心）、自动控制原理（专业核心）、语音信号处理（专业选修）
13	王炼红	副教授	博士	现代网络通信技术、语音图像的处理与传输、数据挖掘	信号与系统（专业核心）、自动控制原理（专业核心）、数字电视技术（专业选修）
14	李 成	副教授	博士	数字信号处理、故障诊断	信号与系统（专业核心）、信息论与编码技术（专业选修）、光纤通信（专业选修）
15	黄文清	副教授	博士	信息获取与处理	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）
16	何洪英	副教授	博士	图像处理、信号检测、高压外绝缘检测	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）
17	毛旭光	讲师	硕士	电子设计自动化、电子技术与应用	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）、EDA 技术基础（专业选修）
18	李元良	讲师	硕士	移动通信、微波通信	信号与系统（专业核心）无线通信技术（专业选修）、移动通信（专业选修）、微波与天线（专业选修）
19	邓林峰	讲师	博士	电子技术与应用	信号与系统（专业核心）射频电子电路（专业选修）、ASIC 设计初步（专业选修）
20	代 扬	讲师	硕士	电工理论与电子技术、电子技术及应用	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）
21	程 栋	讲师	硕士	智能仪器	模拟电子技术基础（专业核心）、数字电子技术基础（专业核心）

续表

序号	姓名	职称	学历学位	专业特长	课程 (专业核心、专业选修、通识选修)
22	马子骥	讲师	博士	无线通信	数字信号处理 (专业核心)、DSP 技术及其应用 (专业选修)
23	尹骏刚	讲师	博士	微波与天线	电磁场与波 (专业核心)、微波与天线 (专业选修)
24	肖 靖	讲师	博士	集成光电系统	模拟电子技术基础 (专业核心)、数字电子技术基础 (专业核心)
25	颜 志	讲师	博士	通信技术	数字电子技术基础 (专业核心)、卫星通信 (专业选修)、认知无线电技术 (专业选修)
26	刘 强	讲师	博士	微波与天线	电磁场与波 (专业核心)、电磁兼容技术 (专业选修)
27	卢继武	副教授	博士	集成电路设计	超高频快速电路的信号完整性 (专业选修)、集成电路设计软件模拟与仿真 (专业选修)

## 七、专业责任教授

序号	姓名	职称	学历学位	专业特长	承担授课课程
1	刘宏立	教授	博士	现代网络与通信技术、智能信息处理与传输技术	计算机网络、数字信号处理

# Electronic and Information Engineering

## I . Objectives

Implement wide-caliber and electronic information engineering (EIE) education, which emphasizes on electronic information techniques, and combines with computer engineering. Strengthen their theoretical background, improve their engineering knowledge and practical capability. Cultivate the research and compound talents in the field of electronic information engineering with patriotic and the sense of social responsibility.

It requires undergraduates to have good humanistic, science and engineering knowledge, to understand the modern theory and trends in the field of electronic information engineering, and to master the basic theories, methods and skills of electronic information. After graduation, the students are capable of working independently with professional skills and management capability in the field of communications, electronics, computer engineering, and etc. The students are fostered to be the high-caliber creative talents, who possess the innovation spirit and international vision, and they are expected to be key researchers and/or senior managers in 5 years after graduation in the EIE or EIE-related fields.

## II . Basic Specifications

The students, upon graduation, should have acquired the following knowledge and abilities:

1. Mastering of sufficient knowledge of mathematics, natural sciences, the basics of the engineering and the professional expertise, and the ability to apply what they have learnt to solve the complex engineering problems.

2. Systematic mastery of the EIE-oriented applied mathematics, natural science and the fundamentals of EIE-related core knowledge, including circuit theory, electronic technologies, electro-magnetic (EM) field and wave, communication systems and networks, signal and information processing, computer hardware and software technologies, etc. and the ability to analyze complex engineering problems through literature study.

3. Pursuit of innovation; the ability to use a combination of theories and technologies to design, research and develop new products, new processes, new instruments; and synthetically considering the economic, environmental, legal, security, health, and ethical constraints during the design process.

4. Appropriate internship in practical engineering; combining the EIE's basic theories and technologies to solve complicated engineering problems.

5. Proficiency in the utilization of computers to develop, select and apply proper technologies, resources, latest EIE-related CAD tools and software. Gaining insight of the complex engineering projects by simulations (with the limitations of this approach in mind) .

6. Acquaintance with the EIE-related national policies in the macroeconomic development; the knowledge of laws and regulations of the relevant industry sectors; and the ability to discern and evaluate the influence of the key projects on society, health, security, jurisdiction, and culture.



7. Experiences of internship on complex engineering systems, and the ability to understand and evaluate the influence of the implementation of complex engineering projects on the sustainable development of environment and society.

8. Relatively good in humanity social sciences; justified philosophies of life and value; the professional ethics of honesty; and a strong sense of social responsibility.

9. Reasonable abilities of organization and management; good capabilities of interpersonal and academic communications, and team-work spirit.

10. The abilities to communicate, compete, and cooperate with international vision and intercultural contexts, and be capable of effectively communicating and exchanging opinion with industry peers and the public communities on complex engineering projects including the report writing, document design, presentation, and the clarity of the expression or the response to requests.

11. The ability to understand and grasp disciplinary and interdisciplinary new theories, new methods, and new technologies; strong foundations of engineering management and good methods of economic decision; and the ability to study in a multi-disciplinary environment.

12. Mastery of the skills of information extracting and acquisition; be familiar with the leading-edge research frontiers and trends in EIE or EIE-related fields. Developing independent and lifelong learning virtue, which is adaptable to the changing world.

### III. Characteristics

This program is aimed to provide “wide-caliber electrical and electronic information engineering education”, which emphasizes on electronic information techniques, and combines with electrical and computer engineering. The emphasis is to cultivate the students’ theoretical basis and practical ability in the fields of electronic technology, signal processing and communication system. The platforms, which can be provided to students to improve their skills, include a number of professional competitions, and the practice base constructed by school and enterprise/company together. This program is to train the students to become engineering and technical talents with related theory and practice ability, and excellent personality and innovative consciousness.

### IV. Length of Schooling, Basic Requirements for Graduation, and Degree Conferment

1. The length of schooling for undergraduate studies is four years, with a flexible length lasting from 3 to 6 years, based on the regulation of credit system.

2. Students of Electronic and Information Engineering are expected to complete a minimum of 170 credits upon graduation, and the required credits for different courses are illustrated in the following table.

Course Category	Required General Education Courses	Introductory Major Courses	Major Survey Courses	Required Core Courses	Restricted Electives	General Education Electives	Intensive Practice	Total
Credits	27	24	43	11	25	8	32	170

3. On successful completion of the prescribed courses and intensive practice, students, who are qualified enough to meet all the requirements of this program, will thus be awarded the Bachelor’s Degree of Engineering.

### V. Curriculum and Credits

1. General Education Courses [required 27 + (6) + elective 8 credits]

The general education courses consist of required courses and elective courses. General education electives are designed according to the *Curriculum Design of General Education Electives of Hunan University*. Required general education courses are illustrated in the following table.

Code	Course Title	Credit(s)	Remarks
GE01101	Introduction to Maoism and Theoretical System of Socialism with Chinese Characteristics	3+ (3)	
GE01039	Moral Cultivation and Law Basics	1.5+ (1.5)	
GE01100	Current Situation and Policies	0.5+ (1.5)	
GE01102	Outline of Modern Chinese History	2	
GE01103	Fundamentals of Marxism I	2	
GE01104	Fundamentals of Marxism II	2	
GE01012(-15)	College English	8	
GE01088	Computer Proficiency Test	0.5	
GE01093	Introduction to Computer Science and Programming	2.5	
GE01107(-13)	Psychological Health & Career Planning	1	
GE01089(-92)	Physical Education	4	

## 2. Introductory Major Courses(24 credits)

Code	Course Title	Credit(s)	Remarks
GE03025	Advanced Mathematics A( I )	5	
GE03026	Advanced Mathematics A( II )	5	
GE03003	Linear Algebra A	3	
GE03004	Probability and Mathematical Statistics A	3	
GE03005	General Physics A( I )	3	
GE03006	General Physics A( II )	3	
GE03007(08)	Experiments in General Physics A	2	

## 3. Major Survey Courses (43 credits)

Code	Course Title	Credit(s)	Remarks
EC04011	Electric Circuit	4	
EC04012	Electric Circuit Experiments	1	
EC04013	Electromagnetic Field and Wave	3	
EC04014	Fundamental of Analog Electronic Circuits	4	
EC04015	Experiments on Analog Circuits	1	
EC04016	Fundamental of Digital Electronic Circuits	4	
EC04017	Experiments on Digital Circuits	1	
EC04018	Principle and Application of Microcomputer	4	
EC04019	Experiments on Principle and Application of Microcomputer	1	
EC04020	Integral Transformation	2	
EC04021	Complex Variables Functions	2	
EC04022	Engineering Graphics	3	
EC04023	Principle of Automatic Control	4	
EC04024	Signals and Systems	3	
EC04025	Sensor and Detector Technology	3	
EC05003	Fundamentals of Power Electronics	3	

## 4. Required Core Courses (11 credits)

Code	Course Title	Credit(s)	Remarks
EC05012	Communication Circuits	4	
EC05013	Principle of Communications	4	
EC05014	Digital Signal Processing	3	

## 5. Restricted Electives (25 credits)

Code	Course Title	Credit(s)	Remarks
EI07005	Introduction to ASIC Design	2	
EI06019	DSP Technology and Its Applications	2	
EC06001	Fundamental of Electronic Design Automation	2	
EI06021	Electromagnetic Compatibility	2	
EI05017	Optical Fiber Communications	2	
EI07006	Computer Networks	2	
EI06028	Microwaves and Antennas	2	
EI06029	Satellite Communication	2	
EI06031	Wireless Communication Technology	2	
EI05013	Simulation of Communication Systems	2	
EI06034	Introduction of Mobile Communication	2	
EC06065	Speech Signal Processing	2	
EC06066	Radio-frequency Electronic Circuits	2	
EI07003	Information Theory and Coding Techniques	2	
EC06067	Cognitive Radio	2	
EI06025	Digital TV Technologies	2	
EC06068	Signal Integrity of GHz Circuits	2	
EC06069	IC Design by Cadence Simulation	2	
EI05011	Embedded System and Its Applications	2	
IA07004	Scientific and Engineering Calculation Method and Application	3	
EC06046	Fundamentals of Software Technology	3	
EI05010	Digital Image Processing	2	
EC06033	Intelligent Control	2	
EC06070	Pattern Recognition	2	
IA06003	PLC Technique and Applications	2	
EC06015	Robotics and Robot Control	2	
EC06071	Machine Vision Inspection Technology	2	
EC06018	Control System Simulation Technology	2	
IA06011	Introduction to Artificial Intelligence	2	
EC06060	Data Mining Technology	2	
EC06063	Computer Numerical Control System	2	
EC06025	System Identification	2	
EC06026	Introduction to System Engineering	2	
EC06027	Field Bus Technology and Applications	2	
EC07013	Modern Control Theory	2	
EC06031	Motion Control System	2	
EC06072	Intelligent Information Processing	2	
EC06035	Specialized English for Automation	2	
EC06073	Big Data Processing	2	
EC06074	C++ Object-oriented Programming	2	
EC06075	Self-Adaptive Control	2	
EC06076	Introduction to Complex Network	2	
EI05014	Introduction to Computer Vision	2	

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Code	Course Title	Credit(s)	Remarks
EC06077	Embedded System Design and Applications based on Mobile Platforms	2	
EC06078	Fundamentals of MEMS	2	
IA07001	Engineering Design of Measurement and Control System	2	
EC06079	Photoelectric Detection Technology	2	
EC06080	MATLAB Programming	2	
EC06081	Wireless Sensing Technology	2	
IA06010	Precision Measurement Technology	2	
EC06082	Virtual Instrument	2	
EC06083	Intelligent Instrument	2	
EC06084	Process Control and Automation Instrumentation B	2	
EC06085	Power System Analysis	2	
EC06086	Primary Electrical System of Power Plant	2.5	
EC06087	Protective Relaying in Power System	2.5	
EC06088	High Voltage Technology	2	
EC06089	Power System Automatic Control Technology	2	
EC06020	Distribution Network	2	
EC06008	Microcomputer Protection of Power System	2	
EC06061	Power System Reliability	2	
EC06090	Power Quality Detection and Control	2	
EC06091	Fundamentals of Power System Optimization	2	
EC06055	An Introduction to the Smart Grid	2	
EC06007	Power System Planning	2	
EC06092	Electric Motor Control Technique	2.5	
EC06093	Electrical Machines Design	2.5	
EC06094	Power Electronic Device Design	2	
EC06095	Power Servo Technique	2	
EC06096	Electrical Measurement and Electrical Machine Testing Technology	2	
EC07008	Electrical Appliances	2	
EC06097	Fundamentals of Electrical Equipment Electromagnetic Design	2	
EC06098	Fundamentals of Electrical Equipment Mechanical Design	2	
EC06045	Matlab and Electrical Machine System Simulation	2	
EC06099	Micro and Special Motor Technology	2	
EC06100	Power Electronics and Electrical Machine System Reliability	2	
EC06101	Over-voltage in Power Systems	2	
EC06102	On-line Monitoring and Fault Diagnosis of High Voltage Power Equipment	2	
EC06103	Ultra High Voltage Transmission Technology	2	
EC06013	Power Equipment of Power Plant	2	
EC06006	Technical Economics in Electricity	2	
EC06041	Electricity Markets	2	
EC06002	CAD Technology in Electrical Engineering	2	
EC06036	Introduction to New Technology of Electrical Engineering	2	
EC06042	Renewable Resource Generation	2	
EC06104	Specialized English for Electrical Engineering	2	
EC06105	Building Electricity	2	
EC06106	Principle of Communications B	2	
IA06012	Digital Signal Processing B	2	

Note: At least 12 credits should be elected, in the first 19 courses. The remaining credits can be elected in major, cross-major or cross-college elective courses.

## 6. Intensive Practice (32 credits)

Code	Course Title	Credit(s)	Remarks
GE09030	Chinese Writing Training	1	1 week
GE09006	Smith-craft Practice A	2	2 weeks
GE09020	Electrical Engineering Practice	2	2 weeks
GE09020	Electronic Engineering Practice	2	2 weeks
EC10007	Comprehensive Design of Electronics Technique	2	2 weeks
EC10008	Comprehensive Design of Microcomputer Application System	2	2 weeks
EC10009	Professional Cognitive Practice	1	1 week
EC10010	Professional Productive Practice	2	2 weeks
EC10011	Specialty Course Project	2	2 weeks
EC10012	Specialty Comprehensive Experiment	1	1 week
EC10013	Tutor Course	1	1 week
EC10014	Undergraduate Practice	2	2 weeks
EC10015	Undergraduate Thesis	12	12 weeks

Note: Practice credits can be added into the academic transcript, when the participation of SIT or discipline competition is affirmed by college. However, the added practice credits can not be used to replace course credits and are not included in the required credits for graduation.

## VI. Course Instructor List

No.	Name	Academic Title	Educational Background	Research Areas	Courses
1	Liu Hongli	Professor	Ph. D	Modern Network and Communication Technology, Smart Information Processing and Transmission Technology	Digital Signal Processing, Computer Network
2	Li Fuhai	Professor	Master	Electronic Technology and Application, Embedded System and Application	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
3	Wang Ling	Professor	Ph. D	Modern Network Communication Technology, Digital Signal Processing	The Principle of Communication, Wireless Communication Technology
4	Zhou Yantao	Professor	Ph. D	Computer Application	Fundamental of Analog Electronic Circuits, Computer Network
5	Peng Yi	Associate Professor	Bachelor	Electronic Technology and Application, Automation of Electronic Design	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
6	Zeng Wenhai	Associate Professor	Master	Microwave Technology	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
7	Wu Guiqing	Associate Professor	Ph. D	Embedded System, Signal Processing	Principle and Application of Microcomputer, Embedded System and Its Application
8	Zhu Qing	Associate Professor	Ph. D	Signal Processing, Modern Communication Technology	Communication Circuit, Digital Signal Processing

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No.	Name	Academic Title	Educational Background	Research Areas	Courses
9	Wang Shaoyuan	Associate Professor	Ph. D	Digital Signal Processing, Digital Image Processing	Communication Principle Fundamental of Software Technology, Digital Image Processing
10	Mao Jianxu	Associate Professor	Ph. D	Digital Image Processing, Pattern Recognition and Artificial Intelligence	Fundamental of Analog Electronic Circuits, Fundamental of Software Technology, Digital Image Processing
11	Su Juan	Associate Professor	Master	Embedded System and Its Application, Electronic Technology and Application; Signal Processing	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
12	Quan Huimin	Associate Professor	Ph. D	Speech Signal Processing, Pattern Recognition and Artificial Intelligence, Microwave Communication	Communication Circuit, The principle of Automation Control Speech Signal Processing
13	Wang Lianhong	Associate Professor	Ph. D	Modern Network Communication Technology, Speech Signal Processing, Data Mining	Signals and Systems, The Principle of Automation Control, Digital TV Technologies
14	Li Cheng	Associate Professor	Ph. D	Digital Signal Processing, Trouble Shooting	Signals and Systems, The Theory of Information and Coding, Optical Fiber Communications
15	Huang Wenqing	Associate Professor	Ph. D	Information Acquisition and Processing	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
16	He Hongying	Associate Professor	Ph. D	Image Processing, Signal Detection, High Pressure Outer Insulation Test	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
17	Mao Xuguang	Assistant Professor	Master	Automation of Electronic Design, Electronic Technology and Application	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits, Fundamental of Electronic Design Automation
18	Li Yuanliang	Assistant Professor	Master	Mobile Communication, Microwave Communication	Signals and Systems, Wireless Communication, Mobile Communication, Microwave and Antenna
19	Deng Linfeng	Assistant Professor	Ph. D	Electronic Technology and Application	Signals and Systems, Radio-frequency Electronic Circuits, Introduction to ASIC Design
20	Dai Yang	Assistant Professor	Master	Electrical Theory and Electronics, Electronic Technology and Application	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits

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No.	Name	Academic Title	Educational Background	Research Areas	Courses
21	Cheng Dong	Assistant Professor	Ph. D	Intelligent Instrument	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
22	Ma Ziji	Assistant Professor	Master	Wireless Communication	Digital Signal Processing, Digital Signal Processor and Its Applications
23	Yin Jungang	Assistant Professor	Ph. D	Microwave and Antenna	Field and Wave Electromagnetics, Microwaves and Antennas
24	Xiao Jing	Assistant Professor	Ph. D	Integrated Optoelectronic System	Fundamental of Analog Electronic Circuits, Fundamental of Digital Electronic Circuits
25	Yan Zhi	Assistant Professor	Ph. D	Communication Technology	Fundamental of Digital Electronic Circuits, Cognitive Radio, Satellite Communications
26	Liu Qiang	Assistant Professor	Ph. D	Microwave and Antenna	Field and Wave Electromagnetics, Electromagnetic Compatibility
27	Lu Jiwu	Associate Professor	Ph. D	IC Design	IC Design by Cadence Simulation Signal, Integrity of GHz Circuits

## VII. Course Scheduler

No.	Name	Academic Title	Educational Background	Research Areas	Courses
1	Hongli Liu	Prof.	Ph. D	Modern Network and Communication Technology, Smart Information Processing and Transmission Technology	Computer Network, Digital Signal Processing

(翻译人:肖靖、全惠敏、卢继武)