

05 Objectives & Learning Outcomes

Introduction: This is the training plan of the Electronic Information Engineering major of Changchun Institute of Technology. It aims to cultivate high-quality application-oriented talents with comprehensive development in moral, intellectual, physical, aesthetic and labor education against the background of electronic information. Through systematic study of mathematics, natural sciences, engineering fundamentals and professional courses, students will master the core knowledge and skills in the field of electronic information and develop strong practical ability, innovative awareness and an international perspective.

1. Educational Objectives

This major cultivates students with firm ideals and beliefs, deep patriotism, good ideological and professional qualities that strictly abide by engineering ethics and artificial intelligence safety norms, solid humanistic literacy, social responsibility and comprehensive physical and mental qualities. Students master the basic theories and core technologies of electronic information, artificial intelligence, and intelligent device development; possess the abilities to solve complex engineering problems, innovate in engineering practice, manage projects and conduct cross-cultural technical communication. Graduates can work in the interdisciplinary fields of electronic information and intelligent technology in industries such as communications, automotive, medical, Internet of Things and intelligent manufacturing, engaging in research, design and development of intelligent devices and intelligent hardware, signal and image processing, testing and integration, production operation and maintenance, technical support and project management, serving regional construction, adapting to industry development, and fitting the national digital economy and new industrialization development strategy. They become high-quality application-oriented talents with comprehensive development in moral, intellectual, physical, aesthetic and labor education. About five years after graduation, graduates can grow into technical backbones, technical supervisors and management backbones with good professional competence in the interdisciplinary field of electronic information and artificial intelligence. The specific educational objectives are as follows:

Educational Objective 1: Ideological quality and professional ethics. Possess good

comprehensive humanistic literacy, professional ethics and social responsibility, and maintain healthy physical and mental qualities; consciously abide by national laws and regulations, practice the core socialist values, strictly adhere to engineering ethics criteria and artificial intelligence safety and data security norms, and establish a compliant, lawful, rigorous and responsible concept of engineering practice.

Educational Objective 2: Professional competence and engineering application. Systematically master the basic theories and core technologies related to electronic information, artificial intelligence and intelligent device development, and possess solid engineering practice ability and innovative thinking; be able to complete the design and development, testing and integration, deployment, operation and maintenance of products related to intelligent hardware and signal and image processing, independently analyze and solve complex engineering problems in the field, and adapt to the technical application needs of the industry.

Educational Objective 3: Collaborative management and comprehensive control. Possess excellent teamwork, organizational coordination and engineering project management abilities, and be able to complete various work tasks independently or collaboratively with a team; be able to take into account multiple constraints such as society, health, safety, law, environment and culture, regulate and control multidisciplinary and cross-field engineering projects, balance algorithm ethics and data security, and ensure compliant and efficient progress of engineering projects.

Educational Objective 4: International perspective and communication. Possess the international perspective essential for engineers and be able to track international frontier technological developments in the fields of artificial intelligence and intelligent devices; have good oral and written expression abilities, and be able to complete interdisciplinary and cross-cultural technical communication, exchange and cooperation, adapting to the internationalization needs of industry development.

Educational Objective 5: Lifelong learning and career development. Possess good self-learning ability and lifelong learning awareness, and be able to actively adapt to the technological iteration and industrial upgrading trends of the electronic information and artificial intelligence industries; continuously research frontier technologies, new industry forms and business models, constantly update the professional knowledge system, and maintain long-term

career competitiveness in the industry.

2. Graduation Requirements

(1) Application of engineering knowledge:Apply the knowledge of mathematics, natural sciences, computing and engineering fundamentals, as well as the core professional knowledge of electronic information engineering (such as circuits, signals and systems, microelectronics, communications, etc.), to solve complex engineering problems in the field of electronic information.

(2) Analysis of complex problems:Use the basic principles of mathematics, natural sciences and engineering science to identify, formulate, research and analyze complex engineering problems in the field of electronic information; sort out the problem background through literature research, and clarify the problem boundaries and key influencing factors.

(3) Design and development of solutions:Design creative solutions for complex electronic information engineering problems; design electronic information systems, components or processes that meet specific requirements of function, performance, reliability, cost, etc., and take relevant standards and constraints into consideration during the design process.

(4) Scientific research and practice:Use scientific research methods to study complex electronic information engineering problems and systems, including designing experimental schemes based on professional knowledge, collecting and analyzing experimental data, interpreting experimental results, and verifying the feasibility of solutions through research.

(5) Application of professional tools:Create, select and apply appropriate technologies, resources and modern electronic information engineering tools (such as EDA software, simulation tools, test instruments, etc.), including predicting and modeling the performance of electronic information systems, understanding the limitations of these tools and using them appropriately.

(6) Holistic view of engineering practice:Analyze and evaluate the outcomes of electronic information engineering practice in terms of sustainable development, social impact, economic cost, health and safety, laws and regulations, and environmental responsibility, and incorporate holistic considerations into problem definition and solution design.

(7) Professional ethics and morals:Apply ethical principles, commit to the practice and norms of professional ethics in the field of electronic information engineering, and comply with relevant national and international laws and regulations; demonstrate an understanding of and a correct attitude toward

professional responsibility, and embody social responsibility in professional practice.

(8) Teamwork and communication:Collaborate effectively as a member or leader in diversified and inclusive teams, as well as in multidisciplinary, remote and distributed environments, to jointly complete electronic information engineering projects and achieve project goals through team synergy.

(9) Professional communication and expression:Communicate effectively and inclusively with industry peers and the public in complex electronic information engineering activities, including writing standardized technical reports and design documents, producing professional presentations, and clearly expressing technical viewpoints and project results.

(10) Project management and decision-making:Apply the knowledge and understanding of electronic information engineering management principles and economic decision-making methods in project planning, resource allocation, schedule control and cost accounting, so as to improve project implementation efficiency and economic benefits.

(11) Lifelong learning and adaptability:Recognize the necessity of continuous learning, possess the ability for independent and lifelong learning, be able to adapt to the development and changes of new technologies and methods in the field of electronic information, and maintain professional competitiveness through critical thinking and systematic learning.

3.Class Hours and Credits

The minimum credits required for graduation for four-year undergraduate students are 165 credits. Among them:The total credits of required courses are 148.5 credits, and the total credits of elective courses are at least 16 credits (including 7 credits of university-wide general education elective courses).In the curriculum system, humanities and social science courses account for 36 credits, mathematics and natural science courses account for 25 credits, engineering and professional-related courses account for 43 credits, engineering practice and graduation project account for 47 credits, and the second-classroom quality development accounts for 8 credits.

4. Length of Schooling and Degree

Standard length of schooling: full-time undergraduate program with a standard duration of four years; the permitted duration is 3-6 years.

Degree: Bachelor of Engineering.

5. Main Disciplines and Curriculum System

5.1 Main Disciplines

First-level discipline: Information and Communication Engineering

Second-level disciplines: Signal and Information Processing; Communication and Information Systems

5.2 Main Courses

Fundamentals of Computer Programming (C Language), Electric Circuit Theory, Analog Electronic Technology, Digital Electronic Technology, Signals and Systems, Electromagnetic Fields and Electromagnetic Waves, Data Structures, Information Theory and Coding, Digital Signal Processing, High-Frequency Electronic Circuits, Principles of Communication, EDA Technology and Application, Digital Image Processing, Cortex-M3 Development Technology and Practice, RFID Development Technology and Practice.

5.3 Main Practical Components

Engineering Training, Professional Cognition Practice, Electronic Process Internship, MATLAB Basics and Application Training, Electronic Circuit PCB Design Training, Course Design for Microcontroller System Application, Course Design for EDA Technology and Application, Course Design for Embedded System Application, Specialized English Training for Electronic Information, Comprehensive Practice of Intelligent Hardware, Comprehensive Training of Signal and Image Processing, Enterprise Production Practice, and Graduation Project (Thesis).

6.Matrix of Educational Objectives, Graduation Requirements and Curriculum System

6.1 Matrix of Graduation Requirements Supporting Educational Objectives

Educational Objectives Graduation Requirements	Educational Objective ①	Educational Objective ②	Educational Objective ③	Educational Objective ④	Educational Objective ⑤
Graduation Requirement 1		★			
Graduation Requirement 2		★			
Graduation Requirement 3		★	☆		★
Graduation Requirement 4		★			★
Graduation Requirement 5		★			★
Graduation Requirement 6	★	☆			
Graduation Requirement 7	★				
Graduation Requirement 8	☆		★	★	
Graduation Requirement 9			★	★	

Graduation Requirement 10		☆	★		
Graduation Requirement 11				☆	★

Note: ★(High correlation), ☆(Low correlation)

6.2 Matrix of Curriculum System Supporting Graduation Requirements

No.	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8		Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11	
	Decomposed Indicator Points	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2
1	Ideological and Moral Cultivation and the Rule of Law																					H											
2	Outline of Modern Chinese History																					H											
3	Basic Principles of Marxism																					H											
4	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics																					H											
5	Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era																					H											

No	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8		Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11	
	Decomposed Indicator Points	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2
6	Current Situation and Policies																				H												
7	College English																											H					
8	College Physical Education and Health																						H										
9	Military Theory																				M												
10	Mental Health Education for College Students																							H									
11	Learning to Build Dreams																				H												
12	Introduction to Artificial Intelligence and Its Applications					L											M																
13	History of the Communist Party of China / History of New China / History of Reform and Opening-up / History of Socialist Development																				M												

No	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8		Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11	
	Decomposed Indicator Points	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2
14	Career Guidance and Career Planning for College Students																					M											
15	Entrepreneurship Foundation																					M		M									M
16	Innovative Methods and Practices										M													M	M								
17	Advanced Mathematics III	H																															
18	Linear Algebra II	H																															
19	Probability Theory and Mathematical Statistics I	H																															
20	College Physics Experiment III														H																		
21	College Physics I	H																															
22	Complex Functions	H																															
23	Introduction to Environmental Science																		H														
24	Engineering Drawing																							H		M							

No	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8			Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11	
	Decomposed Indicator Points	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2	
25	Fundamentals of Computer Programming (C Language)																		H															
26	Electric Circuit Theory	H	H											M	H	H																		
27	Analog Electronic Technology		H		M									H	H	H																		
28	Digital Electronic Technology		H		M									H	H	H																		
29	Electromagnetic Fields and Electromagnetic Waves	H		H																														
30	Signals and Systems		H	H											H	H																		
31	Information Theory and Coding	H		H			H																											
32	Data Structures																		H															
33	Digital Signal Processing			H			H												H															
34	High-Frequency Electronic Circuits					H	H							H	H	H																		

No ·	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8		Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11	
		1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2
	Decomposed Indicator Points																																
35	Principles of Communication		H	H				H							H	H																	
36	EDA Technology and Application				H				H									H															
37	Digital Image Processing						H	H										H															
38	Cortex-M3 Development Technology and Practice								H	H									H														
39	RFID Development Technology and Practice				H					H									H														
40	Python Machine Learning Practice (Elective)				H		H												M														
41	Intelligent Sensing Technology and Applications(Elective)			M				M						H	H	H			M														
42	Artificial Intelligence and Embedded								M										M														

No	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8		Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11	
	Decomposed Indicator Points	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2
	Applications (Elective)																																
43	Intelligent Instrument System Design (Elective)								M																								
44	DSP Principles and Applications (Elective)					H			H									M															
45	Computer Communication Networks (Elective)			H		H																											
46	Military Skills																						H			H							
47	Engineering Training												M												M								
48	Professional Cognition Practice																		L								M	M		M		M	
49	Electronic Process Internship												H				H																
50	Electronic Circuit PCB Design Training																H	H															
51	MATLAB Basics and Application Training																H	H															

No ·	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8		Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11	
		1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2
	Decomposed Indicator Points																																
52	Course Design for Microcontroller System Application									H	H							H								H							M
53	Course Design for EDA Technology and Application									H	H							H								H							M
54	Course Design for Embedded System Application									H	H	M														H							M
55	Specialized English Training for Electronic Information																											H	H				
56	Comprehensive Practice of Intelligent Hardware											H	H						H							H				M	H		
57	Comprehensive Training of Signal and Image Processing												H						H							H							
58	Enterprise Production Practice												H						H	M			H			H	H						

No	Indicator Point Teaching Activity	Graduation Requirement 1 Engineering Knowledge				Graduation Requirement 2 Problems Analysis			Graduation Requirement 3 Design Development				Graduation Requirement 4 Research				Graduation Requirement 5 Usage			Graduation Requirement 6		Graduation Requirement 7 Ethics			Graduation Requirement 8		Graduation Requirement 9			Graduation Requirement 10		Graduation Requirement 11		
	Decomposed Indicator Points	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	1	2	3	1	2	1	2	3	1	2	1	2	
59	Graduation Project										H	H	H							H								H	H	H		H		H
60	Writing and Communication																											H	L					
61	Aesthetic Education in Universities																					H												

Note: In the table, "H (High)" and "M (Medium)" and "L (Low)" indicate the degree of correlation between courses and each graduation requirement.

7. Curriculum Structure and Allocation of Credits and Class Hours

Allocation of Class Hours and Credits Teaching Component		Allocation of Class Hours (Weeks)			Credit Allocation			
		Required Class Hours (Weeks)	Elective Class Hours (Weeks)	Total Class Hours/Weeks	Required Credits	Elective Credits	Total Credits	Ratio
Theoretical Teaching (Excluding In-Class Practice)	General Education Courses	644	96	740	29.625	6	35.625	21.6%
	Professional Courses	864	64	928	54	4	58	35.2%
	Quality Development Courses	48	0	48	3	0	3	1.8%
	Subtotal	1556	160	1716	86.625	10	96.625	58.6%
Practical Teaching (Including In-Class	General Education Courses	74 hrs + 3 wks	0	74 hrs + 3 wks	6.375	0	6.375	3.9%
	Professional	110 hrs + 47	44	154 hrs + 47	53.875	2.75	56.625	34.3%

Practice)	Courses	wks		wks				
	Quality Development Courses	5 wks	0	5 wks	5	0	5	3.0%
	Subtotal	184 hrs + 55 wks	44	74 hrs + 55 wks	65.25	2.75	68	41.2%
Main Parameters	Total Class Hours of Teaching	2670	Total Class Hours of Theoretical Teaching	1716	Total Class Hours of Required Courses		2620	
			Total Class Hours of Practical Teaching	954	Total Class Hours of Elective Courses		204	
	Total Credits for Graduation	165	Total Credits of Theoretical Teaching	113	Total Credits of Common Required Courses	44	Total Credits of Professional Required Courses	107.875
			Total Credits of Practical Teaching	52	Total Credits of Common Elective Courses	6	Total Credits of Professional Elective Courses	6.75

8. Teaching Arrangements

Curriculum System	Course Nature	Course Module	Course Code	Course Name	Class Hours			Credits	Starting Semester	Remarks	Responsible Unit
					Total Class Hours	Theoretical Hours	Practical Hours				
General Education Courses (42 credits)	Required (36 credits)	General Education Required Courses	my01031010	Ideological and Moral Cultivation and the Rule of Law	48	40	8	3	1		School of Marxism
			my02051010	Outline of Modern Chinese History	48	40	8	3	2		School of Marxism
			my03041010	Basic Principles of Marxism	48	40	8	3	3		School of Marxism
			my04212010	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	48	40	8	3	4		School of Marxism
			my04011010	Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	48	32	16	3	5		School of Marxism
			my05011011-8	Current Situation and Policies	64	56	8	2	1-8		School of Marxism
			wy01101011-3	College English	128	128		8	1-3		School of Foreign Languages
			ty01012011-5	College Physical Education and Health	144	144		2	1-5		Department of

											Physical Education
			ty04012010	Military Theory	36	36		2	1		Department of Physical Education
			wz01601010	Military Skills	3 wks		3 wks	2	1		Party Committee Armed Forces Department
			xl01021010	Mental Health Education for College Students	36	24	12	2	1		Mental Health Education and Counseling Center for College Students
			jg05581010	Introduction to Artificial Intelligence and Its Applications	16	10	6	1	2		School of Computer Technology and Engineering
			dq04281011	Career Guidance and Career Planning for College Students I	18	18		0.5	2		All Teaching Units
			dq04281012	Career Guidance and Career Planning for College Students II	20	20		0.5	6		All Teaching Units
			my03061010	National Security Education	16	16		1	4		School of Marxism
			Subtotal		718	644	74	36			
	Elective (6)	General Educ	my04031020	Learning to Build Dreams	16	16		1	1		School of Marxism
			my02031020	History of the Communist Party of China	16	16		1	2	Ch	School of

	credit s)	ation Elective Courses								oo se on e of fo ur	Marxism
			my02041020	History of New China	16	16		1	2		School of Marxism
			my04051020	History of Reform and Opening-up	16	16		1	2		School of Marxism
			my03031020	History of Socialist Development	16	16		1	2		School of Marxism
			sc01012020	Entrepreneurship Foundation	16	16		1	4		School of Innovation and Entrepreneurship Education for College Students
			sc01022020	Innovative Methods and Practices	16	16		1	3		School of Innovation and Entrepreneurship Education for College Students
				General Education Elective Courses	32	32		2	1-8	Op tio nal	School of General Education
			Subtotal		96	96	0	6.0			
Profess ional Course s (115 credits)	Requi red (108 credit s) / Electi	Disci pline Foun dation Courses	lx01013011-2	Advanced Mathematics III	152	152	0	9.5	1-2		School of Science
			lx02022010	Linear Algebra II	40	40	0	2.5	2		School of Science
			lx02032010	Probability Theory and Mathematical Statistics I	48	48	0	3	3		School of Science
			lx03023010	College Physics Experiment III	24	24	0	1.5	4		School of

	ve (7 credit s)									Science
		lx03015011-2	College Physics I	88	88	0	5.5	2-3		School of Science
		lx02041010	Complex Functions	32	32	0	2	3		School of Science
		sz03501010	Introduction to Environmental Science	16	16	0	1	1		School of Municipal and Environmental Engineering
		Subtotal		400	400	0	25.0			
	Professional Core Courses	lg05122010	Fundamentals of Computer Programming (C Language)	40	20	20	2.5	2		School of Computer Technology and Engineering
		jd01204010	Engineering Drawing	32	32	0	2.0	2		School of Mechanical and Electrical Engineering
		dq01024010	Electric Circuit Theory	64	54	10	4.0	3		School of Electrical and Information Engineering
		dq01032010	Analog Electronic Technology	48	42	6	3.0	4		School of Electrical and Information Engineering
		dq01042010	Digital Electronic Technology	40	32	8	2.5	5		School of Electrical and

										Information Engineering
			dq04011010	Signals and Systems	48	42	6	3.0	4	School of Electrical and Information Engineering
			lx03031010	Electromagnetic Fields and Electromagnetic Waves	32	32	0	2.0	4	School of Science
			dq04021010	Information Theory and Coding	32	32	0	2.0	4	School of Electrical and Information Engineering
			dq04031010	Digital Signal Processing	40	34	6	2.5	5	School of Electrical and Information Engineering
			dq04042010	High-Frequency Electronic Circuits	40	32	8	2.5	5	School of Electrical and Information Engineering
			dq04061010	Principles of Communication	48	36	12	3.0	6	School of Electrical and Information Engineering
			Subtotal		464	388	76	29.0		
	Distinctive Professor		dq04231010	Cortex-M3 Development Technology and Practice	40	28	12	2.5	5	School of Electrical and Information

		Professional Courses								Engineering
			dq04072010	EDA Technology and Application	40	28	12	2.5	6	School of Electrical and Information Engineering
			dq04091010	Digital Image Processing	32	20	12	2.0	6	School of Electrical and Information Engineering
			Subtotal		112	76	36	7.0		
		Professional Enhancement Courses	jg25011020	Data Structures	32	16	16	2.0	3	School of Computer Technology and Engineering
			jg05081020	C++ Programming Design	32	16	16	2.0	4	School of Computer Technology and Engineering
			dq04102020	Python Machine Learning Practice	24	16	8	1.5	4	School of Electrical and Information Engineering
			dq04082020	DSP Principles and Applications	32	20	12	2.0	6	School of Electrical and Information Engineering
			jg05331020	Computer Communication Networks	32	16	16	2.0	6	School of Computer

											Technology and Engineering
			dq04252020	RFID Development Technology and Practice	32	20	12	2.0	6		School of Electrical and Information Engineering
			dq04331020	Artificial Intelligence and Embedded Applications	32	18	14	2.0	6		School of Electrical and Information Engineering
			dq04341020	Intelligent Sensing Technology and Applications	24	12	12	1.5	6		School of Electrical and Information Engineering
			dq04351020	Intelligent Instrument System Design	24	12	12	1.5	6		School of Electrical and Information Engineering
			Subtotal		112	64	48	7.0			
		Concentrated Practical Courses	Course Code	Practical Project Name	Weeks						
			gx00611010	Engineering Training	1 wk			1	2		Engineering Training Center
			dq04601010	Professional Cognition Practice	1 wk			1	3		School of Electrical and Information Engineering
			dq04632010	Course Design for Microcontroller System Application	2 wks			2	3		School of Electrical and

								Information Engineering
			dq04701010	MATLAB Basics and Application Training	1 wk	1	3	
			dq01611010	Electronic Process Internship	2 wks	2	4	School of Electrical and Information Engineering
			dq04611010	Electronic Circuit PCB Design Training	2 wks	2	5	School of Electrical and Information Engineering
			dq04761010	Course Design for EDA Technology and Application	2 wks	2	6	School of Electrical and Information Engineering
			dq04771010	Course Design for Embedded System Application	2 wks	2	6	School of Electrical and Information Engineering
			dq04711010	Specialized English Training for Electronic Information	1 wk	1	7	School of Electrical and Information Engineering
			dq04781010	Comprehensive Practice of Intelligent Hardware	6 wks	6	7	School of Electrical and Information Engineering

			dq04792010	Comprehensive Training of Signal and Image Processing	6 wks	6	7		School of Electrical and Information Engineering
			dq04752010	Enterprise Production Practice	6 wks	6	7		School of Electrical and Information Engineering
			dq04691010	Graduation Project	15 wks	15	8		School of Electrical and Information Engineering
			Subtotal		47 wks	47.0			
Quality Development Courses (Second Classroom) (8 credits)	Required (8 credits)		Course Code	Development Course Name	Class Hours or Weeks	Credits	Starting Semester	Remarks	Responsible Unit
			tw01601010	Social Practice	1wks	1	1-8		Youth League Committee
			ts02601010	Labor Education and Practice	1wks	1	5	32 Class Hours	School of General Education
			ml01021010	Artistic Experience and Expression	16	1	3		School of General Education
			ml01011010	Aesthetic Education in Universities	16	1	3		School of

								General Education
		gj01021010	Writing and Communication	16	1	4		School of International Education
		sc01601010	Innovation and Entrepreneurship Practice	2wks	2	1-8		School of Innovation and Entrepreneurship Education for College Students
		tw01611010	Club Activities	1wks	1	1-8		Youth League Committee
		Subtotal		48 hrs + 5 wks	8			
Total			1902 class hours / 47 weeks					

