**Annex 1: Major Introduction**

**1、Visual Communication Design**

Visual Communication Design is one of the earliest art and design programs established in Shandong Province. It was founded in 1983 and granted the authority to confer master's degrees in 2003. In 2020, it was designated as a national first-class undergraduate program. The program offers two specialized directions: Visual Communication Design and Decorative Art Design.

The curriculum for the Visual Communication Design direction is designed to meet the demands of social development, emphasizing the integration of new media and high technology. Our students have achieved outstanding results in innovative design and practical ability through participation in various design competitions. The Decorative Art Design direction aims to promote and inherit traditional Chinese culture and art, emphasizing the cultivation of practical skills, artistic design abilities, and theoretical research capabilities.

Graduates from our program find employment opportunities in design research departments, media and information communication organizations, cross-disciplinary fields of new media, publishing, printing, and textile industries, engaging in tasks such as visual communication, decorative art design, teaching, and research.

**2、Environmental Design**

The Environmental Design program was established in 1993 and is an interdisciplinary comprehensive program with the goal of simultaneous development of teaching and scientific research, and the integration of theoretical research and social services.

Currently, the program is equipped with practical experimental platforms such as intelligent "cloud" space design, CNC model making, and Augmented Reality (AR) exhibition systems. In 2021, it was designated as a "national first-class undergraduate program". The program has 16 full-time teachers, including 9 master's supervisors, 9 teachers with senior professional titles, 4 teachers with doctoral degrees, and 8 teachers with overseas study and visiting backgrounds.

Graduates from the Environmental Design program possess a broad cultural perspective, comprehensive analytical and problem-solving skills, as well as the ability to undertake design projects, research topics, and exhibit good teamwork and communication skills. They are highly qualified innovative application-oriented design professionals. Employment opportunities for our graduates include teaching and research work in environmental design in higher education institutions, professional project design in environmental design institutions such as interior design and landscape design, and entrepreneurship.

**3、Product Design**

Our Product Design program was established in 1989 and granted the authority to confer master's degrees in 2003. In 2013, it was recognized as a key construction program under the Shandong Province's Characteristic Name School Project. Furthermore, in 2016, it was selected as a high-level applied undergraduate program in Shandong Province and, in 2019, designated as a national first-class undergraduate program.

The program boasts a provincial-level teaching team consisting of 11 full-time faculty members. It has been granted one national first-class undergraduate course and offers specialized directions in Home Living Products, Cultural Creative Products, and Micro Transportation Design. Aligned with the cutting-edge of the discipline, we focus on solidifying professional skills, broadening design thinking, and enhancing innovation capabilities to cultivate creative talents with high-level design skills.

Our graduates find employment opportunities in design research institutes, UI/UX fields, educational institutions, government agencies, and higher education departments, engaging in tasks such as automotive electronics product development, CMF process research and development, enterprise design management, and product research and development in the internet sector.

**4、Digital Media Art**

Digital Media Art is an interdisciplinary program that combines digital technology and art design. Through a multidisciplinary integration of humanities, art, and technology, our curriculum enables students to master the fundamental theories and methods of digital media art. We aim to cultivate innovative talents with an international perspective and artistic literacy in fields such as interactive design, film and television production, and animation.

Our program follows a training path that combines teaching, implementation, and industrial demand. We implement a practical teaching model of "basic training + thematic practice + discipline competition + comprehensive practice" and prioritize innovation and entrepreneurship education to provide an abundant source of innovative and entrepreneurial talent for the digital media industry. The program began enrolling students in 2020, and as a newly established program that meets the demands of the social market, our graduates will have opportunities to work in areas such as the internet, film, television, advertising, gaming, and animation, focusing on digital media art design and development.

**5、Advertising**

The Advertising program was established in 2003 and has graduated 15 classes of students. Currently, we have nearly 400 undergraduate students and 12 full-time faculty members, as well as several industry professionals serving as adjunct faculty members.

The program adheres to a comprehensive talent development model that emphasizes a solid foundation, dual skills, and high quality. We aim to cultivate applied talents in the advertising and media industries who possess interdisciplinary knowledge and have skills in both graphic design and copywriting. Our students have achieved remarkable results in national renowned advertising competitions such as Da Guang (Grand Winner), Golden Calf Award, and One Show, with over 750 individuals winning more than 100 awards, laying a solid foundation for high-end employment opportunities for graduates. The program has maintained a 100% first-choice enrollment rate in Shandong Province from 2018 to 2022. Graduates from the Advertising program primarily find employment in advertising agencies, media companies, public relations firms, network companies, and large and medium-sized enterprises in first- and second-tier cities such as Beijing and Shanghai.

**6、Teaching Chinese to Speakers of Other Languages (TCSOL)**

The major of TCSOL recruited the first group of students in 2012. It is one of the high-level applied majors of Qilu University of Technology. The priority of the major is to cultivate senior interdisciplinary talents with professional knowledge of Chinese literature, traditional Chinese culture and the capacity of cross-cultural communication and high-level humanistic quality and the ability to engage in Chinese teaching in various schools at home and abroad, as well as related work in functional departments, foreign institutions and press and publishing units.There are 10 full-time teachers, including 2 professors, 4 associate professors and 7 teachers with doctoral degrees, forming a vigorous team with great teaching, research and talent training strength. Main courses include Contemporary Chinese Language, Ancient Chinese Language, An Introduction to Linguistics, Applied Linguistics, Ancient Chinese Literature, General Chinese Culture, An Introduction to Teaching Chinese as a Foreign Language, with Intercultural Communication, Chinese Culture, A Comparative Study of Literary Translation as its elective courses. Moreover, practical courses on traditional culture are offered such as calligraphy, paper cutting, tea art, Tai Chi. So far, the major has cultivated seven groups of excellent graduates. Each year the major accepts some international students. So far more than 70 foreign students have ever studied here as TCSOL majors.

1. **Food Science and Engineering （Undergraduate）**

The food engineering major was established in 1985. After more than 30 years of development, it has made great contributions in personnel training, scientific research and social services, and has a high influence in China. In 2019, the food science and engineering major was selected into the first batch of national first-class undergraduate construction majors, and passed the national engineering education certification in 2021. There are 45 full-time teachers in the food major, including 5 doctoral supervisors, 27 master supervisors, 15 professors, and 26 associate professors. Among them, there are leading talents in scientific and technological innovation of the National "Ten Thousand Talents Program" and "Taishan Scholars" in Shandong Province, national outstanding teacher and model of teacher morality, the most beautiful teacher in Qilu, young and middle-aged experts with outstanding contributions in Shandong Province, leader of key disciplines of food science in Shandong Province, member of the Food Science and Engineering Teaching Steering Committee of the Ministry of Education, and teaching team of "Huang Danian style" in universities of Shandong Province, The teaching teams have strong teaching forces.

Food science and engineering is a key construction specialty of famous higher education schools in Shandong Province for the construction of engineering application-oriented talents. Depending on the provincial and ministerial-level scientific research platforms such as the National Key Laboratory, National divisional center of grain and oil processing technology research and development, Shandong institute of food industry innovation and development research, Shandong provincial key lab of food fermentation Engineering, we give full play to the advantages of the integration of science, education, and industry, and cooperate closely with domestic and foreign research institutes and large and medium-sized enterprises to implement the talent training model of "integration of science, education, industry, and collaborative education" to cultivate high-quality talents, innovative application-oriented engineering talents.

1. **Material Shaping and Control Engineering**

The major was founded in 2004 and was granted the right to confer a master's degree in 2012. In 2022, it was approved as the first-class major in Shandong Province. The major is based on China Key Laboratory of Light Industry Equipment Manufacturing and Intelligent Measurement and Control, Shandong Provincial High Strength and Toughness Lightweight Alloy Material Design and Preparation Engineering Laboratory, Shandong Provincial Intelligent Manufacturing Innovation Center, etc. The major has high-quality teachers’ team, with all having doctoral degrees, and 73% having senior professional titles. There are 2 experts from the national "Thousand Talents Plan", 2 provincial and ministerial level talents, and 17 full-time teachers with experience in well-known enterprises such as automobiles, aviation, materials, and other engineering practices. With the trend of intelligent and high-quality manufacturing, the major develops towards lightweight, digital, and green manufacturing, and highlights the study on lightweight design and manufacturing of components. The student cultivation focuses on the facts regrading light alloy materials and forming, lightweight design, forming process and mold simulation, etc. Based on the two directions: mold design/manufacturing and modern connection technology, we focus on cultivating the students with broad theoretical knowledge, innovative spirit, and practical abilities. The major emphasizes the intersection of the three related disciplines of "advanced materials", "forming technology", and "control technology", and attach importance to the integration and development of multiple disciplines.

**9、International Economics and Trade**

The major of International Economics and Trade was founded in 1994. In 2017, it was approved as a high-level applied project construction major in Shandong Province. In 2018, it was granted the right to confer a master's degree in applied economics. In 2022, it was approved as a first-class undergraduate major construction site in Shandong Province. In the ranking provided by China Alumni Association for the major of International Economics and Trade, it ranks 67th in China and 3rd in Shandong Province. There are currently 17 full-time faculty members, with 70% of them holding doctoral degrees; 35% of them have overseas study experiences. This major has three research centers: China-Japan-South Korea Economic Research Center, Cross border E-commerce and International Settlement Center, and RCEP and Digital Trade Research Center. Up to now, this major has enrolled over 340 students. It aims to cultivate high-quality composite application-oriented talents who serve the needs of the "the Belt and Road" initiative and RCEP promotion, and have good professional ethics and social responsibility, profound humanistic quality, broad international vision, as well as being familiar with international economic and trade theory and practice, and have a high level of foreign trade English and information technology in cross-border e-commerce, digital trade and other directions. Major courses include：Microeconomics, Macroeconomics, International Trade, international economics, International Investment, International Finance, International Trade Practice, International Business, International marketing, etc.

**10、Mechanical Design Manufacture and Automation**

Mechanical Design, Manufacture and Automation Major of Qilu University of Technology was founded in 1978, granted the right to confer a master's degree in a first-level discipline. It is dedicated to cultivating well-rounded individuals with strong theoretical foundation, comprehensive abilities to analyze and solve complicated engineering problems, and competence in conducting engineering research. The major aims to cultivate high-quality applied talents who can engage in technology development and services, engineering design and implementation, scientific research and application. The major has strong faculty consisting of 56 full-time teachers, including 14 professors, 2 doctoral supervisors and 22 master supervisors. Our teaching staffs include Taishan Scholars, New Century Outstanding Talents from the Ministry of Education, Shandong Province Young and Middle-aged Experts with Outstanding Contributions, Thousand Talents Program of Sichuan Province and Chief Experts of Key Disciplines in Shandong Province. We also have Shandong Famous Teaching Teachers, Teachers' Ethics Pacesetters, Teaching Method Reform Pacesetters, and the First Prize Winners in the Shandong University Young Teachers Teaching Competition. Mechanical Design, Manufacture and Automation Major has established three key discipline teaching and experiment centers (mechanical and electronic technology, mechanical and material engineering, and mechanical engineering) of Shandong colleges and universities, Shandong Province Intelligent Manufacturing Public Training Base for New and Old Kinetic Energy Conversion, and school-level mechanical engineering experiment teaching center.

**11、Robot Engineering**

Major introduction: Robot engineering is a new engineering major and started enrollment in September 2018. Relying on the needs of the domestic industrial robot industry, the professional is oriented to the design, development and application of industrial robot systems for intelligent manufacturing. It focuses on cultivating high-quality engineering application research talents who master the design, research and development, integrated application and other technologies of various modern robot mechanisms and control systems. Graduates would have a solid theoretical foundation, strong engineering practice and innovation ability. At present, it has completed the training of 5 batches of students, established a perfect training mechanism. Closely following the cutting-edge teaching program, the major already has mature experimental environment and strong faculty, ranking among the best in Shandong Province.

**12、Intelligent Manufacture Engineering**

The Intelligent Manufacturing Engineering major began enrollment in September 2020. At present, this major has 14 full-time teachers, 4 senior professional titles and 8 intermediate professional titles. It mainly cultivates high-quality application-oriented talents with the ability to identify, analyze and solve complex engineering problems in the field of intelligent manufacturing. The students would be competent for system design, development, technology integration, installation and commissioning, operation and maintenance, technical management and service in the field of intelligent manufacturing after graduation. In 2022, the National College Entry Intelligence and Big Data Innovation Alliance ranked 264 colleges and universities in terms of comprehensive strength of education and teaching, and Qilu University of Technology ranked 75th in intelligent manufacturing engineering, with a comprehensive score of 91.4 points, comprehensive strength B category.This major responds to the call of the national intelligent manufacturing strategy and serves the strategic emerging industries in Shandong Province. Graduates should be able to carry out intelligent manufacturing system analysis and planning, intelligent equipment design integration, intelligent factory design integration, intelligent production management and intelligent services. Teachers have always actively organized students to participate in discipline competitions. In the past three years, students have won more than 10 national awards and more than 30 provincial and ministerial awards in the National College Student Machinery Innovation Design Competition, China Robot Competition, China Robot and Artificial Intelligence Competition, China College Creative Robot Competition, Shandong Intelligent Manufacturing Competition, Shandong College Student Robot Competition, etc.

**13、Control Science and Engineering**

The major of control science and engineering is a comprehensive major based on cybernetics, systems theory and information theory, taking engineering systems as the research object, mathematical methods, communication technology and computer information technology as the main research tools, studying the theories, methods and technologies of various control strategies and control systems, and making engineering systems achieve the desired goals.

Motivated by the major national needs, this major has formed a research direction characterized by pattern recognition and intelligent systems, detection technology and automation devices, control theory and control engineering. There are currently 10 national and provincial talents and 12 doctoral supervisors; We have 5 national level platforms such as the "National Engineering Technology Research Center" and 8 provincial and ministerial level platforms, with a total equipment value of over 130 million yuan. In the past five years, we have undertaken over 50 national level projects, over 100 provincial and ministerial level projects, and over 200 other government and horizontal projects, with a total budget of over 300 million yuan; Led over 20 teaching and research projects; Received 1 second-class prize of National Science and Technology Progress Award, 3 first-class prizes of Provincial Science and Technology Progress Award, and 5 provincial and ministerial level teaching achievement awards.

**14、Light Industry Technology and Engineering**

The light industry technology and engineering major relies on the Faculty of Light Industry of Qilu University of Technology, and has formed research directions such as pulp and paper engineering, biomass science and engineering, leather chemistry and engineering, and printing and packaging engineering. There are more than 10 national, provincial and ministerial talent titles such as Yangtze River Scholars, National Outstanding Young Scholars, Ten Thousand Talents Program, Taishan Scholars, Provincial Teaching Masters, etc., and a high-level teaching and research team with international vision and international competitiveness has been built.

We professionally built State Key Laboratory of Bio-based Materials and Green Papermaking, Key Laboratory of Pulp and Papermaking Science and Technology of the Ministry of Education, Ministry of Light Industry Bio-based Products Green Technology Co-constructed Collaborative Innovation Center, Pulp and Paper Shandong Provincial Engineering Research Center, etc. high-level research and innovation platform. In recent years, focusing on the development needs of the light industry, light industry technology and engineering majors have developed green technologies for pulping and papermaking, comprehensive development and utilization of biomass resources, clean tanning engineering and functional tanning materials, green printing and intelligent packaging materials, bio-based key technical fields such as functional materials have undertaken a number of major scientific research tasks, and won 1 first prize, 4 second prizes of the National Science and Technology Progress Award, 1 second prize of the National Technological Invention Award, and more than 20 provincial and ministerial scientific research and teaching awards.

The major of light industry technology and engineering adheres to the "industry-university-research-application" integrated collaborative education model, and provides talents and technological support for the development of the light industry. The major focuses on strengthening and expanding international academic exchanges and cooperation, and has established stable cooperative relations with scientific research institutes in the United States, Canada, Australia, the United Kingdom, Spain, Thailand, etc., and regularly selects outstanding students to go abroad for study and exchange.

**15、Chemistry**

The major of chemistry is the first-level discipline for master's degree, the top 1% discipline in global ESI ranking, and the "first-class discipline" of Shandong Province. It has five training directions: polymer chemistry and physics, organic chemistry, analytical chemistry, inorganic chemistry, physical chemistry. Among them, polymer chemistry and physics is the provincial key discipline, featuring on functional polymers such as optoelectronic functional polymers, biomedical polymers, and stimuli-responsive polymers. The organic chemistry direction studies physiologically active molecules and fluorescent probes at the molecular level, the relationship between the structure and properties of functional organic molecules such as high-energy nitrogen-containing compounds. The physical chemistry direction is characterized by computational chemistry, focusing on molecular dynamics simulation of large systems and functional small molecular structure design. The analytical chemistry direction is characterized by molecular recognition and biosensing analysis, and the development of chemical biosensing molecular devices based on molecular recognition theory. As a basic discipline, chemistry has important academic significance and application value for promoting the development of medicine, fine chemical industry, materials science and life sciences, which are in high demand in society.

1. **Computer Science and Technology**

The Computer Science and Technology major is a "peak discipline" project construction discipline in Shandong Province. It ranked top 13% in the China’s Best Discipline Ranking of Soft Science in 2022, and has been the top-ranked discipline among universities in Shandong Province for three consecutive years. The discipline has more than 20 key platforms at the provincial and ministerial levels, such as the Key Laboratory of Computing Internet and Information Security of the Ministry of Education, the National Supercomputer Center in Jinan, the Shandong Provincial Basic Science Research Center (Computer Science), and the Shandong Provincial Key Laboratory of Networks.

There are more than 260 faculty members in this major, including one academician of the Chinese Academy of Engineering, one academician of the Russian Academy of Engineering, one academician of the European Academy of Sciences, one academician of the Canadian Academy of Engineering, as well as over 20 high-level talents at the provincial level or above, such as the experts of the Mount Tai Scholar Climbing Program, and more than 130 master's supervisors. The discipline gives full play to the advantages of integration of science and education, and has formed a high-level tutor team led by top experts, with doctors, masters and professionals with extensive engineering experience as the backbone. It has strong teaching and scientific research strength and a high level of talent cultivation.

Up to now, the major has admitted over 1,500 students, and has trained and delivered 19 years outstanding graduates to the society. The areas of specialization include high-performance computing and application, software and big data technology, computer network and distributed systems, network and information security, intelligent information processing and systems, and marine monitoring and intelligent sensing technology.

The training of academic master's students follows a mentor-responsible system and combines coursework learning with thesis work. The training process for master's students combines systematic theoretical learning, scientific research, and practical experience. Students are encouraged to participate in research and development projects under the guidance of supervisors. We also encourage students to engage in internships and research work at graduate training bases.

The core courses of this major include combinatorial mathematics, advanced computer network, advanced algorithm design and analysis, data mining and knowledge discovery, neural network theory and application, network and information security, etc.

**17、Food Science and Engineering （Graduate）**

Food science and engineering is an interdisciplinary first-level engineering discipline that takes food raw materials and food as its research object and takes engineering, science, agronomy and medicine as its main scientific basis to study the physical, chemical and biological properties, nutrition, quality, safety and engineering technology of food raw materials and food.

This discipline cultivates all-round development of morality, intelligence and physical beauty, realistic scientific attitude and teamwork spirit, who can systematically master the basic theory, professional knowledge and experimental skills of this discipline direction, as well as engineering ability. The basic period of study is 3 years, and the maximum period of study is 5 years.

**18、Environmental Engineering**

The major of Environmental Engineering is established in Qilu University of Technology (Shandong Academy of Sciences) in 1998. It is a national first-class professional construction site and has passed the certification of engineering education. In 2014, The major of Environmental Engineering was granted the right to confer a master's degree in professional degree of Environmental Engineering. The disciplines of Environmental Engineering ranks in the top 1% of ESI world academic institutions. There are 55 full-time teachers, including 18 professors and 26 associate professors with strong teaching and research capabilities and a high level of talent cultivation. The major of Environmental Engineering has recruited a total of 235 students, including international 7 students. This major requires mastering solid basic theories and broad professional knowledge in the field of resources and environment; possess solid practical skills and research capabilities; be familiar with relevant specifications, carbon neutrality, ecological restoration, pollution control, cleaner production and other technical methods in the industry; cultivate high-level applied and composite engineering technology and engineering management professionals with good professional literacy and international perspective. This major is taught in both Chinese and English, the main courses include Thesis Writing and Academic Ethics, Frontiers of Environmental Science and Engineering, Environmental Response Engineering, Environmental Bioengineering, Pollution Control Chemistry and Engineering, Industrial Ecological Principles and Engineering, and Applied mathematical statistics, There are also applied skills courses such as Environmental Planning and Management, Advanced Air Pollution control engineering, Carbon Emission Nuclear Accounting Methodology, environmental economics, Environmental Functional Materials, and Biomass Resource Utilization.

**19、Electronic Information Engineering**

The Shandong Institute of China-Ukraine Technology Innovation is authorized to enroll postgraduates in Electronic Information Engineering since 2021. The training goal of major Electronic Information Engineering is to master basic theories of Electronic Information Technology, Control Technology, Computer Technology and other relevant courses, and to foster work independence and professionalism in engineering project planning, design, implementation, research, development and management, thus providing engineering-applied talents for universities and industry. There are four research directions under major Electronic Information Engineering. First, Control Engineering,which is to conduct research in engineering application of various advanced control theories, control system integration technology, monitor and control network technology, pattern recognition, etc. Second, Electronic and Communication Engineering, which is to conduct research in information transmission and system interconnection, advanced perception and intelligent system, human-machine intelligent cooperation technology, biomedical signal and information processing, human-machine cooperation and intelligent information processing, etc. Third, Intelligent Detection Technology, which is to conduct research in the software and hardware technology development and application of intelligent detection instruments and control instruments for industrial processes. Fourth, Computer Technology, which is to conduct research in software development, intelligent information and image processing, intelligent manufacturing and big data mining, etc.