

I. Years of Study

Three-Year

II. Medium of Instruction

Chinese

III. Cultivation Goals

Oriented towards career competence and demand for jobs, the college is aimed at cultivating students' Chinese language skills, job skills and professional competence, nurturing unique characteristics such as internationalization, skill upgrading and professionalism in a science-based approach. It works to cultivate high-quality technical and skilled personnel who have following qualifications, including mastering basic theory and specialized knowledge necessary for digital design and manufacturing, obtaining comprehensive occupational ability, innovation ability and overall quality for practical work, being able to engage in work such as digital design of mechanical process equipment and parts, mechanical process planning and implementation, multi-axis high-speed composite process development, quality inspection and control, product design in the production line, meeting the needs of industrial transformation and upgrading and enterprise technological innovation, and boasting competence for jobs in digital design and manufacturing. At the same time, students shall have a certain understanding about Chinese traditional culture and history of humanity.

IV. Major Courses

No.	Title of the Course	Main Content of the Course	Credit Hours and Credits	Semester
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1	Mechanical Design I	It mainly introduces the basic knowledge and methods, including working principles, kinematic characteristics, application occasions and design methods of common mechanisms such as planar linkage mechanism, gear mechanism, cam mechanism, screw mechanism, intermittent motion mechanism that make up the machine, as well as the knowledge about calculation of gear system's transmission ratio and mechanical innovation design.	48 credit hours 3 credits	2
2	Industrial Robot Technology and Application	The course enables students to learn the definition and development direction of industrial robots, the composition, motion and classification of robots, the drive of motors, the control composition of industrial robots, and application control in practical situations, with the aim of laying a good foundation for students to improve professional competence and continue their studies and engaging in practical work in the future.	32 credit hours 2 credits	3
3	CNC Lathe Operation Training I	The course enables students to understand the essentials and basic knowledge of CNC lathe operation, get familiar with safe operating procedures and programming methods, and be able to correctly operate CNC lathe to process simple parts and use measuring tools to adjust dimensional errors.	28 credit hours 1 credit	3
4	CNC Milling Machine Operation Training	Through the study of the training course, students can understand the basics of CNC milling machine programming, master the application of basic instructions in programming, analyze the process of parts, determine a reasonable tool path, and be proficient in operating CNC milling machines to process parts.	56 credit hours 2 credits	3

5	Mechanical Manufacturing Process Course Design	The students are able to complete the machining process analysis of typical parts, determine the work blank, machining allowance, cutting amount, process dimensions and tolerances, fixtures and gauges, analyze the positioning and clamping of the work piece, and compile machining process documents according to process specifications and standards.	one-week credit hours 1 credit	4
6	Digital Modeling of Complex Parts	In this special weekly training, through digital modeling of several complex parts, students are able to master the skills of 3D modeling of complex parts in NX. The content of the course is to bridge the gap between classroom teaching and CAM certification.	one-week credit hours 1 credit	4
7	Mechanical Manufacturing Process A	Based on the basic theory of machining process, the course organically integrates the basic principles of metal cutting, the three elements of cutting amount and the selection of geometric parameters of the tools, and expounds the basic principles and methods of formulating machining process regulations.	64 credit hours 4 credits	4
8	CNC Programming and CAM Technology	The course mainly introduces basic CNC programming instructions and programming methods of various CNC lathes. The contents include process design, numerical processing, functions and instructions for basic programming in the process of CNC machining, and programming methods for CNC equipment such as CNC lathes, CNC milling machines and machining centers.	64 credit hours 4 credits	4

9	Machine Electrical Technology and PLC Tool and	The course mainly teaches the structure, working principle and use of common electrical appliances in machine tools, as well as the basic link of the machine tool control circuit, the control principle of the ordinary machine tool control system. The student can understand the basic working principle, selection principle, basic work instruction system, programming features and methods of programmable controller, as well as the working principle of the logic control part of the CNC machine tool.	48 credit hours 3 credits	5
10	Hydraulic and Pneumatic Transmission Control Technology	The course introduces structure and application of common hydraulic components, the composition and application of basic hydraulic circuit, the application of hydraulic servo system, the basic pneumatic circuit and several typical circuits, as well as examination and maintenance of hydraulic and pneumatic systems.	48 credit hours 3 credits	5