测控技术与仪器

一、培养目标

坚持以测控技术为主，融电子、计算机于一体的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，具有创新精神和国际视野的测控与仪器系统领域研究型、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，了解仪器科学与工程领域的理论前沿与发展动态，掌握信息科学的基础方法与技术；掌握传感与检测技术、电气测量技术、计量测试技术、自动控制技术与智能信息处理技术的基本理论与方法；掌握测控与仪器系统的设计与分析方法；能运用测控技术与智能信息处理技术的专业知识与工具。预期毕业 5 年后，能够成长为仪器仪表、测试计量、自动控制、电子技术等相关行业与部门工作的工程技术骨干人才和管理人才。

二、基本规格要求

本专业毕业生应在测试计量技术，测控与仪器系统设计分析，尤其是电测相关理论与技术专业方向中受到全面的基本理论和工程实践训练，具有以下素质和能力：

1. 掌握从事工程技术所需的数学、自然科学和专业知识，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、计算机软硬件、传感与检测技术、电气测量技术、计量技术、自动控制理论与智能信息处理等，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和意识；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，具有综合运用测控与仪器理论和技术手段，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解决复杂工程问题，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仪器仪表类相关产业政策，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. 较好的人文社会科学素养，正确的人生观和价值观，诚实守信的工程职业道德，社会责任感强。

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、专业培养特色

本专业不断凝练历史传承，紧跟学科前沿，密切联系行业发展与需求，致力于通过厚基础、宽口径的电气信息类工程教育，培养理论基础扎实、接受充分工程实践训练的测控与仪器领域人才，发扬电测技术人才培养优势，形成创新人才培养特色。

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，按照学分制度管理。

（2）测控技术与仪器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）

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

（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
IA05008	误差理论与数据处理	3	必修
EC05015	测控电路	4	必修
EC05016	电气测量技术	4	必修

（五）专业选修课（25 学分）

编码	课程名称	学分	备注
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	
EC06090	电能质量检测与控制	2	
IA07001	测控系统工程设计	2	
EC06081	无线传感技术	2	
IA06003	PLC 技术及其应用	2	
EC06027	现场总线技术及应用	2	
EC06071	机器视觉检测	2	
EI06019	DSP 技术及其应用	2	
EI06021	电磁兼容技术	2	
EC06001	EDA 技术基础	2	
EC06078	MEMS 基础	2	
EC06079	光电测量技术	2	
EC06080	MATLAB 程序设计	2	
IA06010	精密测量技术	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	
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	

续表

编码	课程名称	学分	备注
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	
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	
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	
EI07005	ASIC 设计初步	2	
EI05017	光纤通信	2	
EI07006	计算机网络	2	
EC06067	认知无线电技术	2	
EI06025	数字电视技术	2	
EC06106	通信原理 B	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	
IA06012	数字信号处理 B	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	
EI07003	信息论与编码技术	2	
EC06033	智能控制	2	
EC06070	模式识别	2	

续表

编码	课程名称	学分	备注
EC06015	机器人及其控制	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	
EC07013	现代控制理论	2	
EC06031	运动控制系统	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	
EC06072	智能信息处理	2	
EI05010	数字图像处理	2	
EC06077	移动平台嵌入式系统设计与应用	2	
EI05014	计算机视觉导论	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	1 周
GE09006	金工实习 A	2	2 周
GE09020	电工实习	2	2 周
GE09020	电子实习	2	2 周
EC10007	电子技术综合设计	2	2 周
EC10008	微机应用系统综合设计	2	2 周
EC10009	认识实习	1	1 周
EC10010	生产实习	2	2 周
EC10011	专业综合实验	2	2 周
EC10012	专业课程设计	1	1 周
EC10013	导师课程	1	1 周
EC10014	毕业实习	2	2 周
EC10015	毕业设计	12	12 周

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	滕召胜	教授	博士	智能检测、信息处理	测控电路、电能质量检测与控制
2	孟志强	教授	博士	工业过程自动化控制、电力电子技术及应用	微机原理及其应用、智能仪器
3	刘波峰	副教授	学士	电气测量、现场总线	传感与检测技术、过程控制与自动化仪表 B
4	杨唐胜	副教授	博士	智能检测、现场总线	信号与系统、现场总线技术及应用
5	唐　求	副教授	博士	虚拟仪器、信息处理	自动控制原理、电磁兼容技术
6	郭斯羽	副教授	博士	图像处理、机器视觉	误差理论与数据处理、数字图像处理

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）
7	温　和	副教授	博士	智能检测、信息处理	电气测量技术、科学与工程计算方法及应用
8	陈　桃	讲师	硕士	智能检测、信息处理	误差理论与数据处理、EDA 技术基础
9	唐　璐	讲师	博士	自动控制、系统科学、人工智能	信号与系统、PLC 技术及其应用
10	高云鹏	副教授	博士	智能信息处理、电气测量、嵌入式系统	电气测量技术、虚拟仪器
11	欧阳博	助理教授	博士	传感器网络、复杂网络	传感与检测技术、MEMS 基础
12	荣　宏	讲师	硕士	智能检测	微机原理及其应用、DSP 技术及其应用

七、专业责任教授

序号	姓名	职称	学历学位	专业特长	负责专业核心课程
1	滕召胜	教授	博士	智能检测、信息处理	测控电路、电能质量检测与控制

Measurement Control Technology and Instruments

Ⅰ. Objectives

The program is based on the general engineering education which focuses on measurement and control technologies and also integrates knowledge in electronics and computers. The program puts an emphasis on the training of research and interdisciplinary application-oriented professionals in the area of measurement and control systems and instruments, with solid theoretical bases, high qualities in engineering, good practical skills, and international perspective.

Students are required to obtain attainment in humanity and arts, and professionalism in sciences and engineering, to understand the leading edge and development trend of the area of instrumentation science and engineering, to master the theories and methods of sensors and detection technology, measurement technologies for electrics, metering and testing technologies, control, and intelligent information processing, to grasp the design and analysis methodology of measurement and control systems and instruments, and to utilize with familiarity the specialized knowledge and tools of measurement and control and intelligent information processing. Students who achieve the objectives are expected to be outstanding technicians and management professionals competent to positions in industries and sectors relevant to instrumentation, testing and metering, control, and electronics, after 5 years of his/her graduation.

Ⅱ. Basic Specifications

The students, at graduation, should have acquired the following professionals and abilities, through full scope training in the theories and engineering practices in the areas of measurement and testing technology, metering technology, measurement and control system and instrument design and analysis, and in particular the theories and technologies relevant to the measurement of electrical quantities.

1. Sufficient knowledge of mathematics, natural sciences, and management required by careers in engineering and technology, and the ability to apply these knowledge and skills on the solving of complex engineering problems.

2. Systematic mastery of the necessary disciplinary fundamentals, such as circuit theory, electronic technologies, computer hardware and software technologies, sensors and detection technology, measurement technology of electrics, metering technology, control theory, intelligent information processing, etc., and the ability to analyze complex engineering problems through literature study.

3. Pursuit of innovation; the ability to synthetically utilize the theories and technologies of the Discipline in the design, research and development of new products, new processes, and new equipment; and the overall consideration of economic, environmental, legal, security, health, and ethical constraints during the design process.

4. Good training in engineering practices; familiar use of computers; and the basic ability to syn-

thetically apply measurement and instrumentation theory and technologies on the solving of varieties of complicated engineering problems.

5. Skilled utilization of computers to develop, choose, and apply proper technologies, resources, modern engineering tools, and IT tools to achieve the solution for complex engineering problems as well as its prediction and simulation, and the ability to understand the limitations of this approach.

6. The familiarity of the development policies of the national macroscopic economy for industries relevant to instruments; the knowledge of laws and regulations of the relevant industry sectors; and the ability to correctly understand and evaluate the impacts of the implementations of significant projects on society, health, security, jurisdiction, and culture.

7. Experiences of engineering practices on complex systems, and the ability to understand and evaluate the impacts of complex engineering problem oriented professional engineering practices on the sustainable development of environment and society.

8. Fair attainments in humanity & arts and social sciences; justified philosophies of life and value; the professional ethics of honesty for engineers; and a strong sense of responsibility to the society.

9. A reasonable level of organization and management capability; good common and academic communication and team-work abilities.

10. The abilities to communicate, compete, and cooperate in international and intercultural contexts, and to perform effective communication and conversation on complex engineering problems with industrial peers and the public, including the composition of reports, document design, presentation, and the clear expression of or response to requests.

11. The ability to understand and grasp disciplinary and interdisciplinary new theories, new methods, and new technologies; fair foundations on engineering management and economic decision making; and the ability to study in a multi-disciplinary context.

12. Mastery of the skills of information retrieval and acquisition; the understanding of the disciplinary frontier and development trend; and the ability of lifelong learning and adaption to the changing world.

Ⅲ. Characteristics

The proposed major constantly condenses the historical inheritance, closely keeps in step with the discipline frontier, keeps close touch with the development and demands of the industry, devotes to cultivating the talents in the measurement control and instrumentation field who have solid theoretical foundation and have received sufficient engineering practical training through the electric information style engineering education, develops the advantages in the cultivation of the talents in the electrical measurement technique, and forms the cultivation features of the innovative talents.

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 measuring and control instrument majors 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(24credits)

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	

Cont

Code	Course Title	Credit(s)	Remarks
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
IA05008	Error Theory & Data Processing	3	compulsory
EC05015	Measurement and Control Circuit	4	compulsory
EC05016	Electrical measurement technology	4	compulsory

5. Restricted Electives (25 credits)

Code	Course Title	Credit(s)	Remarks
EC06082	Virtual Instrument	2	
EC06083	Intelligent Instrument	2	
EC06084	Process control and Automation Instrumentation B	2	
EC06090	Power Quality Detection and Control	2	
IA07001	Engineering Design of Measurement and Control System	2	
EC06081	Wireless Sensing Technology	2	
IA06003	PLC Technique and Applications	2	
EC06027	Field Bus Technology and Applications	2	
EC06071	Machine Vision Inspection Technology	2	
EI06019	DSP Technology and its application	2	
EI06021	Electromagnetic Compatibility	2	
EC06001	Fundamental of Electronic Design Automation	2	
EC06078	Fundamentals of MEMS	2	
EC06079	Photoelectric Detection Technology	2	
EC06080	MATLAB Programming	2	
IA06010	Precision Measurement Technology	2	
EI05011	Embedded System and Its Applications	2	
IA07004	Scientific and Engineering Calculation Method and Application	3	
EC06046	Fundamentals of Software Technology	3	
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	
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	

Cont

Code	Course Title	Credit(s)	Remarks
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	
EI07005	Introduction to ASIC Design	2	
EI05017	Optical Fiber Communications	2	
EI07006	Computer Networks	2	
EC06067	Cognitive Radio	2	
EI06025	Digital TV Technologies	2	
EC06106	Principles of Communications B	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	
IA06012	Digital Signal Processing B	2	
EC06068	Signal Integrity of GHz Circuits	2	
EC06069	IC Design by Cadence Simulation	2	
EI07003	Information Theory and Coding Techniques	2	
EC06033	Intelligent Control	2	
EC06070	Pattern Recognition	2	
EC06015	Robotics and Robot Control	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	

Cont

Code	Course Title	Credit(s)	Remarks
EC06026	Introduction to System Engineering	2	
EC07013	Modern Control Theory	2	
EC06031	Motion Control System	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	
EC06072	Intelligent Information Processing	2	
EI05010	Digital Image Processing	2	
EC06077	Embedded System Design and Applications based on Mobile Platforms	2	
EI05014	Introduction to Computer Vision	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

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	Teng Zhaosheng	Professor	Ph. D	Intelligent Detection, Information Processing	Measurement and Control Circuit, Power Quality Detection and Control
2	Meng Zhiqiang	Professor	Ph. D	Automatic Control of Industrial Process, Power Electronic Technology & Application	Principle and Application of Microcomputer, Intelligent Instrument
3	Liu Bofeng	Associate Professor	B. S.	Electrical Measurement, Field Bus	Sensors and Measurement Technology, Process Control and Automation Instrument B
4	Yang Tangsheng	Associate Professor	Ph. D	Intelligent Detection, Field Bus	Signals and Systems, Field Bus Technique and Application

Cont

No.	Name	Academic Title	Educational Background	Research Areas	Courses
5	Tang Qiu	Associate Professor	Ph. D	Virtual Instrumentation, Information Processing	Principle of Automatic Control, EMC Technology
6	Guo Siyu	Associate Professor	Ph. D	Image Processing, Machine Vision	Error Theory & Data Processing, Digital Image Processing
7	Wen He	Associate Professor	Ph. D	Intelligent Detection, Information Processing	Electrical Measurement Technology, Scientific and Engineering Calculation Method and Application
8	Chen Tao	Lecturer	M. S.	Intelligent Detection, Information Processing	Error Theory & Data Processing, Fundamentals of EDA Technique
9	Tang Lu	Lecturer	Ph. D	Automatic Control, System Science, Artificial Intelligence	Signals and Systems, PLC Technology and Its Application
10	Gao Yunpeng	Associate Professor	Ph. D	Intelligent Information Process, Electrical Measurement	Electrical Measurement Technology, Virtual Instrument
11	Ouyang Bo	Assistant Professor	Ph. D	Wireless Sensor Networks, Complex Networks	Sensor and Detector Technology, Fundamentals of MEMS s
12	Rong Hong	Lecturer	M. S.	Intelligent Detection	Principle and Application of Microcomputer, DSP Technology and Its Application

Ⅶ. Course Scheduler

No.	Name	Academic Title	Educational Background	Research Areas	Courses
1	Teng Zhaosheng	Professor	Ph. D	Intelligent Detection, Information Processing	Measurement and Control Circuit, Power Quality Detection and Control

（翻译人：郭斯羽、唐璐、高云鹏、欧阳博、唐求）