Instructive Cultivation Plan for the Program of Mechatronics Engineering (numerical control equipment assembly and maintenance)

(Middle and Undergraduate Education Through -- Undergraduate Stage)

(Grade 2019)

Course code: 080204

1. Orientation

Mechatronics engineering (numerical control equipment assembly and maintenance) program will cultivate application-oriented advanced technical talents who have professional knowledge and skills in mechanical design, manufacturing and electrical automation, and have strong technical service ability such as installation, commissioning, and maintenance for CNC machine tools and mechatronics products, and have the ability to independently solve practical engineering problems in mechatronics.

2. Cultivation Objectives

1. General cultivation objective

According to the Shanghai development plan and the demand for advanced manufacturing talents, Mechatronics Engineering (CNC equipment adjustment and maintenance) program cultivates senior application-oriented professional talents who are comprehensively developed on the aspects of moral, intellectual, physical, aesthetic and labor, and have a sense of teamwork and strong communication skills, be able to engage in the installation, debugging, maintenance, application research, production management and marketing of intelligent electromechanical equipment such as CNC machine tools in the production line, and have a strong innovative spirit and practical ability.

2. Objective of value guidance

With the rapid development of advanced manufacturing technology and robotics, as well as the release of the "Made in China 2025" strategy, companies' demand for mechanical and electronic engineering professional talents has undergone significant changes. In order to further promote the training of intelligent manufacturing technical talents in line with the international advanced manufacturing industry, it's a necessary and urgent task to implement the training strategy of vocational technical talents characterized by "technical skills, compound skills, and knowledge skills", and establish a "middle and undergraduate education through" cultivating model for mechatronics engineering program.

Mechatronics engineering is often referred to as mechatronics technology. It is a comprehensive discipline formed by the organic integration of mechanics, electronics, information technology, computer technology, and control technology. Mechatronics Engineering is positioned in the large field of "mechanical engineering", highlighting the organic integration and integration of light, mechanics, and electricity, and mainly conducts research and design on mechanical control, measurement, and condition monitoring. Therefore, its main key technologies include: (1) detection and sensing technology, (2) information processing technology, (3) automatic control technology, (4) servo drive technology, (5) precision machinery technology, (6) system overall technology.

The four-year undergraduate degree in mechanical and electronic engineering has a short academic system, which is not conducive to the training of technical skills. The "middle and undergraduate education through" cultivating model adopts a 7-year consistent curriculum, a long training cycle, professional technical advantages, and establishes a solid theoretical foundation which are conducive to the training of technical skills talents, thus ensuring the students have strong professional development capabilities. Therefore, by constructing an overpass for cultivating vocational schools and colleges, highlight vocational skills, clarify training objectives, and closely integrate the economic and social development needs of Shanghai and the Yangtze River Delta, establish a modern vocational education system with a reasonable structure, and strengthen the "middle and undergraduate education through" cultivating model which are featured with school-enterprise cooperation, work-study integration, and modularized teaching mode, thus playing an exemplary role in promoting the reform and innovation of vocational education system.

In this program, the students' thinking and philosophy are cultivated through the basic mode of this program: quality training is the foundation, machinery is the foundation, control is the core, the emphasis is on the combination of electromechanics and innovation.

3. Objectives students must achieve five years after graduation:

(1) Be able to apply the professional knowledge, skills and technology of mechatronics engineering to the process of design and manufacture, technical transformation, maintenance and repair of electromechanical systems. Be able to independently discover, analyze, formulate and solve complex mechanical and electrical engineering problems in production practice.

(2) Be able to carry out research work on mechanical structure characteristics, motion control, fault diagnosis of CNC equipment, etc., and have the ability to engage in the design, testing, development, application and integration of intelligent electromechanical equipment and electromechanical integration systems.

(3) Have strong engineering practical experiences and certain management capabilities, and be able to serve as technical backbones, project supervisors, and grassroots managers in electromechanical related industries and enterprises.

(4) Have good humanities, professional ethics, teamwork and international vision, have a sense of social responsibility, professionalism, safety and environmental protection in the work, and can actively serve the country and society in the industry.

3. Requirement for Graduation

On the basis of mastering basic knowledge of mathematics, engineering mechanics, computer and foreign language, students of this program should also strengthen their abilities of mechanical design, electrical and electronic technology application, electromechanical transmission and automatic control, CNC technology application, CNC machine tool assembly and maintenance, electromechanical integration, as well as abilities of humanities and social sciences and other aspects, while paying attention to the training of students' professional technical skills. Through the application of modern information technology, extracurricular scientific and technological activities, practice courses and enterprise production practice training, the program will train students's ability to solve practical engineering problems at the production site, such as design, manufacture, control and production organization management, etc.

4. Schooling System

Four years

5. Length of Study

Flexible study period, generally four years, the minimum length of flexibility is not less than three years, the longest not more than six years.

6. Requirements for Graduation and Degree Conferring

Students of this program must complete the minimum credits required for each category of courses and complete all the content specified in extracurricular class according to the requirements of the instructional training plan, and the total credits must reach 151 credits for graduation; those who meet the requirements for bachelor's degree can be conferred bachelor degree in engineering.

7. Discipline

Mechanical engineering, electrical engineering, computer application

8. Core Courses

1. Engineering Mechanics I

Through the study of "Engineering Mechanics I", students will be able to select the isolator from the mechanism or structure and draw the free-body diagram accurately; be able to analyze the static force of the component and determine the binding force correctly; understand and solve the friction of the plane force system; correctly calculate the velocity and acceleration of a point, the angular velocity and angular acceleration of a rigid body; understand the relativity of motion, master the method of point motion and synthesis; correctly calculate the velocity and acceleration of each point on a rigid body in plane motion; use dynamics general theorems (theorem of momentum, theorem of moment of momentum, theorem of kinetic energy, theorem of mass center motion, differential equation of fixed axis rotation) to solve dynamic problems; use D'Alembert principle to solve dynamic reaction problems; understand the principle of virtual displacement.

2. Engineering Mechanics II

Through the study of "Engineering Mechanics II", students will obtain the preliminary ability to simplify general rod-like components into mechanical diagrams; be able to make the internal force diagrams of rods under basic deformation proficiently, calculate their stress and displacement, and carry out strength and stiffness calculations; understand the concept of stress state and strength theory, and apply it to the strength calculation of rods under combined deformation; understand the method of solving simple statically indeterminate problems; understand the concept of stability of compression rods, and be able to calculate the critical load and critical stress of axial compression rod, and check for stability; understand the concepts of dynamic load coefficient in dynamic load and fatigue failure and endurance limit in alternating stress; have a preliminary understanding of the basic mechanical properties and test methods of commonly used materials; have a preliminary understanding of the basic principles and methods of stress analysis in electrical measurement experiments.

3. Machinery Manufacturing Technology

The course "Machinery Manufacturing Technology" is a professional basic course for mechanical programs. This course will further enhance students' understanding of mechanical engineering materials based on the secondary vocational "Mechanical Engineering Fundamentals" course. Through the study of this course, students will further understand the basic knowledge and applications of casting, forging, welding and other processes, and understand the basic knowledge of metal cutting principles and tool angles, tool materials and surface processing knowledge of mechanical parts.

The basic requirements of this course: master the performance characteristics of mechanical engineering materials; understand the crystal structure of metals; master the phase diagram of iron-carbon alloys; master the heat treatment of steel; master carbon steel and alloy steel; understand the classification and use of cast iron; master casting and forging, welding and other process basic knowledge; understand the basic principles of metal cutting, tool angle marking, tool material requirements; be familiar with plane processing, cylindrical surface processing, cylindrical gear processing equipment and basic knowledge of processing technology.

4. Basics of Control Engineering

This course is an important theoretical basis for modern mechatronics engineering, focusing on the basic control analysis methods in mechanical and circuit systems. This course will enable students to master the establishment of mathematical models of mechanical and electrical systems; master the definition of Laplace transform, the Laplace transform of commonly used functions and important properties of Laplace transform; master the basic concepts, basic variables, basic components and working principles of the control system; grasp the definition and basic parameters of the first and second order systems; be able to solve the unit impulse response, unit step response and unit ramp response of the first and second order systems; understand that when the input of a linear system has a differential or integral relationship, its output will also be the same conclusion of the relationship; understand the basic shape and meaning of the unit step response curve of the first-order and second-order systems; the definition of the performance indicators of second-order system and the relationship with the characteristic parameters; instruct students to learn to abstract the actual control system and complete the mathematical model; establish and analyze and design the control system. This course mainly includes the mathematical model of the system in the three domains (time domain, complex domain, frequency domain), the three elements of system analysis (stability, static characteristics and dynamic characteristics), and various device correction methods for the design of the system based on the root locus method and frequency method.

5. Mechanical Engineering Testing Technology

This course teaches the commonly used sensors of intelligent electromechanical equipment, and understands the composition and selection principles of the test system. Through the study of this course, students will be familiar with the basic knowledge and some typical parameter test methods required in mechanical dynamic testing and failure analysis; understand the description, analysis and processing methods of the test signal in the time domain and frequency domain; understand the static and dynamic characteristics and evaluation methods of the test device and the measured object; and understand the development trend and cutting-edge technology of sensors and test technologies.

6. CNC machine tools

This course teaches the basic concepts and structural characteristics of CNC machine tools from the perspective of the basic knowledge that should be mastered for using CNC machine tools; the functions and interpolation principles of CNC systems; the form and composition of servo drive systems; and the application knowledge of CNC machine tool selection and maintenance.

7. Electromechanical drive control

This course teaches general knowledge of electromechanical transmission control. Through the study of this course, students will master the working principles, characteristics, applications and selection methods of motors and electrical appliances, be familiar with common control methods of electromechanical equipment, including the working principles, characteristics and performance of commonly used open-loop and closed-loop control systems and application places, and understand the application of the latest control technology in electromechanical equipment.

8. CNC machine tool assembly and maintenance

This course is a practical professional core course for the application and maintenance of CNC equipment. Through the installation and commissioning of CNC machine tool feed axis, spindle, tool post, tool magazine and other mechanical parts, students will master the feed axis assembly and inspection, spindle assembly and inspection, tool post assembly and inspection, and understand the assembly and inspection of tool magazine components. At the same time, students will be able to correctly read and understand the relevant requirements of mechanical assembly drawings, can correctly select tools, measuring tools, fixtures and inspection tools according to the instruction book, master the general methods of mechanical assembly and commissioning, and develop good work habits, thus laying a solid foundation for professional ability development.

9. Course Structure and Course Hours (excluding extracurricular class)

Category	Total Credit	%	Total Course Hours	Theory Learning	Practical Training
Public Course	50	33	1296	1232	64
Basic Course	34	23	544	382	162
Professional Course	29	19	464	292	172
Practical Training	27	18	792	0	792
General Course	10	7	160	160	0
Total	150	100	3256	2066	1190
Theory : Practice(%)	63:37				

10. Teaching schedule (1)

Category	Type	Provided by	Course Code	Course Name	Assessment	Credit	Course Hour	Theory Learning	Practical Training	Semester
General Education Basic Course	required	School of Marxism	b1080001	Basic principles of Marxism	test	3	48	42	6	Spring 1
	required	School of Marxism	b1080003	Ideological and moral cultivation and legal foundation	non-test	3	48	42	6	Spring 1
	required	School of Marxism	b1080006	Outline of Chinese Modern History	non-test	3	48	42	6	Autumn 1
	required	School of Marxism	b1080004	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics I	test	3	48	42	6	Autumn 2
	required	School of Marxism	b1080007	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics II	test	2	32	28	4	Spring 2
	required	School of Marxism	-----	Situation and Policy(module 1～4)	non-test	2	32	28	4	Autumn 1～Spring 2
	required	College of Arts and Sciences	b1020080-	Advanced Mathematics A1	test	4	64	64	0	Autumn 1
	required	College of Arts and Sciences	b1020081-	Advanced Mathematics A2	test	4	64	64	0	Spring 1
	required	College of Arts and Sciences	b1020012-	Linear algebra	test	2	32	32	0	Autumn 2
	required	College of Arts and Sciences	b1020013-	Probability Theory and Mathematical Statistics	test	2	32	32	0	Autumn 2
	required	College of Arts and Sciences	b1020062-	College Physics A(module 1)	test	3	48	48	0	Spring 1
	required	College of Arts and Sciences	b1020065-	College Physics B	test	2	32	32	0	Autumn 2
	required	College of Arts and Sciences	b1020066-	College Physics C	non-test	1	32	0	32	Spring 1
	required	Department of Physical Education	-----	Physical Education I～VI	non-test	3	160	160	0	Autumn 1～Autumn 4
	required	Others	b1110003	Military skills	non-test	0.5	2W			Autumn 1
	required	College of Arts and Sciences	b1110002	Military theory	non-test	0.5	32	32		Autumn 2
	required	College of Arts and Sciences	b1020018	College Chinese	non-test	2	32	32		Spring 1
	required	College of Arts and Sciences	b1020096-	German I	test	3	144	144		Autumn 1
	required	College of Arts and Sciences	b1020097-	German II	test	3	144	144		Spring 1
	required	College of Arts and Sciences	b1020046-	German III	test	2	112	112		Autumn 2
	required	College of Arts and Sciences	b1020047-	German IV	test	2	112	112		Spring 2
Total (General Education Basic Courses)						50	1296	1232	64	
General Course	required	College of Engineering	b2013024	Scientific paper writing and document retrieval	non-test	2	32	32		Autumn 1
	selective	Others	b0-----	Social Science and Humanities Literacy (4 credits) Natural Science and Technological Innovation (2 credits) Public Art (2 credits)	non-test	8	128	128		Autumn ， Spring
Subtotal (general course)						10	160	160		

10. Teaching schedule (2)

Category	Type	Provided by	Course Code	Course Name	Assessment	Credit	Course Hour	Theory Learning	Practical Training	Semester
Basic professional courses	required	College of Engineering	b2011320	Basic programming (C language)	test	3	48	24	24	Autumn 1
	required	College of Engineering	b2011049	Engineering Mechanics I	test	3	48	48	0	Spring 1
	required	College of Engineering	b2011050	Engineering Mechanics II	test	3	48	44	4	Autumn 2
	required	College of Engineering	b2011081	Machinery Manufacturing Technology	test	3	48	42	6	Spring 1
	required	College of Engineering	b2011345	Fundamentals of Mechanical Design	test	4	64	58	6	Autumn 2
	required	College of Engineering	b2011346	Computer Aided Design and Manufacturing	test	2	32	16	16	Spring 2
	required	College of Engineering	b2011342	Principle and Application of Mono-Chip Computers	test	2	32	26	6	Spring 1
	required	College of Engineering	b2011090	Control Engineering Foundation	test	3	48	44	4	Spring 2
	required	Work training	b2011347	Comprehensive Theory and Practice of Maintenance Electrician (Advanced)	test	10	160	64	96	Autumn 3
	required	College of Engineering	b2011188	Introduction to Engineering	non-test	1	16	16	0	Autumn 1
Subtotal (Basic professional courses)						34	544	382	162	
Professional courses	required	College of Engineering	b2011074	Mechanical Engineering Testing Technology	test	3	48	42	6	Spring 2
	required	College of Engineering	b2011341	CNC machine tools	test	3	48	40	8	Autumn 3
	required	College of Engineering	b2011249	Electromechanical drive control	test	3	48	42	6	Autumn 4
	required	College of Engineering	b2011348	Industrial Robot Technology and Application	test	2	32	26	6	Autumn 4
	required	College of Engineering	b2011349	CNC machine tools assembly and maintenance	test	10	160	64	96	Spring 3
	required	College of Engineering	b2011413	PLC advanced application	test	2	32	20	12	Spring 3
	Subtotal (required professional courses)					23	368	234	134	
	Selective, 6 credits	College of Engineering	b2011338	Innovative design basis	non-test	2	32	26	6	Autumn 3
		College of Engineering	b2011032	Circuit design	non-test	2	32	16	16	Autumn 3
		College of Engineering	b2011135	Advanced Manufacturing Technology	non-test	2	32	26	6	Autumn 3
		College of Engineering	b2011186	Document Retrieval	non-test	2	32	16	16	Spring 3
		College of Engineering	b2011251	Introduction to Intelligent Manufacturing	non-test	2	32	26	6	Autumn 3
	Subtotal (selective professional courses)					6	96	58	38	
Subtotal (professional courses)						29	464	292	172	

10**. Teaching schedule (3)**

Category	Type	Provided by	Course Code	Course Name	Assessment	Credit	Course Hour	Theory Learning	Practical Training	Semester
Professional courses	required	College of Engineering	b4000011	Innovation and Entrepreneurship of Mechatronics Engineering	non-test	2	48		48	Spring 3
	required	College of Engineering	b4011043	Interchangeability and measurement technology practice	non-test	2	48		48	Summer 1
	required	College of Engineering	b4011215	Principle and Application of Mono-Chip Computers Course Design	non-test	2	48		48	Summer 1
	required	College of Engineering	b4011056	Mechanical Design Course Exercise	non-test	2	48		48	Summer 2
	required	College of Engineering	b4011216	CAD/CAM Course exercise	non-test	1	24		24	Summer 2
	required	College of Engineering	b4011052	Mechanical Engineering Testing Technology Comprehensive Experiment	non-test	2	48		48	Summer 2
	required	College of Engineering	b4011217	Production Practice	non-test	2	48		48	Summer 3
	required	College of Engineering	b4011280	Industrial robot application and maintenance practice	non-test	1	24		24	Autumn 4
	required	College of Engineering	b4011220	Comprehensive practice of electrical control	non-test	2	48		48	Summer 3
	required	College of Engineering	b4011219	Comprehensive practice of electrical control	non-test	3	72		72	Autumn 4
	required	College of Engineering	b4011281	Comprehensive training of maintenance electrician (advanced)	non-test	2	48		48	Summer 3
	required	College of Engineering	b4011246	Graduation Practice and Graduation Project (Thesis)	non-test	6	288		288	Spring 4
Subtotal (professional practice)						27	792	0	792	
Extracurricular Class	required	Others	b5110001	Extracurricular Class	non-test	1	-	-	-	Autumn ， Spring ， Summer
Total						151	3256	2066	1190	

Professional Certificates can be gained after learning following courses:

Students who have passed CNC machine tools assembly and maintenance (theory and practice), Comprehensive Theory and Practice of Maintenance Electrician (Advanced), Comprehensive training of maintenance electrician (advanced), and other courses can participate in the professional qualification certificate assessment related to this program: Intermediate certificate of fitter skills, certificate of maintenance electrician (advanced), CNC machine tools assembly and maintenance certificate (intermediate), CNC machine tools assembly and maintenance certificate (advanced).

Students who have obtained maintenance electrician certificate (advanced) qualification certificate can apply for exemption from Comprehensive Theory and Practice of Maintenance Electrician (Advanced), Comprehensive training of maintenance electrician (advanced) courses and obtaining corresponding credits; students obtained CNC machine tools installation and adjustment maintenance work (advanced)) qualification certificate, can apply for CNC machine tools assembly and maintenance (theory and practice) course exemption and get corresponding credits.

11. Schedule for Semesters (Suggested)

Autumn semester 1:

Type	Course Name	Assessment	Credit	Course Hour
required	Outline of Chinese Modern History	non-test	3	48
required	First Foreign Language	test	3	144
required	Advanced MathematicsA1	test	4	64
required	Situation and Policy	non-test	0.5	8
required	Physical Education I	non-test	0.5	32
required	Military skills	non-test	0.5	2W
required	Scientific paper writing and document retrieval	non-test	2	32
required	Basic programming (C language)	test	3	48
required	Introduction to Engineering	non-test	1	16

Spring semester 1:

Type	Course Name	Assessment	Credit	Course Hour
required	Basic principles of Marxism	test	3	48
required	Ideological and moral cultivation and legal foundation	non-test	3	48
required	First Foreign Language	test	3	144
required	Advanced MathematicsA2	test	4	4
required	College Physics A	test	3	48
required	College Physics C	non-test	1	32
required	College Chinese	non-test	2	32
required	Situation and Policy	non-test	0.5	8
required	Physical Education II	non-test	0.5	32
selective	General Course	non-test	2	32
required	Engineering Mechanics I	test	3	48
required	Principle and Application of Mono-Chip Computers	test	2	32

Summer semester 1:

Type	Course Name	Assessment	Credit	Course Hour
required	Interchangeability and measurement technology practice	non-test	2	48
required	Principle and Application of Mono-Chip Computers Course Design	non-test	2	48

Autumn semester 2:

Type	Course Name	Assessment	Credit	Course Hour
required	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics I	test	3	48
required	Military theory	non-test	0.5	32
required	First Foreign Language	test	2	112
required	Linear algebra	test	2	32
required	Probability Theory and Mathematical Statistics	test	2	32
required	College Physics B	test	2	32
required	Situation and Policy	non-test	0.5	8
required	Physical Education III	non-test	0.5	32
selective	General Course	non-test	2	32

required	Engineering Mechanics II	test	3	48
required	Machinery Manufacturing Technology	test	3	48

Spring semester 2:

Type	Course Name	Assessment	Credit	Course Hour
required	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics II	test	2	32
required	First Foreign Language	test	2	112
required	Situation and Policy	non-test	0.5	8
required	Physical Education IV	non-test	0.5	32
selective	General Course	non-test	2	32
required	Computer Aided Design and Manufacturing	test	2	32
required	Mechanical Engineering Testing Technology	test	3	48
required	Fundamentals of Mechanical Design	test	4	64
required	Control Engineering Foundation	test	3	48

Summer semester 2:

Type	Course Name	Assessment	Credit	Course Hour
required	Mechanical Design Course Exercise	non-test	2	48
required	CAD/CAM COURSE DESIGN	non-test	1	24
required	Mechanical Engineering Testing Technology Comprehensive Experiment	non-test	2	48

Autumn semester 3:

Type	Course Name	Assessment	Credit	Course Hour
required	Physical Education V	non-test	0.5	16
selective	General Course	non-test	2	32
selective	Selective professional courses	non-test	2	32
selective	Selective professional courses	non-test	2	32
required	Comprehensive Theory and Practice of Maintenance Electrician (Advanced)	test	10	160
selective	CNC machine tools	test	3	48

Spring semester 3:

Type	Course Name	Assessment	Credit	Course Hour
required	Innovation and Entrepreneurship of Mechatronics Engineering	non-test	2	48
selective	Selective professional courses	non-test	2	32
required	CNC machine tools assembly and maintenance(theory and practice)	test	10	160
required	PLC ADVANCED APPLICATION	test	2	32

Summer semester 3:

Type	Course Name	Assessment	Credit	Course Hour
required	Production Practice	non-test	2	48
required	Comprehensive practice of electrical control	non-test	2	48
required	Comprehensive training of maintenance electrician (advanced)	non-test	2	48

Autumn semester 4:

Type	Course Name	Assessment	Credit	Course Hour
required	Physical Education VI	non-test	0.5	16
required	Electromechanical drive control	test	3	48
required	Industrial Robot Technology and Application	test	2	32
required	Industrial robot application and maintenance practice	non-test	1	24
required	Comprehensive practice of electrical control	non-test	3	72

Spring semester 4:

Type	Course Name	Assessment	Credit	Course Hour
required	Graduation Practice and Graduation Project (Thesis)	non-test	6	288

12. Prerequisite for Course Study

No.	Course name	Prerequisite Course	No.	Course name	Prerequisite Course
1	Engineering Mechanics I	Calculus A1	7	Electromechanical drive control	Control Engineering Foundation
		Calculus A2			Fundamentals of Mechanical Design
		College Physics A			Comprehensive Theory and Practice of Maintenance Electrician
2	Engineering Mechanics II	Calculus A1	8	Industrial Robot Technology and Application	Fundamentals of Mechanical Design
		Calculus A2			Control Engineering Foundation
		College Physics A			Comprehensive Theory and Practice of Maintenance Electrician
3	Fundamentals of Mechanical Design	Calculus A1	9	CNC machine tools assembly and maintenance	CNC machine tools
		Calculus A2			Comprehensive Theory and Practice of Maintenance Electrician
		Engineering Mechanics I			
4	Principle and Application of Mono-Chip Computer	Calculus A1	10	CNC machine tools	Mechanical Design
		Calculus A2			Machinery Manufacturing Technology
		Foundation of programming design			Mechanical Engineering Testing Technology
5	Control Engineering Foundation	Calculus A1	11	Mechanical Engineering Testing Technology	Calculus
		Calculus A2			College Physics
		College Physics			Foundation of programming design
6	Computer Aided Design and Manufacturing	Mechanical Design	12		
		Machinery Manufacturing Technology			

13. Extracurricular Class

Through taking extracurricular classes, students are encouraged to take part in academic lectures, social practice activities, campus cultural and sports activities, innovative and entrepreneurial activities, voluntary activities, etc. to improve their social adaptability and enhance the competitiveness in the job market. Details are specified in Students' Manual.