MALAYSIA-CHINA YOUTH TVET TRAINING

PKPB belia mahir

唐风国际教育 Tang International Education

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# PANDUAN 210 BIDANG UTAMA LATIHAN

Malaysia-China Youth TVET Training

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**PANDUAN 210 BIDANG UTAMA LATIHAN** ini terbahagi kepada dua (2) bahagian iaitu:

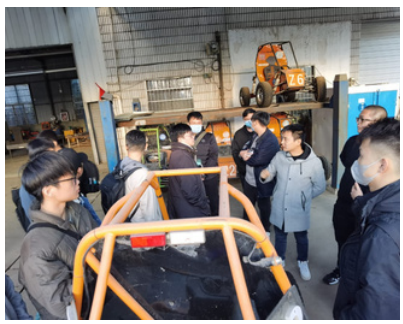
## BAHAGIAN 1:
## SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

## BAHAGIAN 2:
## DEFINISI KURSUS/BIDANG DAN MAKLUMAT TUGASAN LATIHAN














# BAHAGIAN 1:

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

1. Seed production and management
2. Modern agricultural technology
3. Plant protection and quarantine technology
4. Tea production and processing technology
5. Chinese herbal medicine cultivation and processing technology
6. Modern agricultural equipment application technology
7. Agricultural product processing and quality inspection
8. Green food production technology
9. Agricultural product circulation and management
10. Forestry technology
11. Garden technology
12. Flower production and floriculture
13. Forest and grassland resource conservation
14. Wood industry intelligent equipment application technology
15. Wood product design and manufacturing
16. Animal medicine
17. Animal epidemic prevention and quarantine
18. Intelligent breeding of livestock and poultry
19. Animal nutrition and feed
20. Aquaculture technology
21. Marine fishery technology
22. Land and resources investigation and management
23. Mineral geological exploration
24. Identification and processing of gemstones
25. Engineering geological survey
26. Hydrology and engineering geology
27. Drilling engineering technology
28. Engineering surveying technique
29. UAV mapping technology
30. Spatial digital modeling and application technology

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

31. Oil and gas storage and transportation technology
32. Drilling technology
33. Petroleum Engineering Technology
34. Mine electromechanical and intelligent equipment
35. Intelligent mining technology in mines
36. Environmental engineering technology
37. Water purification and safety technology
38. Safety technology and management
39. Safety intelligent monitoring technology
40. Emergency rescue technique
41. Power plants and power systems
42. Electromechanical equipment and automation of hydropower station
43. Hydropower station and power grid technology
44. Power System Automation Technology
45. Electric power transmission and distribution engineering technology
46. Power supply technology
47. Thermal power engineering technology
48. Solar thermal technology and application
49. Power generation operation technology
50. Power Plant Chemistry and Environmental Technology
51. Photovoltaic Engineering Technology
52. Wind power engineering technology
53. Biomass energy application technology
54. Non-ferrous metal intelligent metallurgy technology
55. Intelligent metal processing technology
56. Building materials engineering technology
57. Big data technology
58. Architectural decoration engineering technology
59. Architectural interior Design
60. Construction engineering technology

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

61. Building steel structure engineering technology
62. Underground and tunnel engineering technology
63. Civil engineering inspection technology
64. Construction equipment engineering technology
65. Heating, ventilation and air conditioning engineering technology
66. Building fire protection technology
67. Project costs
68. Water supply and drainage engineering technology
69. Urban gas engineering technology
70. Real estate operation and management
71. Modern property management
72. Water conservancy engineering
73. Water conservancy and hydropower engineering technology
74. Water conservancy and hydropower construction engineering
75. Installation and management of hydropower station equipment
76. Hydropower station operation and intelligent management
77. Water and soil conservation technology
78. Mechanical design and manufacture
79. Intelligent manufacturing equipment technology
80. Industrial design
81. Industrial engineering technology
82. Intelligent welding technology
83. Industrial product quality testing technology
84. Motor and electrical technology
85. New energy equipment technology
86. Refrigeration and air conditioning technology
87. Elevator engineering technology
88. Mechatronics technology
89. Industrial robot technology
90. Industrial Internet application

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

91. Railway rolling stock manufacture and maintenance
92. Rail transit communication signal equipment manufacturing and maintenance
93. Ship engineering technology
94. Ship electrical engineering technology
95. Aircraft engine manufacturing technology
96. Aircraft maintenance technology
97. UAV application technology
98. New energy vehicle technology
99. Automotive electronics technology
100. Food biotechnology
101. Biological product inspection and quarantine
102. Petroleum refining technology
103. Petrochemical technology
104. Furniture design and manufacturing
105. Footwear design and craftsmanship
106. Jewelry technology and management
107. Packaging engineering technology
108. Packaging planning and design
109. Printing equipment application technology
110. Modern textile technology
111. Garment design and craft
112. Textile design
113. Intelligent food processing technology
114. Food quality and safety
115. Food nutrition and health
116. Food inspection and testing technology
117. Drug quality and safety
118. Food and drug supervision and administration
119. Rehabilitation engineering technology
120. Health food quality and management

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

121. Grain engineering technology and management
122. Grain storage and transportation and quality safety
123. Railway engineering technology
124. High-speed railway construction and maintenance
125. Railway bridge and tunnel engineering technology
126. Railway vehicle technology
127. High speed railway comprehensive maintenance technology
128. Railway signal automatic control
129. Road and bridge engineering technology
130. Road engineering inspection technology
131. Automotive technical service and marketing
132. Automobile inspection and maintenance technology
133. New energy vehicle inspection and maintenance technology
134. Navigation technology
135. Port and waterway engineering technology
136. Marine engineering technology
137. Port and shipping management
138. Ship inspection
139. Container transportation management
140. Helicopter piloting technology
141. Flight attendant
142. Airport operation service and management
143. Aircraft mechanical and electrical equipment maintenance
144. General aircraft maintenance
145. Airport field technology and management
146. General aviation technology
147. Pipeline engineering technology
148. Pipeline transportation management
149. Urban rail transit engineering technology
150. Electronic information engineering technology

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

151. Internet of things application technology
152. Applied electronic technology
153. Electronic product manufacturing technology
154. Mobile Internet application technology
155. Intelligent photoelectric technology application
156. Computer application technology
157. Computer network technology
158. Software technology
159. Information security technology application
160. Artificial intelligence technology application
161. Animation production technology
162. Modern mobile communication technology
163. Communication engineering design and supervision
164. Nursing
165. Traditional Chinese Medicine
166. Traditional Chinese Medicine Orthopedics
167. Acupuncture and Massage
168. Chinese Medicinal Materials Production and Processing
169. Traditional Chinese Medicine Rehabilitation Technology
170. Traditional Chinese Medicine Health Care
171. Medicinal Diet and Diet Therapy
172. Medical laboratory technology
173. Hygiene inspection and quarantine technology
174. Rehabilitation technology
175. Public health management
176. Health information management
177. Preventive medicine
178. Geriatric health care and management
179. Medical nutrition
180. Ocular optometry

# SENARAI KURSUS/BIDANG LATIHAN YANG DI TAWARKAN

181. Accounting information management
182. International business
183. Marketing
184. E-Commerce
185. Cross-border e-commerce
186. Logistics engineering technology
187. Modern logistics management
188. Port logistics management
189. Tourism management
190. Tour guide
191. Hotel management and digital operation
192. Tea art and tea culture
193. Cooking craft and nutrition
194. Chinese and western pastry crafts
195. Product art design
196. Apparel and Apparel Design
197. Interior art design
198. Animation design
199. Cultural creativity and planning
200. Network news and communication
201. Digital media equipment application and management
202. Film and television animation
203. Photography and videography technology
204. Modern educational technology
205. Chinese
206. Sports training
207. Physical health and rehabilitation
208. Police command and tactics
209. Criminal investigation technology
210. Smart elderly health care service and management

# BAHAGIAN 2:

# DEFINISI KURSUS/BIDANG DAN MAKLUMAT TUGASAN LATIHAN

# 001 SEED PRODUCTION AND MANAGEMENT

**Program Name**
Seed production and management

**Program Definition**
Seed production and management mainly studies the basic knowledge and skills of plant physiology, genetics, breeding, seed production and processing, crop pest control, etc., and conducts seed cultivation, production, processing, inspection, storage, management and marketing. For example: screening and breeding of excellent seeds, threshing, drying, selection, grading and packaging of corn, rice and other crop seeds, moisture-proof and insect-proof of seeds, etc.

**Core Subject Courses**
Plant Physiology, Genetics, Biostatistics, Seed Physiology, Seed Inspection and Quarantine, Crop Cultivation, Crop Breeding, Crop Pest Control, Seed Production and Processing , Seed operation and management, etc.

**Employment Prospect**
Agricultural enterprises: seed cultivation, seed production, seed inspection, seed processing, seed management, seed marketing.

# 002 MODERN AGRICULTURAL TECHNOLOGY

**Program Name**
Modern agricultural technology

**Program Definition**
Modern agricultural technology mainly studies the basic knowledge and skills of modern agricultural technology, modern agricultural equipment, agricultural information technology, etc., and combines traditional agricultural technology with modern science to realize agricultural mechanization, electrification and scientificization. Common modern agricultural technologies include soilless cultivation technology, intelligent greenhouse farming technology, and drone spraying pesticide technology, etc.

**Core Subject Courses**
Modern Agricultural Enterprise Operation and Management, Modern Agricultural Equipment, Crop Production Technology, Agricultural Information Technology and Information Management, Modern Agricultural Operation and Management, Modern Agricultural Garden Planning and Design, Agricultural Product Management and Services, Agricultural Materials Management and Services, Plant Production Technology, etc.

**Employment Prospect**
Modern agricultural enterprises: soilless cultivation, planting technology, breeding of good variety, agricultural technology.

# 003 PLANT PROTECTION AND QUARANTINE TECHNOLOGY

**Program Name**
Plant protection and quarantine technology

**Program Definition**
Plant protection and quarantine technology mainly studies the basic knowledge and skills of plant physiology, plant pathology, agricultural entomology, plant inspection and quarantine, etc., and conducts plant and crop pest control and inspection and quarantine. For example: the prevention and control of plant wilting, rot and pest infestation, the inspection of imported and exported plant diseases and pests, the detection of crop pesticide residues, etc.

**Core Subject Courses**
Plant and Plant Physiology, Soil and Fertilizer Science, Plant Pathology, Agricultural Entomology, Control Principles and Pesticides, Plant Protection Machinery, Plant Quarantine, Crop Cultivation, Agricultural Ecology and Environmental Protection, Pesticide Marketing, etc.

**Employment Prospect**
Agricultural enterprises: pest prediction, pest control; Inspection and quarantine enterprises and institutions: plant quarantine, pesticide residue testing, agricultural product safety inspection

# 004 TEA PRODUCTION AND PROCESSING TECHNOLOGY

**Program Name**
Tea production and processing technology

**Program Definition**
Tea production and processing technology mainly studies the cultivation of tea trees and the basic knowledge and skills of tea production, processing, inspection, evaluation, and marketing, and conducts tea tree cultivation, tea production and trade, and tea quality evaluation. For example: the cultivation and picking of tea trees; the screening and processing of different tea leaves such as green tea and oolong tea; the detection, evaluation and management of tea quality grades, etc.

**Core Subject Courses**
Tea Production Science, Tea Tree Cultivation and Management Technology, Tea Processing Technology, Tea Evaluation Technology, Tea art and tea Culture, Tea inspection Technology, Tea machinery, Tea Marketing Technology, Tea operation and management, etc.

**Employment Prospect**
Tea companies: tea tree cultivation, tea production, tea processing, tea evaluation, tea inspection, quality management, tea marketing.

# 005 CHINESE HERBAL MEDICINE CULTIVATION AND PROCESSING TECHNOLOGY

**Program Name**
Chinese herbal medicine cultivation and processing technology

**Program Definition**
Chinese herbal medicine cultivation and processing technology mainly studies the basic knowledge and skills of medicinal plant breeding, cultivation, protection, harvesting, and processing, analysis, and identification of traditional Chinese medicines, and conducts planting, processing, and composition analysis of Chinese herbal medicine. For example: planting, cultivation and maintenance of medicinal plants such as angelica, ginseng and ganoderma lucidum, crushing, detoxification and frying of traditional Chinese medicine, production and processing of traditional Chinese medicine pieces such as astragalus, licorice, and notoginseng powder, etc.

**Core Subject Courses**
Chinese Pharmacy, Chinese Medicine Resources, Medicinal Botany, Medicinal Plant Growth Environment, Plant Physiological Ecology, Medicinal Plant Cultivation, Medicinal Plant Protection, Chinese Medicine Analysis and Identification, Chinese Medicine Preparation and Processing, Pharmaceutical Management, etc.

**Employment Prospect**
Chinese medicine enterprises: Chinese herbal medicine breedingand cultivation, Chinese medicine preparation, Chinese medicine processing, Chinese medicine composition analysis, Chinese herbal medicine sales.

# 006 MODERN AGRICULTURAL EQUIPMENT APPLICATION TECHNOLOGY

**Program Name**
Modern agricultural equipmentapplication technology

**Program Definition**
Modern agricultural equipment application technology mainly studies the basic knowledge and skills of the structure, design, processing, assembly, testing and other aspects of agricultural machinery and equipment parts and complete machines, and carries out the design, manufacture, assembly, commissioning, maintenance, fault detection,after sales, etc. Common agricultural machinery and equipment include: tractors, ploughing tools, seeders, rice transplanters, harvesters, etc.

**Core Subject Courses**
Agricultural Machinery and Equipment, Engine Structure and Maintenance, Chassis Structure and Maintenance, Working Machinery Use and Maintenance, Hydraulic Technology, Agricultural Machinery Electrical System Maintenance, Agricultural Machinery Hydraulic System Maintenance, Precision Agricultural Technology, Agricultural Machinery Marketing and Policies and Regulations, etc.

**Employment Prospect**
Agricultural machinery enterprises: agricultural machinery production, repair and maintenance of agricultural machinery, fault detection, agricultural machinery after-sales

# 007 AGRICULTURAL PRODUCT PROCESSING AND QUALITY INSPECTION

**Program Name**
Agricultural product processing and quality inspection

**Program Definition**
Agricultural product processing and quality inspection mainly studies the basic knowledge and skills of agricultural product processing, production management, quality control, quality inspection, etc., and conducts production, processing and quality inspection of agricultural products in agricultural product processing, quality inspection, health supervision and other industries. For example: processing of corn and sorghum, production of flour and rice, quality inspection of fresh meat, detection of pesticide residues in vegetables, etc.

**Core Subject Courses**
Biochemistry, Microbiology, Instrument Analysis Technology, Quality Safety of Agricultural Products, Quality Inspection Technology of Agricultural Products, Storageand Processing of Agricultural Products, Quarantine and Control of Pests and Diseases of Agricultural Products, Production Technology of Green Agricultural Products, Food Nutrition and Testing, GAP Certification of Agricultural Products, etc.

**Employment Prospect**
Agricultural products enterprises: production, processing, storage, quality management, and marketing of agricultural products; testing enterprises and institutions: quality inspection of agricultural products.

# 008 GREEN FOOD PRODUCTION TECHNOLOGY

**Program Name**
Green food production technology

**Program Definition**
Green food production technology mainly studies the basic knowledge and skills of plant physiology, food nutrition, food hygiene, green food production and quality inspection, etc., and conducts product design, production and processing, and quality inspection of green food. For example: the design and production of green snack foods such as canned food and steamed bun slices, the detection of pesticide content in pollution-free vegetables and fruits, the processing and packaging of green food such as dried vegetables and dried fruits, etc.

**Core Subject Courses**
Green Food Safety and Inspection, Fruit and Vegetable Processing Technology, Green Food Product Design, Food Enterprise Operation and Management, Food Nutrition, Food Processing Technology, Food Analysis Technology, Green Food Quality Inspection, Food Standards and Regulations, Food Hygiene, etc.

**Employment Prospect**
Green food enterprises: green food product design, food production, food processing, nutritional analysis, quality control; inspection enterprises and institutions: green food quality inspection.

# 009 AGRICULTURAL PRODUCT CIRCULATION AND MANAGEMENT

**Program Name**
Agricultural product circulation and management

**Program Definition**
Agricultural product circulation and management mainly studies the basic knowledge and skills of agricultural economics, rural e-commerce, agricultural product circulation, agricultural product quality control, etc. Students will be familiar with the operation and management concept of modern agricultural market, and conducts agricultural product circulation and management, marketing and comprehensive services. For example: purchase, transportation and storageof agricultural productssuch as grain, cotton and silk, online sales of vegetables and fruits, etc.

**Core Subject Courses**
Rural Electronic Commerce, Agricultural Business Supply Chain Management, Agricultural Product Quality Control and Safety Testing, Agricultural Product Marketing Practice, Rural Financial Management, Agricultural Economics, etc.

**Employment Prospect**
Agricultural enterprises: purchase of agricultural products, transportation of agricultural products, marketing of agricultural products, and warehouse management.

# 010 FORESTRY TECHNOLOGY

**Program Name**
Forestry technology

**Program Definition**
Forestry technology mainly studiesthe basic knowledgeand skills of botany, forest soil science, forest tree seedling production technology, forest cultivation technology, forest management and resource management, etc., and carries out the selection and breeding of improved tree varieties, forest construction, forest pest control and quarantine, forest resources investigation and management, etc. For example: the cultivation and maintenance of forest trees, the prevention and control of tree yellowing disease, mosaic disease and other diseases, the investigation of the types and quantities of forest animal and plant resources, etc.

**Core Subject Courses**
Botany, Forest Soilology, Forest Tree Seedling Production Technology, Forest SurveyTechnology, Forest Construction Technology, Wild Plant Resources Cultivation and Utilization Technology, Forest Pest Control Technology, Forest Management, Forest Resources Assets Assessment, Forestry 3S Information, etc.

**Employment Prospect**
Forestry enterprises: production of forest trees and seedlings, forest cultivation; Government and public institutions: forest protection, forest resource monitoring, forest management.

# 011 GARDEN TECHNOLOGY

**Program Name**
Garden technology

**Program Definition**
Garden technology mainly studies the basic knowledge and skills of botany, ecology, garden plant cultivation, garden landscape design, garden building construction technology, etc., and carries out the cultivation of garden plants and flowers, and the design of garden art. For example: the production and maintenance of bonsai, the planning of park green space, the design and construction of garden trees, shrubs, ponds and other landscapes.

**Core Subject Courses**
Plant Physiology, Genetics, Biostatistics, Seed Physiology, Seed Inspection and Quarantine, Crop Cultivation, Crop Breeding, Crop Pest Control, Seed Production and Processing, Seed Operation and Management, etc.

**Employment Prospect**
Agricultural enterprises: seed cultivation, seed production, seed inspection, seed processing, seed management, seed marketing.

# 012 FLOWER PRODUCTION AND FLORICULTURE

**Program Name**
Flower production and floriculture

**Program Definition**
Flower production and floriculture mainly studies the basic knowledge and skills of flower production technology, flower arrangement skills, etc., and conducts flower production andmanagement, flower design and application, flower environment design, flower business management, etc. For example:flower production, flowerdesign, plant modeling and landscaping, flower cultural and creative product development, etc.

**Core Subject Courses**
Bouquet Design and Production, Floral Cultivation and Maintenance, Chinese ModernFloral Art Techniques, Garden Construction Technology, Themed Flower Art Design and Production, Flower Facility Cultivation Technology, etc.

**Employment Prospect**
Flower production enterprises, indoor and outdoor environmental decoration companies, tourism and hotel industries, etc.: flower production and marketing, flower business operation and management, environmental flower design and decoration, flower training lecturers, etc.

# 013 FOREST AND GRASSLAND RESOURCECONSERVATION

**Program Name**
Forest and grassland resource conservation

**Program Definition**
Forest and grassland resources conservation mainly studies the basic knowledge and skills of forest botany, forest environment, forest ecology, forest protection, forest resources investigation and management, and carries out forest protection and fire prevention, forest animal and plant resources investigation and management, etc. For example, prevention and control of forest diseases and insect pests, such as pine caterpillar and buzura suppressaria, and forest fire; investigation, statistics and management of species and quantity of forest animals and plant resources. For example: pine caterpillar, forest fire, reindeer, silver fir.

**Core Subject Courses**
Forest Plants, Forest Ecology, Forest Investigation Technology, Zoology, Pathology, Forest cultivation, Forest Fire Prevention, Forestry Pest Control, Forest Resources Investigation and Management, Wildlife Protection and Management, etc.

**Employment Prospect**
Parks and nature reserves: forest protection, forest fire prevention, forest resource survey, forest resource asset evaluation, forest resource management.

# 014 WOOD INDUSTRY INTELLIGENT EQUIPMENT APPLICATION TECHNOLOGY

**Program Name**
Wood industry intelligent equipment application technology

**Program Definition**
Wood industry intelligent equipment application technology mainly studies the basic knowledge and skills of machinery, wood science, the composition, assembly, installation, debugging and operation of woodworking machinery equipment, and carries out assembling, debugging, running, testing,and maintaining of woodworking equipment, as well as programming and debugging of CNC machinery. Common woodworking equipment includes sawing machines, planers, milling machines, lathes, drilling machines, sanding machines, etc.

**Core Subject Courses**
Mechanical Drawing, Mechanical Fundamentals, Wood Science, Wood Drying Technology, Lumber Production and Wood Inspection, Wooden Product Manufacturing Process, Woodworking Knives and Machinery, etc.

**Employment Prospect**
Timber enterprises: installation of woodworking equipment, debugging of woodworking equipment, operation of woodworking equipment, and maintenance of woodworking equipment.

# 015 WOOD PRODUCT DESIGN AND MANUFACTURING

**Program Name**
Wood product designand manufacturing

**Program Definition**
Wood product design and manufacturing mainly studies the basic knowledge and skills of wood science, wood drying technology, wood inspection technology, wood product manufacturing technology, etc., and conducts wood processing and inspection, wood product manufacturing, etc. For example: wood cutting, drying, gluing, surface decoration, inspection and testing of wood length, thickness, hardness and toughness, production of wood-based panels, wood furniture and other wood products, etc.

**Core Subject Courses**
Mechanical Drawing, Wood Drying, Woodworking Machinery, Wood Science, Adhesivesand Coatings, PneumaticConveying and In-plant Transportation, Wood-based Panel Production Technology, Wood-based Panel Surface Decoration, Wood-based Panel Quality Inspection, Wood Products Production Technology and so on, etc.

**Employment Prospect**
Wood-related enterprises: wood drying, wood processing, wood inspection, wood product production.

# 016 ANIMAL MEDICINE

**Program Name**
Animal medicine

**Program Definition**
Animal medicine mainly studies the basic knowledge and skills of animal physiology, animal pathology, animal pharmacology, animal clinical medicine, animal quarantine technology, etc., and carries out prevention, diagnosis and treatment of animal diseases, and inspection of infectious diseases. For example: prevention, diagnosis and treatment of pet animal diseases such as cats and dogs, inspection and treatment of infectious diseases such as rabies, inspection and quarantine of edible meat such as pork and beef, etc.

**Core Subject Courses**
Animal Anatomy, Animal Physiology, Animal Microbiology and Immunity, Animal Pathology, Animal Pharmacology, Veterinary Clinical Diagnosis and Treatment Techniques, Animal Epidemic Prevention and Quarantine Techniques, Chinese Veterinary Medicine, Animal Internal Diseases, Animal Surgery and Obstetrics, etc.

**Employment Prospect**
Health and quarantine institutions: animal quarantine, animal disease control, meat hygiene inspection; Veterinary enterprises: animal clinical diagnosis, animal disease prevention and treatment.

# 017 ANIMAL EPIDEMIC PREVENTION AND QUARANTINE

**Program Name**
Animal epidemic prevention and quarantine

**Program Definition**
Animal epidemic prevention and quarantine mainly studies the basic knowledge and skills of animal pathology, animal toxicology, animal diseases, animal health and animal clinical diagnosis, and carries out the prevention, diagnosis, inspection, control and treatment of animal diseases. For example: avian flu, animal plague and other animal disease prevention and control, diagnosis and treatment, meat and other animal food inspection and quarantine, animal product health and safety inspection, etc.

**Core Subject Courses**
Animal Pharmacology and Toxicology, Animal Pathological Analysis, Animal Disease Prevention and Control Technology, Animal Product Safety Inspection Technology, Animal Clinical Diagnostics, Animal Internal Medicine, Animal Microbiology Fundamentals, Animal Parasitology, Animal Epidemic Prevention and Quarantine, Animal Health Law, etc.

**Employment Prospect**
Public institutions of health and disease control: animal epidemic prevention and control, animal quarantine, animal food health inspection; Veterinary enterprises: animal disease diagnosis, animal clinical treatment.

# 018 INTELLIGENT BREEDINGOF LIVESTOCK AND POULTRY

**Program Name**
Intelligent breeding of livestock and poultry

**Program Definition**
Intelligent breeding of livestock and poultry mainly studies the basic knowledge and skills of animal feeding and management, breeding and improvement, nutritional feed, disease prevention and control, and conducts animal breeding, disease diagnosis and control, production and management of livestockand poultry. For example: cattle,sheep breeding and management, open and semi-closed house design and construction for deer, pig etc., livestock and poultry house inside and outside environmental control.

**Core Subject Courses**
Environmental Health of Livestock and Poultry, Animal Nutrition and Feed, Pig production, Poultry production, Environmental Control of Livestock Farms, Animal Reproduction, Animal Industrialization Production, Basic Animal Medicine, Animal Disease Prevention and Control, Livestock and Poultry Feeding Management, etc.

**Employment Prospect**
Animal enterprises: animal feeding, livestock and poultry house construction, livestock and poultry disease prevention, livestock and poultry products production and management, technology promotion.

# 019 ANIMAL NUTRITION AND FEED

**Program Name**
Animal nutrition and feed

**Program Definition**
Animal nutrition and feed mainly studies the basic knowledge and skills of animal nutrition needs, feed formula and design, compound feed production theory and technology, livestock and poultry production and marketing, and conducts feed quality testing and analysis, feed formula design, feed marketing, animal husbandry production and so on. For example: pig feed production, breeding and feeding of livestock and poultry, feed additive development, nutritional ratio design of various complete feeds, sampling inspection and acceptance of raw and finished feeds, etc.

**Core Subject Courses**
Anatomy and Physiology of Livestock and Poultry, Microbiology, Feed Raw Materials, Livestock Physiology, Poultry Nutrition, Livestock and Poultry Production and Marketing, Feed Processing Machinery, Feed and Additives, Feed Quality Inspection, Livestock and Poultry Disease Prevention and so on.

**Employment Prospect**
Feed enterprises: feed nutrition ratio, feed inspection and testing, feed production and sales, livestock and poultry breeding and scientific research experiments.

# 020 AQUACULTURE TECHNOLOGY

**Program Name**
Aquaculture technology

**Program Definition**
Aquaculture technology mainly studies the basic knowledge and skills of aquaculture seedling breeding, finishedproduct breeding, disease prevention and control, and conducts aquaculture animal cultivation, breeding, disease diagnosis, disease prevention and control, fish feed configuration, product processing and marketing, breeding technology services and management. For example: pond fish farming, cage fish farming and fenced fish farming, fish and shrimp and other aquatic feed development, freshwater aquaculture and fishing, aquaculture site selection design, technical input and operation, etc.

**Core Subject Courses**
Aquatic Biological Basics, Water Quality Monitoring and Regulation, Aquatic Animal Nutrition and Feed, Special Aquatic Economic Animal Breeding, Ichthyology, Aquatic Animal Disease Control, Aquatic Marketing, Ornamental Fish Breeding Technology, Fishery Regulations and Fishery Administration, Aquatic Animal Breeding, etc.

**Employment Prospect**
Aquatic products enterprises: breeding operations of aquatic products, disease diagnosis and treatment, feed preparation, operationand management, aquaculture water quality analysis, sales and services of aquatic drugs for water environment protection. Government, institutions: aquatic product sanitation and safety, supervision and quarantine, aquatic animal import and export inspection and quarantine.

# 021 MARINE FISHERY TECHNOLOGY

**Program Name**
Marine fishery technology

**Program Definition**
Marine fishery technology mainly studies the basic knowledge and skills of marine fish farming, fishing, and collection, and conducts marine fishing, mariculture, fishery investigation and analysis, and environmental monitoring of fishery waters. For example: fishing of hairtail, large yellow croaker and small yellow croaker, farming, storage, transportation, sales of offshore fishery, fishing boats, fishing gear manufacturing and seafood processing, etc.

**Core Subject Courses**
Marine fishery technology mainly studies the basic knowledge and skills of marine fish farming, fishing, and collection, and conducts marine fishing, mariculture, fishery investigation and analysis, and environmental monitoring of fishery waters. For example: fishing of hairtail, large yellow croaker and small yellow croaker, farming, storage, transportation, sales of offshore fishery, fishing boats, fishing gear manufacturing and seafood processing, etc.

**Employment Prospect**
Fishery enterprises: fish breeding, fish disease prevention, marine biological fishing, fishing ground investigation, fishery water environment monitoring, fishery administration, fish products production, processing and marketing.

# 022 LAND AND RESOURCES INVESTIGATION AND MANAGEMENT

**Program Name**
Land and resources investigation and management

**Program Definition**
Land resources investigation and management mainly studies the basic knowledge and skills of land resources (mineral resources, land) survey and information construction and management, and carries out mineral resources and land resources survey, mapping and management, etc. For example: oil, natural gas and other resources exploration, land resources survey, map survey, land resources survey report preparation, land resources information system construction and so on.

**Core Subject Courses**
Fundamentals of Geology, Fundamentals of Mineralogy, Tectonic Geology, Petrology, Geotectonics, Fundamentals and Applications of Remote Sensing Technology, Introduction to Earth Science, Introduction to Land Resources, Laws and Regulations of Land Resources, Land Classification and Grading, etc.

**Employment Prospect**
Government and public institutions: mineral resources, land resources survey, national land resources survey, evaluation, information management, cadastral surveying and mapping, real estate management and development, cadastral database construction and surveying and mapping production services.

# 023 MINERAL GEOLOGICAL EXPLORATION

**Program Name**
Mineral geological exploration

**Program Definition**
Mineral geological exploration mainly studies the basic knowledge and skills of geology, mineral characteristics, geological structure, geological exploration methods and other aspects, and carries out mineral resources exploration, mineral resources development, mine geological evaluation and mine management. For example: geological exploration of copper deposits, associated mineral exploration, coal seams, yield, structure measurement and geological mapping.

**Core Subject Courses**
Geology, Mineralogy, Petrology, Paleontological Stratigraphy, Tectonic Geology, Hydrogeology, Mineral Deposits, Mine Geology, Prospecting and Exploration, Remote Sensing Geology, etc.

**Employment Prospect**
Geological institutions: geological survey, mineral resource exploration, mineral resource development and utilization, mine geological evaluation and mine management. Mineral enterprises: ore deposit exploration and analysis, structure and production research, geological mapping, development and utilization of mineral resources.

# 024 IDENTIFICATION AND PROCESSING OF GEMSTONES

**Program Name**
Identification and processing of gemstones

**Program Definition**
Identification and processing of gemstones mainly studies the basic knowledge and skills of jewelry identification, design, production, evaluation, diamond grading, etc., and conducts gem and jade design, production and processing, identification, evaluation and trade. For example: jade pendant and other jade carving, diamond testing and identification, production and processing of various gems and jade jewelry, gem synthesis and optimization, jewelry marketing, etc.

**Core Subject Courses**
General Geology, Crystallography and Mineralogy, Petrology, Jade Identification, Colored Gem Identification, Organic Gem Identification, Fundamentals of Art Design, Gem Processing, Jewelry Design , Jewelry Marketing and so on.

**Employment Prospect**
Jewelry companies: jewelry appraisal, jewelry design, jewelry production, jade evaluation, gem synthesis and optimization, jewelry marketing and management, pawn auctions, design and production of decorative articles and handicrafts, supply and marketing of jewelry and jade raw and auxiliary materials, jewelry equipment and tools supply and marketing.

# 025 ENGINEERING GEOLOGICAL SURVEY

**Program Name**
Engineering geological survey

**Program Definition**
Engineering geological survey mainly studies the basic knowledge and skills of hydrology and engineering geology, geological hazard survey, high-tech survey, etc., and conducts survey, evaluation, design, construction, testing and management of engineering geology, geological disasters, geotechnical engineering, etc. For example: Geomorphology, hydrogeological conditions, physical and mechanical properties of soil and rock investigation, geological environment investigation and evaluation, road and bridge engineering investigation, debris flow and other natural disaster management.

**Core Subject Courses**
Basics of Geology, Engineering Surveying, Structural Geology, Hydrogeological Technology, Engineering Geotechnical Technology, Geotechnical Engineering Exploration and Evaluation Technology, Geophysical Exploration Methods, Exploration and Testing , Geological Engineering Drawing and CAD, Engineering Geological Problem Analysis, etc.

**Employment Prospect**
Construction engineering enterprises: geotechnical engineering survey, building foundation design, geotechnical disaster evaluation and control,foundation engineering construction, monitoring, supervision and engineering measurement. Governments and public institutions: surveys of highways, railways, bridges, tunnels, municipal engineering, foundation testing and construction.

# 026 HYDROLOGY AND ENGINEERING GEOLOGY

**Program Name**
Hydrology and engineering geology

**Program Definition**
Hydrology and engineering geology mainly studies the basic knowledge and skills of urban water supply, groundwater and regional environment, engineering geological exploration, etc., and conducts groundwater investigation, development, utilization, protection and engineering geological exploration. For example: engineering geological exploration of ports, roads, tunnels, reservoirs, etc., groundwater volume, water quality and temperature transmission exploration, prediction and prevention of damage to buildings caused by earthquakes and other disasters.

**Core Subject Courses**
Geology Fundamentals, Mineral Petrology, Hydrogeology Fundamentals, Water Analytical Chemistry, Structural Geology, Engineering Surveying, CAD, Geophysical Exploration, Engineering Construction, Drilling Engineering, etc.

**Employment Prospect**
Hydrology and engineering enterprises and institutions: engineering geological survey and design, water conservancy and hydropower survey and design, urban and rural construction planning, road traffic survey and design, environmental monitoring and management, geological engineering construction, geological disaster evaluation.

# 027 DRILLING ENGINEERING TECHNOLOGY

**Program Name**
Drilling engineering technology

**Program Definition**
Drilling engineering technology mainly studies the basic knowledge and skills of land and resources exploration, foundation engineering construction, engineering geological drilling, etc., and conducts geological exploration, engineering survey, construction, engineering supervision and management. For example: oil and natural gas drilling and prospecting, mechanical core drilling and sampling, construction of deep foundation pit support, maintenance and repair of drilling equipment, etc.

**Core Subject Courses**
Basics of Geology, Drilling Technology, Theoretical Mechanics, Material Mechanics, Engineering Drawing, Drilling Equipment, Drilling Engineering, Drilling Equipment and Maintenance, Engineering Geological Survey, Construction Project Management, etc.

**Employment Prospect**
Exploration enterprises and institutions: basic engineering survey and construction, mineral deposit exploration, oil drilling, groundwater survey and exploitation, pile-driven foundation construction, reservoir grouting and project management.

# 028 ENGINEERING SURVEYING TECHNIQUE

**Program Name**
Engineering surveying technique

**Program Definition**
Engineering surveying technique mainly studies the basic knowledge and skills of engineering construction, management, surveying, etc., and conductsengineering survey, settingout, construction supervision and related technical management. For example: large and small scale topographic map surveying and mapping, transverse and longitudinal section measurement in the process of road construction; settlement observation and deformation monitoring in building construction; engineering error analysis and data processing, etc.

**Core Subject Courses**
Introduction to Civil Engineering, Engineering Surveying, Engineering Drawing and CAD, Control Surveying Technology, GPS Surveying Technology, Cadastral Surveying and Land Management, Precision Engineering Surveying, Underground Engineering Surveying, Engineering Deformation Observation, Control Measurement, etc.

**Employment Prospect**
Engineering construction enterprises and institutions: engineering surveying, land and environmental surveying and mapping, urban and regional planning surveying and mapping, surface and underground engineering surveying, mineral resources exploration and development surveying, deformation observation and surveying and mapping management.

# 029 UAV MAPPING TECHNOLOGY

**Program Name**
UAV mapping technology

**Program Definition**
UAV mapping technology mainly studies the basic knowledge and skills of engineering surveying, cadastral surveying, UAV driving and other aspects, conducting UAV driving and mapping, engineering surveying, digital city construction and geographic information application and maintenance. For example: geographic information system remote sensing acquisition, navigation space location application, film and television media, publicity planning, digital mapping, unmanned logistics, agricultural and forestry broadcasting, forest plant protection, emergency rescue, etc.

**Core Subject Courses**
Topographic Survey, Digital Mapping Technology, Engineering Survey, GPS Control Survey, UAV Aerial Photogrammetry, etc.

**Employment Prospect**
Land and Resources Bureau, Planning Bureau, UAV surveying and mapping company, construction company, real estate company, urban planning institute and other enterprises and institutions: UAV surveying and mapping, engineering surveying, urban planning, construction surveying, real estate surveying and mapping, cadastral surveying, digital city construction and geographic information application and maintenance.

# 030 SPATIAL DIGITAL MODELING AND APPLICATION TECHNOLOGY

**Program Name**
Spatial digital modelingand application technology

**Program Definition**
Spatial digital modeling and application technology mainly studies the basic knowledge and skills of surveying, geographic information system technology, cartography technology, television media and network media communication, etc., and conducts map surveying and mapping, geographic information system software application, electronic map data collection, digital image , audio and video processing, etc. For example: draw maps according to a certain scale, use drones for map data collection, use UI, etc. for map website design, etc.

**Core Subject Courses**
Cartography, Remote Sensing Technology and Application, Digital Image Processing, Multimedia Technology, Surveying, Control Surveying, Engineering Surveying, Photogrammetry and Remote Sensing, Introduction to Communication , Audio and Video Processing Technology, etc.

**Employment Prospect**
Geographic data collection enterprises and institutions: computer graphics, new media design and production, publicity planning, map website interaction design, map mobile terminal application and development, map data processing and application.

# 031 OIL AND GAS STORAGE AND TRANSPORTATION TECHNOLOGY

## Program Name

Oil and gas storage and transportation technology

## Program Definition

Oil and gas storage and transportation technology mainly studies the basic knowledge and skills of oil and gas storage and transportation, equipment use and maintenance, product quality inspection, etc., and conducts oil and gas storage and transportation production, construction, service, management, etc. For example: planning and construction of natural gas pipelines of West-East Gas Pipeline, anti-corrosion design and corrosion testing of oil and gas pipelinesand storage tanks,gathering, storage and transportation of refined oil and urban gas, planning, design, construction, management, and technology development and applied research of oil and gas storage and transportation system engineering.

## Core Subject Courses

Engineering Mechanics, Engineering Fluid Mechanics, Structural Mechanics, Physical PropertyAnalysis of Storedand transported Oil, Use and Maintenance of Oil and Gas Storage and Transportation Equipment, Oil and Gas Gathering and Transportation, Design and Management of Oil Depot, Oil and Gas Storage and Transportation Engineering, Urban Gas Distribution, Oil and gas Long-distance Pipeline Transportation, etc.

## Employment Prospect

Oil and gas enterprises and institutions: oil storage, transportation and blending, comprehensive oil and gas measurement, oil and gas gathering and transportation, oil analysis, long (short) distanceoil and gas pipeline construction, equipment operation and maintenance, safety management, gas station operation and management.

# 032 DRILLING TECHNOLOGY

**Program Name**
Drilling technology

**Program Definition**
Drilling technology mainly studies the basic knowledge and skills of drilling basic theory, process technology, production operation and organizational management, and conducts drilling, completion, well testing and downhole operations, maintenance and management. For example: core sampling and testing, design and measurement to determine well position in oil and gas extraction, installation of drilling equipment and testing, mud circulation reinforcement of well wall, etc.

**Core Subject Courses**
Theoretical Mechanics, Material Mechanics, Fluid Mechanics, Fundamentals of Mechanical Design, Drilling Machinery, Drilling Engineering, Ocean Drilling, Drilling Instrumentation and Automation, Oil and Gas Layer Protection Technology, Analysis and Handling of Common Accidents, etc.

**Employment Prospect**
Oil and gas exploration enterprises and institutions: drilling, workover, well cementation, oil testing and downhole operations, drilling process design and research.

# 033 PETROLEUM ENGINEERING TECHNOLOGY

**Program Name**
Petroleum Engineering Technology

**Program Definition**
Petroleum engineering technology mainly studies the basic knowledge and skills of oil production, operation, maintenance and production management, and conducts oil extraction, engineering design, engineering construction and management. For example: oil exploration, drilling design and drilling construction, oil and water well maintenance, reservoir reconstruction and oil testing in oil exploration.

**Core Subject Courses**
Engineering Mechanics, Engineering Drawing and Recognition, Oilfield Chemistry, Oilfield Geology, Fluid Mechanics, Well Logging, Oil Production Engineering, Oil Production Machinery, Reservoir Physics, Introduction to Drilling Machinery, etc.

**Employment Prospect**
Petroleum production enterprises and institutions: oil and gas drilling, collection, cementing, workover, downhole operations, directional wells, drilling fluids, logging, petroleum engineering design, operation and construction, production management, technology development and research.

# 034 MINE ELECTROMECHANICAL AND INTELLIGENT EQUIPMENT

## Program Name

Mine electromechanical and intelligent equipment

## Program Definition

Mine electromechanical and intelligent equipment mainly studiesthe basic knowledge and skills of mine mechanical and electrical automatic control technology, mine electric drag and control, underground transportation and mine lifting, and carries out mine transportation and lifting, the use, debugging, maintenance, technical transformation and operation of coal mine and non-coal mine mechanical and electrical equipment. For example: mine electric locomotive, coal cutting machine and other mine mechanical and electrical equipment management, operation, use, debugging, maintenance and equipment fault diagnosis and processing; Ore, coal, waste rock, gangue, and staff, equipment up and down lifting, mine locomotive transportation, wire rope transportation, mining conveyor transportation, trackless transportation and hydraulic transportation and other kinds of transportation.

## Core Subject Courses

Engineering Mechanics, Hydraulic Transmission, Metal Technology, Fundamentals of Mechanical Design, Mechanical Drawing and CAD, Engineering Drawing, Drawing and Surveying, Introduction to Coal Mining, Mechanical Equipment Repair and Installation, Power Electronics Technology, Mine Power Supply Technology, Mine Electrical Safety, Mine Machinery and Equipment Electrical Control, Excavation Machinery, Mine Electrical Safety,Hydraulic Transmission

## Employment Prospect

Mining enterprises and public institutions: installation, operation, maintenance, management and transportation lifting system design of mine transportation lifting equipment, selection and calculation of types, basic structure of mine car and electric locomotive; Power supply in mines, application, debugging, maintenance, technical transformation, operation and management of mechanical and electrical equipment in mines.

# 035 INTELLIGENT MINING TECHNOLOGY IN MINES

## Program Name
Intelligent mining technology in mines

## Program Definition
Intelligent mining technology in mines mainly studies the basic knowledge and skills of ore dressing electromechanical equipment assembly, commissioning, application, metal and non-metal mine mining and production, etc., for mechanical and electrical equipment inspection, maintenance and common troubleshooting, metal and non-metallic mining, demolition, mine ventilation and dust control and safety production and management, etc. For example: crushing equipment, screening and classification equipment, dehydration filtration equipment, automatic control equipment and other beneficiation machinery use, debugging, maintenance and troubleshooting; Mining and blasting of copper, iron, tin, zinc and other metallicores as well as diamond,graphite, crystal and other non-metallic ores; Mine gas, dust and other safety protection and ventilation.

## Core Subject Courses
Mine geology, metal mineral deposit underground mining, open pit mining technology, mining the electrician, mine ventilation and dust control, mining machinery and equipment, the ore drawing read and draw, the mining design, general physics, the mechanical drawing with AutoCAD drawing, metal material and heat treatment processing applications, electronic technology, the electricity machine and drag, hydraulic pneumatic transmission of mining machinery, operation and maintenance of mining equipment power supply system, etc.

## Employment Prospect
Mining equipment or mining enterprises and institutions: installation and operation of mineral processing mechanical and electrical equipment, maintenance of mineral processing equipment, upkeep of mineral processing equipment, installation, debugging and management of mineral processing equipment, mining equipment research and design; Metal and non-metal mine survey and engineering survey, mining and production, single block design and partial system technical transformation design, mine production management, mine safety and technical management.

# 036 ENVIRONMENTAL ENGINEERING TECHNOLOGY

**Program Name**
Environmental engineering technology

**Program Definition**
Environmental engineering technology mainly studies basic knowledge and skills in environmental monitoring and evaluation, waste water and waste gas treatment, and conducts environmental monitoring, pollution control, and environmental management. For example: river pollution status monitoring, sewage treatment, environmental quality, pollution status evaluation, noise control and engineering design, etc.

**Core Subject Courses**
Environmental Monitoring, Solid Waste Treatment, Hydraulics, Surveying, Physical Pollution Control Engineering, Air Pollution Control Engineering, Water Pollution Control Engineering, Environmental Engineering Materials, Noise Control Technology, Environmental Engineering Equipment, etc.

**Employment Prospect**
Environmental testing enterprises and institutions: environmental engineering program design, environmental engineering construction management, pollution control facilities, equipment operation and maintenance, environmental engineering construction management, environmental pollution monitoring, environmental impact assessment.

# 037 WATER PURIFICATION AND SAFETY TECHNOLOGY

**Program Name**
Water purification and safety technology

**Program Definition**
Water purification and safety technology mainly studies the basic knowledge and skills of water purification and water quality safety, and carries out drinking water purification, water quality testing, sewage treatment and reuse, etc. For example, the coagulation, precipitation, filtration and disinfection treatment of drinking water, the use of magnetic separation to remove magnetic and non-magnetic suspended solids and heavy metal ions in wastewater, and the detection of various trace elements in water according to water quality standards.

**Core Subject Courses**
Environmental Chemistry, Microbiology, Water Environment Monitoring and Evaluation, Water treatment Engineering Technology, Water pollution Control, Hydrology, Water Treatment Equipment and Instrument, Water Treatment Operation and Management, Environmental Engineering CAD, Instrument Analysis, etc.

**Employment Prospect**
Environmental protection enterprises and institutions: drinking water purification, water quality detection and evaluation, sewage treatment and reuse, treatment equipment overhaul and maintenance, water treatment scheme design and scientific research.

# 038 SAFETY TECHNOLOGY AND MANAGEMENT

**Program Name**
Safety technology and management

**Program Definition**
Safety technology and management mainly studies the basic knowledge and skills of safety production technology and safety management, and conducts safety design, evaluation, supervision and technical management. For example: radioactivity measurement, noise measurement and analysis, measurement and protection of dust, toxic and harmful gases, etc., mechanical equipment and electrical safety management in production, safe storage, transportation, and management of dangerous goods, etc.

**Core Subject Courses**
Safety System Engineering, Building Safety, Environmental Testing Technology, Safety Ergonomics, Engineering Mechanics and Structure, Reinforced Concrete Structure, Safety Information and Computer Management, Noise and Vibration Design , Fire Protection Engineering Technology, Ventilation and Dustproof Engineering, etc.

**Employment Prospect**
Chemical production enterprises and institutions: environmental safety testing, evaluation and management, safety equipment design, production and management, safety engineering design, monitoring and evaluation.

# 039 SAFETY INTELLIGENT MONITORING TECHNOLOGY

**Program Name**
Safety intelligent monitoring technology

**Program Definition**
Safety intelligent monitoring technology mainly studies the basic knowledge and skills of safety production laws and regulations, safety production technology and testing, and carries out safety production monitoring and monitoring product design, system equipment selection, cost, budget, installation, debugging and maintenance. For example: gas monitoring in coal mine production, gas sensor application and alarm processing, safety and quality inspection in chemical and pharmaceutical production, environmental impact monitoring and pollution control in production environment, etc.

**Core Subject Courses**
Safety Prevention Engineering, Safety Production Monitoring Technology, Chemical Equipment Disassembly and Assembly Training, Introduction to Standardized Management Standards, Product Analysis and Testing, Petroleum Processing Technology, Chemical Unit Operation and Experiment , Environmental Impact and Assessment, Communication Network and Integrated Cabling Technology, Safety Production Supervision Regulations, etc.

**Employment Prospect**
Chemical enterprises and institutions: safety monitoring, safety monitoring engineering drawing, safety monitoring system equipment operation, construction, maintenance, product quality supervision, production process control, environmental impact management and evaluation.

# 040 EMERGENCY RESCUETECHNIQUE

**Program Name**
Emergency rescue technique

**Program Definition**
Emergency rescue technique mainly studies the basic knowledge and skills of fire fighting and rescue, and conducts urban rescue, fire management and rescue command. For example: fire, earthquake and other disaster rescue and personnel evacuation, mountain rescue plan design and implementation, fire engineering construction and evaluation, etc.

**Core Subject Courses**
Rescue Command and Technology, Emergency Plan Preparation and Management, Fire Combustion Science, Disaster Accident Emergency Response and Rescue Technology, Disaster On-site Rescue, Crisis Psychological Intervention, Emergency Management Theory and Practice , Mine Safety, Crisis Information Management Release, Fire Supervision and Management, etc.

**Employment Prospect**
Fire and rescue related enterprises and institutions: urban rescue and command, fire safety inspection and evaluation, fire engineering construction, monitoring and management, storage and transportation of dangerous goods, and scheme design.

# 041 POWER PLANTS AND POWER SYSTEMS

**Program Name**
Power plants and power systems

**Program Definition**
Power plants and power systems mainly study the basic knowledge and skills of electric power, electrical technology, electronic technology, electrical engineering, etc., and carries out the operation, debugging, overhaul and maintenance of power systems and electrical equipment in power generation, power supply, and power construction enterprises.

**Core Subject Courses**
Application of Electronic Technology, Electrical Mechanics, Electrical Parts of Power Plants and Substations, Relay Protection and Automatic Devices, High Voltage Technology, Electrical Operation and Maintenance Technology, Power System Analysis, Electrical Power Safety Work Regulations, Electrical Equipment Maintenance Training, Low Voltage Troubleshooting Training, etc.

**Employment Prospect**
Electric power enterprises: electrical equipment operation, equipment maintenance, installation and debugging.

# 042 ELECTROMECHANICAL EQUIPMENTAND AUTOMATION OF HYDROPOWER STATION

**Program Name**

Electromechanical equipment and automation of hydropower station

**Program Definition**

Electromechanical equipment and automation of hydropower station mainly studies the basic knowledge and skills of electronic circuit, electrical technology, motor technology, automation technology, hydropower station electrical equipment and conducts installation, commissioning, operation, overhaul, maintenance of electrical equipment and automation equipment in hydropower stations, hydropower plants and so on. The common mechanical and electrical equipment of hydropower station are: turbine, turbine generator, governor, oil pressure device, transformer, distribution device, etc.

**Core Subject Courses**

Application of Electrical Technology, Mechanical CAD, Analysis and Production of Electronic Circuits, Application of Motor Technology, Mechanical Analysis and Application, Management and Maintenance of Hydraulic and Pneumatic System, Analysis and Application of Programmable Control System ,Hydraulic Turbine Regulation, Electrical Equipment of Hydropower Station, Installation and Maintenance of Hydrogenerator Sets and Auxiliary Systems, etc.

**Employment Prospect**

Hydropower enterprises: installation, commissioning, operation, overhaul and maintenance of electromechanical equipment in hydropower stations.

# 043 HYDROPOWER STATION AND POWER GRID TECHNOLOGY

**Program Name**
Hydropower station and power grid technology

**Program Definition**
Hydropower station and power grid technology mainly studies the basic knowledge and skills of electrical engineering, motor technology, power system, hydropower engineering equipment, automation technology, etc., and conducts the installation, commissioning, operation, overhaul and maintenance of hydropower stations and power network facilities in the first line. For example: wiring, overhaul and maintenance of the power network, installation, commissioning and operation of electrical equipment in hydropower stations such as turbines and turbine generators.

**Core Subject Courses**
Electrical Fundamentals, Electrical Engineering CAD, Electrical Technology, Electrical Control and PLC Technology, Water Turbine, Hydraulic Unit Installation, Electrical First Part of Hydropower Station, Electrical Secondary Part of Hydropower Station, Relay Protection of Power System, Microcomputer Monitoring Technology of Hydropower Station, etc.

**Employment Prospect**
Hydropower enterprises: operation, installation, commissioning, overhaul and maintenance of electromechanical equipment for hydropower projects and power grids.

# 044 POWER SYSTEM AUTOMATION TECHNOLOGY

**Program Name**
Power System Automation Technology

**Program Definition**
Power System Automation Technology mainly studies the basic knowledge and skills of power system, motor technology, automation technology, electrical control and PLC, etc., and carries out installation, commissioning, operation, maintenance and repair of power automation equipment. For example: testing of power grid automation dispatching system, power system information automatic transmission system; installation, operation and maintenance of substation automatic devices, power system anti-accident automatic devices, etc.

**Core Subject Courses**
Motor Technology and Application, Power System Fundamentals, High Voltage and Testing Technology, Electrical Control and PLC, Factory Power Supply and Distribution Technology, Power System Automatic Device and Operation, Substation Integrated Automation Technology , Relay Protection Automatic Device Operation and Maintenance, Automatic Detection Technology and Application, Power System Failure Analysis, etc.

**Employment Prospect**
Electric power enterprises: line maintenance, distribution system maintenance, automatic device debugging, automatic device operation.

# 045 ELECTRIC POWER TRANSMISSION AND DISTRIBUTION ENGINEERING TECHNOLOGY

**Program Name**

Electric power transmission and distribution engineering technology

**Program Definition**

Electric power transmission and distribution engineering technology mainly studies the basic knowledge and skills of electric power, electrical machinery, high voltage technology, power transmission and distribution lines, safe electricity usage rules, CAD drawing, etc.,and conducts design, construction, operation, overhaul and maintenance of high voltage transmission and distribution lines in power supply and electric power industry. For example: burial of cable transmission lines, construction and maintenance of overhead transmission lines, etc.

**Core Subject Courses**

Basics of Electronic Technology, Motor Technology, High Voltage Technology, Basics of Transmission and Distribution Lines, Transmission Line Design, Structural Design of Towers, Principles of Cable Design, Distribution Automation, Line Safety Regulations and Safe Use of Electricity, Electrical CAD, etc.

**Employment Prospect**

Electric power enterprises: design, construction, operation, overhaul, maintenance and management of high-voltage transmission and distribution lines.

# 046 POWER SUPPLY TECHNOLOGY

**Program Name**
Power supply technology

**Program Definition**
Power supply technology mainly studies the basic knowledge and skills of electric power, electrical engineering, power supply and consumption engineering, and power system construction, maintenance, automatic control, technology development, etc., and carries out the technology development and management of all links of power system power supply and use in the electric power industry. For example: installation and commissioning of transmission and substation lines and equipment, maintenance of high and low voltage transmission lines, use and maintenance of electrical equipment in substations, etc.

**Core Subject Courses**
Circuit, Analog Electronic Technology, Digital Electronic Technology, High Voltage Technology, Automatic Control Principle and System, SCM Principle and Application, Power Supply and Transformation Engineering, Relay Protection,Secondary Loop, Motor Drag and Control, etc.

**Employment Prospect**
Electric power enterprises: installation, operation, maintenance and overhaul of power supply and distribution equipment.

# 047 THERMAL POWER ENGINEERING TECHNOLOGY

**Program Name**
Thermal power engineering technology

**Program Definition**
Thermal power engineering technology mainly studies the basic knowledge and skills of engineering mechanics, thermodynamics, thermal engineering theory, thermal equipment and other aspects, and carries out engineering design, installation, commissioning, operation, maintenance and management of thermal power equipment and system in enterprises and institutions of thermal power generation, thermal power and heating. Common thermal power devices are: steam turbines, internal combustion engines, gas turbines and so on.

**Core Subject Courses**
Engineering Thermodynamics, Heat Transfer, Engineering Fluid Mechanics, Theory and Application of Thermal Engineering, Boiler, Steam Turbine, Thermal Power Plant, Thermal Equipment Installation and Maintenance, Pump and Fan, Thermal Instrument and Automatic Adjustment, etc.

**Employment Prospect**
Thermal power plants and thermal enterprises: installation, commissioning, operation, maintenance and management of thermal power equipment.

# 048 SOLAR THERMAL TECHNOLOGY AND APPLICATION

**Program Name**
Solar thermal technology and application

**Program Definition**
Solar thermal technology and application mainly studies the basic knowledge and skills of electrical engineering, thermal engineering, solar thermal technology, etc., involving solar thermal power generation, solar heating, solar water heating systems, solar cooling and other fields and carries out technical transformation, commissioning and operation, maintenance and management of solar thermal and photovoltaic application systems. Common solar thermal applications include: solar water heaters, solar houses, solar greenhouses, solar drying systems, etc.

**Core Subject Courses**
Electronic Technology, Fluid Mechanics, Thermal Engineering, Introduction to Building Plumbing, Solar Energy Utilization Technology, Solar Energy Testing Technology, Solar Photothermal Application Technology, Solar Photoelectric Application Technology, Solar Building Application Technology, Solar Photothermal and Photovoltaic System Operation and Installation, etc.

**Employment Prospect**
Solar energy enterprises: solar thermal technology development, solar engineering construction, technological transformation, production of solar thermal products.

# 049 POWER GENERATION OPERATION TECHNOLOGY

**Program Name**
Power generation operation technology

**Program Definition**
Power generation operation technology mainly studies the basic knowledge and skills of thermodynamics, electrical engineering, electromechanics, automatic control principles, centralized control operation of thermal power plants, etc.and conducts centralized control operation of unit making unit (a boiler and a steam turbine system) in thermal power plant, that is, monitoring and controlling the production and operation process of the machine and responsible for putting into operation and shutting down the equipment.

**Core Subject Courses**
Electrical and Electronic Technology Fundamentals, Fundamentals of Thermodynamics, Engineering Fluid Mechanics, Electrical Science, Thermal Inspection Technology, Steam Turbine Equipment and Operation, Boiler Equipment and Operation, Power Plant and Substation Electrical Equipment, Thermal Power System of Thermal Power Plant, Centralized Control Operation of Thermal Power Plant, etc.

**Employment Prospect**
Thermal power enterprises: centralized control and operation of units, equipment debugging, and technical management.

# 050 POWER PLANT CHEMISTRY AND ENVIRONMENTAL TECHNOLOGY

**Program Name**

Power Plant Chemistry and Environmental Technology

**Program Definition**

Power plant chemistry and environmental technology mainly studies basic knowledge and skills in chemistry, instrument analysis, water treatment, environmental monitoring, etc., and conducts quality inspection and environmental protection in power plants. For example: operation, commissioning, overhaul and maintenance of water purification and water treatment equipment, quality supervision and quality testing of water, coal and oil in power plants, wastewater treatment and comprehensive treatment of ash and slag.

**Core Subject Courses**

Inorganic Chemistry, Organic Chemistry, Engineering Fluid Mechanics, Pumps and Fans, Chemical Principles, Instrument and Automation, Power Plant Chemical Automatic Control, Power Plant Water Treatment, Power Oil and Fuel, Power Plant Environmental Monitoring, etc.

**Employment Prospect**

Power plants and water plants: water quality supervision, commissioning of water treatment equipment, waste water treatment, environmental monitoring.

# 051 PHOTOVOLTAIC ENGINEERING TECHNOLOGY

**Program Name**
Photovoltaic Engineering Technology

**Program Definition**
Photovoltaic engineering technology mainly studies the basic knowledge and skills of solar power generation and new energy power generation equipment, and conducts production, management, debugging, maintenance and marketing in the field of new energy applications. For example: testing and evaluation of electrical properties and mechanical properties of solar cells, battery modules, power generation systems, development and promotion of wind-light-LED complementary systems, etc.

**Core Subject Courses**
Electrical Basics, Electronic Technology, Assembly and Debugging of Photovoltaic Products, PLC Technology and Application, Power Electronics Technology, Single-chip Technology and Application, Photovoltaic System Power Technology, The Principle and Practice of Photovoltaic Power Generation System, Configuration Technology, Photovoltaic Controller Design, etc.

**Employment Prospect**
New energy enterprises and institutions: new energy power generation system product installers, production and operation, commissioning and maintenance, new energy application product production, quality inspection, product development, projectmanagement and sales.

# 052 WIND POWER ENGINEERING TECHNOLOGY

**Program Name**
Wind power engineering technology

**Program Definition**
Wind power engineering technology mainly studies the basic knowledge and skills of electrical engineering, sensor technology, high voltage technology, wind power generation technology, etc., and installs, debugs, operates, overhauls, and maintains wind power related equipment in wind power plants. Common wind power related equipments include: wind turbines, generators, base rotors, towers, batteries, inverters, etc.

**Core Subject Courses**
Electrical Fundamentals, Electronic Technology Fundamentals, Mechanical Fundamentals, Power Safety Knowledge, Power Supply and Distribution Technology, Wind Turbine Principles and Technology, Power System Relay Protection, Wind Energy and Wind Power Generation System Operation and Maintenance, Sensor Technology, Inverter Application Technology, etc.

**Employment Prospect**
Wind power enterprises: installation and commissioning, operation and maintenance, inspection and maintenance of wind power equipment.

# 053 BIOMASS ENERGY APPLICATION TECHNOLOGY

**Program Name**
Biomass energy application technology

**Program Definition**
Biomass energy application technology mainly studies the basic knowledge and skills of chemistry, new energy, biomass energy, etc., and carries out the development and utilization of biomass energy, as well as the installation, commissioning, operation and maintenance of related equipment. Common biomasses are: fallen leaves, sawdust, straw, rice husks, domestic sewage, livestock and poultry manure, and biogas.

**Core Subject Courses**
Electrical and Electronic Technology, Mechanical Drawing, Fundamentalsof Thermal Engineering, Fundamentals of Fluid Mechanics, Organic Chemistry, Energy Chemistry, Fundamentals of Chemical Engineering, Modern Biomass Energy Utilization Technology, Biomass Boiler Combustion Technology, Thermal Test Technology, etc.

**Employment Prospect**
New energy enterprises: biomass energy development, biomass energy utilization.

# 054 NON-FERROUS METAL INTELLIGENT METALLURGY TECHNOLOGY

## Program Name
Non-ferrous metal intelligent metallurgy technology

## Program Definition
Non-ferrous metal intelligent metallurgy technology mainly studies the basic knowledge and skills of metal materials, metallurgical physical chemistry, metallurgical principles, mechanics, metallurgical production technologyand equipment, etc., and conductsnon-ferrous metal smelting, processing, metallurgical process design, production management, as well as non-ferrous metal smelting equipment manufacturing, installation, commissioning, operation, overhaul and maintenance in the non-ferrous metal industry. Common non-ferrous metals are: aluminum, magnesium, copper, lead, zinc, gold, silver, platinum and so on. Common non-ferrous metal smelting equipment are: crusher, ball mill, spiral classifier, thickener, etc.

## Core Subject Courses
Metalology and Heat Treatment, Mechanical Drawing and Design Fundamentals, Hydraulic Transmission, Motor and Driving Fundamentals, Smelting Production Process and Equipment, Smelting Equipment Maintenance and Repair, Non-ferrous Metallurgical Equipment Management , General Chemistry, Metallurgical Physical Chemistry, Thermal Engineering Fundamentals, Heavy Metal Metallurgical Technology, Ore Furnace Control and Operation, Rare and Precious Metal Production Technology, Material Forming Technology, Metallurgical Process Detection and Control, etc.

## Employment Prospect
Metallurgy, equipment manufacturing enterprises: non-ferrous metal smelting, process design, production management, non-ferrous metallurgical equipment manufacturing, installation, commissioning, operation, overhaul, maintenance, management.

# 055 INTELLIGENT METAL PROCESSING TECHNOLOGY

**Program Name**
Intelligent metal processing technology

**Program Definition**
Intelligent metal processing technology mainly studies the basic knowledge and skills of metal material science, metal technology, metal heat treatment, metal forming processing technology and other aspects, and conducts metal forming processing, metal mold design and processing, for manufacturing various parts or profiles blank. Common metal materials processing methods are: forging, rolling, extrusion, stamping, drawing, casting and so on.

**Core Subject Courses**
Mechanical Drawing, Mechanical Principles and Hydraulic Transmission, Metal Technology, Material Fundamentals, Metal Materials and Heat Treatment, Material Metallographic Analysis Technology, Metal Forming Machinery and Equipment, Metal Forming Processing Technology, Modern Mold Design, Mold Manufacturing and Maintenance, etc.

**Employment Prospect**
Machinery manufacturing, metal processing enterprises: metal material forming and processing, technical management, mold design.

# 056 BUILDING MATERIALS ENGINEERING TECHNOLOGY

**Program Name**
Building materials engineering technology

**Program Definition**
Building materials engineering technology mainly studies the basic knowledge and skills of chemistry, building materials and new building materials, building materials testing and analysis, building construction technology, etc., and conducts building materials production, quality control, testing and analysis, and building construction management. Common building materials are wood, cement, concrete, bricks, glass, paint, tiles, etc.

**Core Subject Courses**
Building materials engineering technology mainly studies the basic knowledge and skills of chemistry, building materials and new building materials, building materials testing and analysis, building construction technology, etc., and conducts building materials production, quality control, testing and analysis, and building construction management. Common building materials are wood, cement, concrete, bricks, glass, paint, tiles, etc.

**Employment Prospect**
Building materials enterprises: building materials production, building materials testing, technology development, quality control, construction management.

# 057 BIG DATA TECHNOLOGY

**Program Name**
Big data technology

**Program Definition**
This major is oriented towards the big data industry and aims to cultivate high-quality technical and skilled talents with good IT professional qualities, professional practical abilities, team collaboration awareness, ability to adapt to the frontline needs of production, construction, management, and service, and can engage in big data processing, big data application software development, big data visualization development, big data software testing, big data application system operation and maintenance, and big data software technical support.

**Core Subject Courses**
Java Programming, Python Program Development, Linux Operating System, Hadoop Big Data Platform Construction and Application, Web Crawler Technology and Application, Big Data Platform Operation and Maintenance, Docker Container Technology and Application, Database Technology, Data Mining, Visual Design and Development, Big Data Analysis Practice, etc.

**Employment Prospect**
Big data processing engineer, big data system operation and maintenance engineer, big data application development engineer, big data visualization engineer, big data analysis engineer, etc.

# 058 ARCHITECTURAL DECORATION ENGINEERING TECHNOLOGY

**Program Name**
Architectural decoration engineering technology

**Program Definition**
Architectural decoration engineering technology mainly studies the basic knowledge and skills of architectural CAD, architectural aesthetics, architectural decoration materials, architectural decoration structure and design, etc., and carries out architectural decoration design, material selection, construction management, project budget, etc. For example:the decoration design of the exterior of the building, the structure and decoration design of the interior of the shopping mall, the budget, supervision and management of the building decoration project.

**Core Subject Courses**
Sketch and Color, Architectural Drawing and CAD, A Brief History of Architectural Decoration, Architectural Decoration Materials, Architectural Decoration Structure, Architectural Decoration Equipment, Architectural Decoration Design, Architectural Decoration Engineering Budget , Building Decoration Construction Technology, Interior Decoration Design, etc.

**Employment Prospect**
Construction and decoration enterprises: architectural decoration design, interior design, construction management, project budget.

# 059 ARCHITECTURAL INTERIOR DESIGN

**Program Name**
Architectural interior Design

**Program Definition**
Architectural interior design mainly studies the basic knowledge and skills of fine arts, color science, CAD, 3DMAX, interior design, etc., and conducts interior design, interior decoration design, interior renderings, etc. For example: the layout planning of the residential space and the placement of furniture and decorations, the planning of the interior layout and store location of the shopping mall, and the drawing of indoor 3D renderings, etc.

**Core Subject Courses**
Sketch and Flat Construction, Color and Color Composition, Engineering Drawing, Perspective and Expression Techniques, CAD, Principles of Interior Design, 3DMAX Rendering Performance, Residential Space Design, Public Space Design, Interior Accessory Design, etc.

**Employment Prospect**
Decoration enterprises: interior design, interiordecoration design.

# 060 CONSTRUCTION ENGINEERING TECHNOLOGY

**Program Name**
Construction engineering technology

**Program Definition**
Construction engineering technology mainly studies the basic knowledge and skills of mechanics, architecture, construction engineering technology, project management, etc., and conducts construction, organization, monitoring, and management of construction projects. For example: construction of house construction projects, quality inspection of building materials such as cement and concrete, budget of construction project cost, safety management of construction site, supervision of construction project progress, etc.

**Core Subject Courses**
Architectural Drawing, Building Materials, Housing Architecture, Architectural Mechanics, Architectural Structure, Building Construction Technology, Building Construction Organization and Management, Soil Mechanics and Foundation, Architectural CAD, Building Surveying, etc.

**Employment Prospect**
Construction enterprises: engineering construction, quality inspection, engineering budget and final accounts, engineering supervision, safety management.

# 061 BUILDING STEEL STRUCTURE ENGINEERING TECHNOLOGY

**Program Name**
Building steel structureengineering technology

**Program Definition**
Building steel structure engineering technology mainly studies the basic knowledge and skills of engineering mechanics, steel structure engineering, steel testing and testing, etc., and carries out the construction, testing and management of steel structure engineering. For example: load-bearing test and quality inspection of steel, construction and installation of steel structures in stadiums, workshops, steel bridges, residential buildings, etc., analysis and treatment of steel structure engineering accidents such as collapse, dislocation, deformation, estimated budget for steel structure works, etc.

**Core Subject Courses**
Building Materials, Engineering Drawing, Engineering Surveying, Engineering CAD, Building Construction Technology, CNC Machining Technology, Steel Structure Construction, Steel Structure Welding Process, Steel Structure Construction Quality Acceptance, Steel Structure Inspection and Reinforcement, etc.

**Employment Prospect**
Construction and transportation enterprises: steel structure engineering construction, construction management, cost management, light steel structure engineering design.

# 062 UNDERGROUND AND TUNNEL ENGINEERING TECHNOLOGY

**Program Name**
Underground and tunnel engineering technology

**Program Definition**
Underground and tunnel engineering technology mainly studies the basic knowledge and skills of engineering mechanics, geotechnical mechanics, underground engineering, tunnel engineering, etc., and conducts construction, testing, budgeting, and management of underground and tunnel engineering. For example: the construction of underground projects such as subways and underground passages, the quality inspection of building materials such as steel bars and concrete, the safety management of construction sites,the estimation of project cost, and the follow-up maintenance of tunnels.

**Core Subject Courses**
Engineering Mechanics, Engineering Drawing and CAD, Engineering Surveying, Engineering Geology and Hydrology, Geotechnical Mechanics, Soil Mechanics and Foundation Engineering, Tunnel Engineering, Underground Engineering Construction, Tunnel Engineering Inspection Technology, Project Budget, etc.

**Employment Prospect**
Construction and transportation enterprises: underground engineering construction, tunnel engineering construction, construction management, engineering supervision, tunnel maintenance.

# 063 CIVIL ENGINEERING INSPECTION TECHNOLOGY

**Program Name**
Civil engineering inspection technology

**Program Definition**
Civil engineering inspection technology mainly studies the basic knowledge and skills of engineering mechanics, civil engineering construction technology, engineering testing technology, etc., and conducts inspection and testing of civil engineering and quality management of construction projects. For example: quality inspection of steel bars, cement and other engineering materials, inspection and testing of building structure stability and safety, inspection and testing of structure and load of road engineering, bridge engineering, tunnel engineering, etc.

**Core Subject Courses**
Engineering Mechanics, Engineering Surveying, Engineering Materials Testing, Road Building Materials, Soil Mechanics and Foundation, Subgrade Pavement Engineering, Bridge Engineering, Civil Engineering Construction Technology, Testing and Inspection Technology, Indoor Environment Testing, etc.

**Employment Prospect**
Engineering testing enterprises: engineering material testing, engineering structure testing, geotechnical engineering testing, road testing, construction quality management.

# 064 CONSTRUCTION EQUIPMENT ENGINEERING TECHNOLOGY

**Program Name**

Construction equipment engineering technology

**Program Definition**

Construction equipment engineering technology mainly studies the basic knowledge and skills of engineering mechanics, building materials, equipment engineering technology, etc., and conducts construction equipment engineering design, construction, quality inspection, budget, safety management, etc. Construction equipment engineering systems include elevators, central air conditioning, heating systems, ventilation systems, water supply and drainage and hot water supply, lighting, power supply and distribution, fire protection and alarm systems, etc.

**Core Subject Courses**

Engineering Drawing, Building Materials, Building Water Supply and Drainage, Building Heating Engineering, Building Electric, Fluid Mechanics Pumps and Fans, Fire Engineering, Building Weak Current Technology, Installation Engineering Pricing , Ventilation and Air Conditioning System, etc.

**Employment Prospect**

Construction, engineering, decoration enterprises: equipment engineering construction, quality inspection, engineering budget, engineering supervision.

# 065 HEATING, VENTILATION AND AIR CONDITIONING ENGINEERING TECHNOLOGY

**Program Name**

Heating, ventilation and air conditioning engineering technology

**Program Definition**

Heating, ventilation and air conditioning engineering technology mainly studies the basic knowledge and skills of engineering mechanics, thermal engineering, HVAC construction technology, refrigeration technology and other aspects, and carries out the design, construction, quality inspection, budget and management of heating engineering, ventilation and air conditioning engineering. For example: indoor heating system installation, refrigeration and central air conditioning equipment installation and maintenance, ventilation system inspection and maintenance.

**Core Subject Courses**

Engineering Mechanics, Engineering Drawing, Fundamentals of Thermal Engineering, Engineering Measurement, Fluid Mechanics Pumps and Fans, Heating Engineering, Boiler and Boiler Room Equipment, Heating System Commissioning and Operation , Ventilation and Air Conditioning Engineering, Refrigeration Technology and Application, etc.

**Employment Prospect**

Construction and engineering enterprises: heating engineering design, ventilation engineering design, central air conditioning engineering design, quality inspection, engineering management.

# 066 BUILDING FIRE PROTECTION TECHNOLOGY

**Program Name**
Building fire protection technology

**Program Definition**
Building fire protection technology mainly studies the basic knowledge and skills of fire protection regulations, fire protection engineering, etc., and carries out the design of fire protection system and the construction, inspection and management of fire protection projects. For example: the design of fire smoke sensor alarm system and automatic sprinkler system, the maintenance and repair of fire-fighting facilities such as sprinklers and fire hydrants, the construction of ventilation and smoke prevention and exhaust projects, etc.

**Core Subject Courses**
Fire Protection Regulations, Building Fire Water Supply Engineering, Fire Alarm and Linkage Control System, Building Power Supply and Distribution, Ventilation and Smoke Exhaust Engineering, Fire Protection System Design and Construction, Building Electrical Construction Technology , Fire Electrical Control Technology, Installation Project Budget, Commissioning and Operation of Fire Protection System, etc.

**Employment Prospect**
Engineering and construction enterprises: fire engineering design, fire engineering construction, construction management, and fire protection facility maintenance.

# 067 PROJECT COSTS

**Program Name**
Project costs

**Program Definition**
Project costs mainly studies the basic knowledge and skills of engineering economics, construction project cost estimation, engineering project management, etc., and conducts construction project estimation, bidding, cost control, etc. For example: pre-budgeting and post-accounting of construction project cost, bidding and tendering of construction project and preparation of bidding documents, cost control of construction project and cost management on construction site, etc.

**Core Subject Courses**
Housing Architecture, Project Bidding and Contract Management, Construction Cost Accounting, Construction Project Quota and Budget, Construction Project Cost Management, Engineering Economics, Architectural CAD Drawing, Engineering Project Management, Construction Regulations, Construction Enterprise Accounting, etc.

**Employment Prospect**
Construction and engineering enterprises: project cost management, project bidding.

# 068 WATER SUPPLY AND DRAINAGE ENGINEERING TECHNOLOGY

**Program Name**
Water supply and drainage engineering technology

**Program Definition**
Water supply and drainage engineering technology mainly studies the basic knowledge and skills of water analysis chemistry, water supply and drainage engineering technology, water resources utilization and protection, etc., and carry out the construction and management of water supply and drainage projects, installation, commissioning and maintenance of water supply and drainage equipment. For example: design and construction of water supply and drainage, sewage treatment and other projects in the community, installation, commissioning, repair and maintenance of water supply equipment and sewage treatment equipment.

**Core Subject Courses**
Water Analytical Chemistry, Hydraulics, Water Pumps and Pumping Stations, Water Treatment Microbiology, Engineering Mechanics, Water Resources Utilization and Protection, Water Quality Engineering, Water Supply and Drainage Pipeline System , Building Water Supply and Drainage Engineering, Water Process Instrumentation and Control, etc.

**Employment Prospect**
Engineering and urban construction enterprises: water supply and drainage engineering construction, engineering supervision, water supply and drainage equipment maintenance, plumbing maintenance.

# 069 URBAN GAS ENGINEERING TECHNOLOGY

**Program Name**
Urban gas engineering technology

**Program Definition**
Urban gas engineering technology mainly studies the basic knowledge and skills of engineering thermodynamics, gas engineering, gas equipment, natural gas pipeline transportation technology, etc., and carries out the construction and management of gas engineering, operation and maintenance of gas equipment, and gas storage, transmission and distribution. For example: installation of gas pipelines, installation, repair and maintenance of gas equipment such as gas pressure regulating equipment and gas mixing equipment, and gas transmission and distribution in residential areas.

**Core Subject Courses**
Engineering Fluid Mechanics, Engineering Thermodynamics and Heat Transfer, Urban Gas Transmission and Distribution System, Natural Gas Pipeline Transmission Technology, Gas Engineering Construction, Gas Application Technology, Gas Transmission and Distribution Engineering, Gas Engineering Construction, Gas Supply and Safety Management, Gas Equipment Operation and Maintenance, etc.

**Employment Prospect**
Urban gas enterprises: gas pipeline construction, dispatching management, equipment maintenance, gas transmission and distribution.

# 070 REAL ESTATE OPERATION AND MANAGEMENT

**Program Name**
Real estate operation and management

**Program Definition**
Real estate operation and management mainly studies the basic knowledge and skills of real estate operation and management, real estate practice, real estate laws and policies, etc., and conducts real estate operation, planning, management, intermediary services, etc. For example: real estate value assessment, real estate investment analysis and consultation, real estate sales and rental, etc.

**Core Subject Courses**
Real Estate Surveying and Mapping, Architectural Recognition and House Structure, Construction Project Budget and Final Accounts, Real Estate Development and Management, Real Estate Marketing, Real Estate Investment Analysis, Real Estate Valuation and Practice, Real Estate Brokerage and Practice, Basic Real Estate System and Policy, Real Estate Administration, etc.

**Employment Prospect**
Real estate enterprises:real estate sales, real estate appraisal, real estate investment consulting, real estate intermediary services.

# 071 MODERN PROPERTY MANAGEMENT

**Program Name**
Modern property management

**Program Definition**
Modern property management mainly studies the basic knowledge and skills of management, public relations, property management, etc., and carries out property management, community service, logistics service guarantee management, etc. For example: maintenance and management of property equipment such as elevators, street lights, boilers, water pipes, and fire-fighting facilities, management of community greening, traffic, and public security, maintenance of community environmental sanitation, and management of property owner data and information.

**Core Subject Courses**
Principles of Management, Public Relations, Property Management Regulations, Property Management Practice, Office Property Management, Community Management, Property Environment Management, Property Equipment and Facilities Maintenance and Management, Real Estate Development and Management, Real Estate Economics, etc.

**Employment Prospect**
Property enterprises: property management, property services; various types of enterprises and institutions: logistics services.

# 072 WATER CONSERVANCY ENGINEERING

**Program Name**
Water conservancy engineering

**Program Definition**
Water conservancy engineering mainly studies the basic knowledge and skills of engineering hydrology, hydraulic engineering surveying, hydraulic reinforced concrete, hydraulic structures, engineering drawing, etc., and carries out engineering planning and design, engineering on-site construction, engineering budget, and maintenance and repair of hydraulic equipment in the field of hydraulic engineering. For example: building dams, embankments, spillways, sluices, channels, crossings, rafts, fishways and other types of hydraulic structures.

**Core Subject Courses**
Hydraulics, Engineering Hydrology, Water Conservancy Engineering Surveying, Hydraulic Reinforced Concrete, Water Conservancy and Hydropower Planning, Hydraulic Buildings, Water Conservancy Engineering Construction, Engineering Drawing, Engineering Mechanics , Engineering Survey, Engineering Geology, Water Conservancy Project Construction, Farmland Water Conservancy, Water Administration Supervision, etc.

**Employment Prospect**
Hydraulic enterprises: engineering planning, design, construction, scientific research and management.

# 073 WATER CONSERVANCY AND HYDROPOWER ENGINEERING TECHNOLOGY

**Program Name**
Water conservancy and hydropower engineering technology

**Program Definition**
Water conservancy and hydropower engineering technology mainly studies the basic knowledge and skills of water conservancy engineering survey, water conservancy engineering drawing and map recognition, water conservancy engineering construction and other aspects, and conducts engineering construction technology application and organization management, construction quality control, safety management, budget preparation, project bidding, etc. in the technical field of water conservancy and hydropower. For example: water conservancy project bidding, engineering supervision, quality control and so on.

**Core Subject Courses**
Water Conservancy Engineering Drawing and Recognition, Water Conservancy Engineering Surveying, Engineering Hydraulic Calculation, Building Materials, Construction Project Management, Project Address and Soil Mechanics, Water Conservancy Engineering Construction, Hydraulic Reinforced Concrete Structure, Water Conservancy Project Construction Safety and Quality Control, Engineering Mechanics, Water Conservancy and Hydropower Project Cost and Bidding, Water Conservancy Project Supervision, etc.

**Employment Prospect**
Water conservancy construction enterprises: construction quality monitoring, safety management, contract management.

# 074 WATER CONSERVANCY AND HYDROPOWER CONSTRUCTION ENGINEERING

**Program Name**
Water conservancy and hydropower construction engineering

**Program Definition**
Water conservancy and hydropower construction engineering mainly studies the basic knowledge and skills of water conservancy engineering drawing recognition and drawing, hydraulic structures, project cost and other aspects, and carries out engineering design, construction, supervision, operation and management in the field of water conservancy and hydropower construction engineering. For example: hydropower station design, project construction progress tracking, project supervision and so on.

**Core Subject Courses**
Construction Engineering Materials, Water Conservancy Engineering Drawing, Housing Architecture, Hydraulics, Engineering Mechanics, Structural Mechanics, Engineering Hydrology and Hydraulic Calculation, Construction Organization Management, Hydraulic Reinforced Concrete, Engineering Geology, Hydraulic Buildings, Hydroelectric Power Station Buildings, Water Conservancy and Hydropower Engineering Testing and Management, etc.

**Employment Prospect**
Water conservancy construction enterprises: water conservancy engineering design, construction management, engineering supervision, engineering cost, engineering measurement, engineering inspection.

# 075 INSTALLATION AND MANAGEMENT OF HYDROPOWER STATION EQUIPMENT

**Program Name**
Installation and management of hydropower stationequipment

**Program Definition**
Installation and management of hydropower station equipment mainly studies the basic knowledge and skills of electrical primary system, relay protection, hydropower station electrical operation and maintenance, etc., and carries out operation and maintenance of electromechanical equipment, troubleshooting of electromechanical equipment, installation and debugging of units, installation and debugging of auxiliary equipment, etc. in the field of power equipment of hydropower stations. For example: equipment installation, overhaul, maintenance, operation management, etc. of hydropower units.

**Core Subject Courses**
Hydraulics, Mechanical Design Fundamentals, Electrical and Electronic Technology, AC Motor, PLC Principle and Application, Hydraulic Turbine, Hydraulic Turbine Regulation, Hydraulic Unit Auxiliary Equipment, Unit Installation and Maintenance , Electrical Primary System, Relay Protection, Hydroelectric Power Plant Electromechanical Control Technology, Hydroelectric Power Plant Electromechanical Operation and Management, Mechanical Fundamentals, Electrical Fundamentals, etc.

**Employment Prospect**
Hydropower maintenance enterprises: power equipment maintenance, operation and maintenance of electromechanical equipment.

# 076 HYDROPOWER STATIONOPERATION AND INTELLIGENT MANAGEMENT

**Program Name**
Hydropower station operation and intelligent management

**Program Definition**
Hydropower station operation and intelligent management mainly studies the basic knowledge and skills of hydropower information management, relay protection, hydropower automation, etc., and conducts the operation and maintenance of hydropower station equipment, technical transformation, production management, etc. in the field of hydropower station operation and management. For example: normal operation of hydropower stations, daily maintenance of hydropower equipment, management of related data of hydropower stations, etc.

**Core Subject Courses**
Motor Technology, Hydraulic Turbine and Auxiliary Equipment, Water Conservancy Unit Installation, Electrical Equipment of Hydropower Station, Power System Relay Protection, Power System Automatic Device, High Voltage Technology, Hydropower Station Operation and Hydropower Station Computer Monitoring Technology, Hydraulic Turbine Regulation, Hydropower Station Automation, Hydropower Information Technology and Management, etc.

**Employment Prospect**
Water and electricity enterprises: water machine, electrical equipment operation and maintenance, commissioning test, installation and maintenance, production management.

# 077 WATER AND SOIL CONSERVATION TECHNOLOGY

## Program Name

Water and soil conservation technology

## Program Definition

Water and soil conservation technology mainly studies the basic knowledge and professional skills of soil and water conservation laws and regulations, sustainable development of soil and water conservation, and soil and water conservation program compilation, and carries out soil and water conservation project planning, design, program compilation, construction, supervision and management in the field of soil and water conservation. For example, the preliminary work of water and soil conservation projects, the preparation of water and soil conservation programs, the implementation of water and soil conservation prevention supervision and administrative law enforcement.

## Core Subject Courses

Water Conservancy Engineering Survey, Engineering Drawing and CAD, Arborology, Principles of Soil Erosion, Soil and Water Conservation Planning and Design, Water and Soil Conservation Engineering, Water and Soil Conservation Forest and Grass,Project Cost, Soil Science, Hydrology, Soil and Water Conservation Monitoring, Preparation of Soil and Water Conservation Plans, Construction of Soil and Water Conservation Projects, Project Cost and Bidding, Remote Sensing and Geographic Information Technology, etc.

## Employment Prospect

Environmental protection enterprises: program preparation, project implementation, project supervision.

# 078 MECHANICAL DESIGN AND MANUFACTURE

**Program Name**
Mechanical design and manufacture

**Program Definition**
Mechanical design and manufacture mainly studies the basic knowledge and professional skills of mechanical drawing, computer-aided drawing, and mechanical workpiece design, and conducts non-standard workpiece design, standard workpiece improvement, mechanical parts processing, and mechanical design and assembly in the field of mechanical design and manufacturing. For example: design the shape, structure, material, processing method, etc. of the part.

**Core Subject Courses**
Mechanical Drawing, Mechanical Design Fundamentals, Computer CAD Drawing, Tolerance Fitting and Measurement Technology, Engineering Materials, Metal Cutting Principles and Tools, Machining Process Design, Modern Processing Technology , Machine Tool Fixture Design, CNC Machining Technology, Hydraulic and Pneumatic, Electrical Basics, 3D Modeling Design, SolidWorks Software Application, etc.

**Employment Prospect**
Machining enterprises: mechanical drawing, the operation of lathes, and the application of CNC machining.

# 079 INTELLIGENT MANUFACTURING EQUIPMENT TECHNOLOGY

## Program Name
Intelligent manufacturing equipment technology

## Program Definition
This major cultivates students to have a solid foundation in science and culture, as well as knowledge of mechanical drawing and drawing recognition, tolerance fitting and measurement technology, electrical and electronic technology, and related laws and regulations. It enables students to possess the abilities of intelligent manufacturing equipment mechanical component assembly and electrical system debugging, intelligent manufacturing digital workshop equipment maintenance support, intelligent manufacturing system integration, and possess the spirit of craftsmanship and information literacy, become high-quality technical and skilled talents who can engage in the installation and debugging, maintenance and repair, optimization and upgrading, integration and transformation, and standard implementation of intelligent manufacturing equipment.

## Core Subject Courses
Programming and Operation of CNC Machine Tools, Operation and Maintenance of Industrial Robots, Programmable Control Technology and Applications, Installation and Debugging of Intelligent Manufacturing Equipment, Connection and Debugging of CNC Systems, Fault Diagnosis and Maintenance of Intelligent Equipment, and Integrated Application of Intelligent Manufacturing Units, etc.

## Employment Prospect
Mechanical engineering technicians, metal processing machinery manufacturing personnel and other professions, intelligent manufacturing equipment operation, fault diagnosis and maintenance, equipment optimization and upgrading, intelligent manufacturing unit integration application, intelligent manufacturing standard implementation and other positions (groups).

# 080 INDUSTRIAL DESIGN

**Program Name**
Industrial design

**Program Definition**
Industrial design mainly studies the principles and knowledge of industrial design, and explores the relationship between the shape and color, form and appearance, structure and function, shape and process of industrial products, design industrial products based on practicality and aesthetics, including packaging design, modeling design, display design, UI design, etc. For example: the exterior structure design of sofa, the modelling color design of chandelier, etc.

**Core Subject Courses**
Sketch and Color, CAD Drawing, Human-Machine Engineering, Pro/E Industrial Design Fundamentals, Mechanical Design Principles, Industrial Product Model Making, Product Conceptual Design, Product Design Principles and Methods, Product Packaging Design, Product Structure Design, etc.

**Employment Prospect**
Design enterprises: product design, packaging design, advertising design, graphic design, display design, appearance design, three-dimensional design, visual design.

# 081 INDUSTRIAL ENGINEERING TECHNOLOGY

**Program Name**
Industrial engineering technology

**Program Definition**
Industrial engineering technology mainly studies the basic knowledge and skills of production planning control, human resource management, logistics engineering, etc., and improves labor productivity, product quality, and reduces cost in the field of industrial engineering technology.The purpose of industrial engineering is to improve corporate profitability, comprehensive competitiveness, productivity, and social productivity.

**Core Subject Courses**
Computer Aided Engineering Drawing, Tolerance Matching and Measurement Technology, Production Planning and Control, Human Resource Management, Machinery Manufacturing Technology, Basics of Industrial Engineering, Machining Quality Control and Inspection, Logistics Engineering, Production Site Management, Hydraulics and Pneumatics, Electrical Basics, CNC Machining Technology, etc.

**Employment Prospect**
Manufacturing enterprises: modern enterprise intelligent management, machining positions, enterprise planning, statistics, on-site management, material storage management.

# 082 INTELLIGENT WELDING TECHNOLOGY

**Program Name**
Intelligent welding technology

**Program Definition**
Intelligent welding technology mainly studies the basic knowledge and skills of electrical and electronics, automatic control, welding methods, welding structures, etc., and conducts welding equipment debugging, use, maintenance, welding technology management, and welding processing industrial design in the field of welding technology and automation. Common welding methods include hand arc welding, submerged arc welding, argon tungsten arc welding, gas metal arc welding, etc.

**Core Subject Courses**
Mechanical Drawing, Mechanical Design, Electrical and Electronic Technology, Metalology and Heat Treatment, Welding Methods and Equipment, Arc Welding Power Source, Metal Fusion Welding Principles, Welding Inspection Methods, Welding Engineering Management, Pressure Vessel, Welding of Dissimilar Materials, Special Welding Process, Welding Process Control and Welding Process, Welding Process Automation Control, Machining Fundamentals, etc.

**Employment Prospect**
Welding machine production enterprises: welding equipment design, manufacture, on-site debugging.

# 083 INDUSTRIAL PRODUCTQUALITY TESTING TECHNOLOGY

## Program Name
Industrial product quality testing technology

## Program Definition
Industrial product quality testing technology mainly studies the basic knowledge and skills of mechanical pattern reading and drawing, metal technology, sensors and automatic detection. In the field of mechanical product testing and inspection technology, perform product performance testing, geometric precision measurement, measuring instrument management and maintenance, quality management, etc. The common contents are: surface roughness inspection, shape and position error inspection, material inspection, appearance inspection, casting inspection, forging and stamping parts inspection, welding inspection, riveting inspection, heat treatment inspection, surface treatment inspection, etc.

## Core Subject Courses
Mechanical Design Fundamentals, Mechanical Manufacturing Process Fundamentals, Machining Quality Control and Inspection, Measuring Fundamentals and Metrology Regulations, Measuring Instrument Verification and Adjustment Technology, Quality Inspection of Typical Parts, ISO9000 Quality Management System, Geometric Accuracy Testing Technology, Quality Management and Metrology Management, Product Performance Testing, etc.

## Employment Prospect
Quality inspection enterprises: product quality inspection, measuring instrument verification and maintenance, quality management and machining.

# 084 MOTOR AND ELECTRICAL TECHNOLOGY

**Program Name**
Motor and electrical technology

**Program Definition**
Motor and electrical technology mainly studies the basic knowledge and skills of electrical principle, motor control, electronic technology, mechanical foundation and other aspects, and carries out production management, equipment debugging and maintenance, product design, quality testing, sales and management in the field of motor and electrical technology. For example: generator, motor fault diagnosis, generator operation, relay protection, motor control, new motor design and so on.

**Core Subject Courses**
Electrical Engineering, Electronics, Motor and Drag Foundation, Motor Principle and Analysis, Motor and Electrical Technology and Tooling, Motor Test, Electrical Control and PLC, Power Electronics and Frequency Conversion Technology, Motor Structure and Assembly, Electrical Product Structure and Assembly, Assembly and Maintenance of Complete Sets of Electrical Equipment, Inverter Application Technology, Industrial Robot Application Technology, Motor Manufacturing Process, etc.

**Employment Prospect**
Industrial and mining enterprises: manufacture, testing, installation, debugging, maintenance, operation, repair and management of motors and electrical appliances.

# 085 NEW ENERGY EQUIPMENT TECHNOLOGY

**Program Name**
New energy equipment technology

**Program Definition**
New energy equipment technology mainly studies the basic knowledge and skills of electrical and electronic technology, new energy technology, PLC and inverter, etc., and conducts production, management, maintenance and technical support of new energy equipment in the field of new energy equipment technology. Common new energy sources include nuclear energy, solar energy, wind energy, biomass energy, hydrogen energy, geothermal energy and tidal energy.

**Core Subject Courses**
Electrical Basics, Electronic Technology, New Energy Technology, Power System Analysis, Maintenance Electrician Training, New Energy Conversion and Control Technology, Power Engineering Construction Technology, Measurement and Pricing of Electric Power Engineering, Project Management, Project Budget, Wind Power Generation Technology, Photovoltaic Power Generation Technology, etc.

**Employment Prospect**
Wind power enterprises: daily operation and maintenance of power supply and distribution systems, equipment management, and technical management.

# 086 REFRIGERATION AND AIR CONDITIONING TECHNOLOGY

**Program Name**
Refrigeration and air conditioning technology

**Program Definition**
Refrigeration and air-conditioning technology mainly studies the basic knowledge and skills of electrical and electronic technology, refrigeration principles and equipment, refrigeration and air-conditioning automatic control, etc., and conducts air-conditioning system design, installation, commissioning, maintenance management, and engineering construction supervision in the field of refrigeration and air-conditioning technology. Common refrigeration methods include liquid vaporization refrigeration, gas expansion refrigeration, vortex tube refrigeration, thermoelectric refrigeration, etc.

**Core Subject Courses**
Refrigeration and Air Conditioning Product Design, Refrigeration and Air Conditioning Device Manufacturing Technology, Refrigerator Air Conditioning Detection and Testing Technology, Central Air Conditioning Engineering Design and Construction, Central Air Conditioning Operation Management, Building Equipment Management, Workshop Management , Industrial Enterprise Quality Management, Cold Storage Engineering Design and Operation Management, Modern Mechanical Drawing, AutoCAD Advanced Drawing Technology, Electrical and Electronic Technology, Refrigeration Equipment Electrical and Control Technology, etc.

**Employment Prospect**
Refrigeration enterprises: refrigeration equipment maintenance workers or operators, refrigeration and air-conditioning engineering installation and construction workers, refrigeration and air-conditioning equipment and spare parts sales.

# 087 ELEVATOR ENGINEERING TECHNOLOGY

## Program Name
Elevator engineering technology

## Program Definition
Elevator engineering technology mainly studies the basic knowledge and skills of single-chip microcomputer and PLC technology, elevator structure and principle, motor and drag, elevator electrical control technology, etc., and carries out elevator manufacturing, installation and maintenance, use management, supervision and detection, etc., in the field of elevator engineering technology. Elevators can be divided into the following categories according to different uses: passenger elevators, residential elevators, sightseeing elevators, freight elevators, passenger and freight elevators, hospital elevators, service elevators, vehicle elevators, escalators and other elevators.

## Core Subject Courses
Motor and Drag, Electronic Technology, Detection and Conversion Technology, PLC and Elevator Control Technology, Inverter and Touch Screen Technology, Electrical Professional English, Elevator Structure and Principle, Elevator Control Technology, etc.

## Employment Prospect
Elevator enterprises: elevator parts development, elevator installation and maintenance operations, elevator inspection and quality control, elevator equipment and building management, elevator production and installation, construction site management, etc.

# 088 MECHATRONICS TECHNOLOGY

**Program Name**
Mechatronics technology

**Program Definition**
Mechatronics technology mainly studies the basic knowledge and skills of electromechanical drive control, engineering drawing, electromechanical equipment control, hydraulics and pneumatics and conducts design, manufacture, technical management, installation and commissioning of mechatronics equipment, design transformation and technical management of commonly used mechatronics products in the field of mechatronics technology. For example: CNC machine tool operation, CAD/CAM software application, electromechanical equipment installation, etc.

**Core Subject Courses**
Machine Manufacturing Fundamentals, Motor and Drag, CNC Machining and Programming, Electrical Control and PLC, Mechanical and Electrical Equipment Maintenance, Hydraulic and Pneumatic Transmission, Mechanical Equipment Control Technology, Inverter Technology , Mechatronics Technology, Single-chip Control Technology, Sensor Technology, Power Electronics and Motor Speed Regulation Technology, Motor and its Application, etc.

**Employment Prospect**
Production enterprises: installation, commissioning, inspection, maintenance, fault diagnosis and elimination, technical transformation and management of mechatronics equipment and systems.

# 089 INDUSTRIAL ROBOT TECHNOLOGY

**Program Name**
Industrial robot technology

**Program Definition**
Industrial robot technology mainly studies the basic knowledge and skills of industrial automation control technology, robot automatic production line application, PLC and peripheral equipment application, etc. and carries out industrial robot assembly and testing, operation programming, installation and debugging, industrial robot sales and technical services, etc. in the field of industrial robot technology. Common industrial robots include joint robots, Cartesian coordinate robots, and planar SCARA robots.

**Core Subject Courses**
Robot Mechanical System, Robot Control Technology, Robot Vision and Sensing Technology, Industrial Robot Application and Programming, Fieldbus Technology and Its Application, Mechanical Drawing, Programmable Controller, Industrial Robot Practice and Application Skills, Electrical and Electronic Technology, Sensor Technology, Machine Principles and Parts, etc.

**Employment Prospect**
Robot manufacturing enterprises: industrial robot system assembly and debugging, maintenance, fault diagnosis, teaching programming.

# 090 INDUSTRIAL INTERNET APPLICATION

**Program Name**
Industrial Internet application

**Program Definition**
Industrial Internet application mainly studies the basic knowledge and skills of computer circuit foundation, single chip computer programming and maintenance, PLC application technology and so on, and carries on the installation, debugging and maintenance of network control system in the field of industrial network technology; Industrial network technology development, security management and services. For example: industrial network engineering construction, system integration design, site control equipment installation and maintenance.

**Core Subject Courses**
C Language Programming, Computer Real-time Network System, Web Page Production and Website Construction, Object-Oriented Programming, Real-time Database Application and Development, Industrial Network Technology, Petrochemical Foundation (Chemical Principles, Chemical Technology), Detection Instrument, Control Engineering, DCS/FCS, Network Communication Technology, Modern Control Theory and Application, Programmable Controller and Other Intelligent Instruments, etc.

**Employment Prospect**
Chemical enterprises: production and control, instrument measurement, process automation, chemical operation, information system development and application, network management, etc.

# 091 RAILWAY ROLLING STOCK MANUFACTURE AND MAINTENANCE

**Program Name**
Railway rolling stock manufacture and maintenance

**Program Definition**
Railway rolling stock manufacture and maintenance mainly studies the basic knowledge and skills of bullet train manufacturing industry, bullet train mechanical equipment overhaul, parts structure and design, etc., and conducts key parts processing, bullet train assembly, mechanical maintenance, technical management, etc., in the field of railway locomotive and rolling stock manufacturing and maintenance. Railway locomotives can be divided into four categories: steam locomotives, diesel locomotives, electric locomotives and EMUs.

**Core Subject Courses**
Equipment manufacturing enterprises: design, production, installation, commissioning of machinery and equipment, manufacture of vehicle parts, machinery maintenance, product quality inspection, etc.

**Employment Prospect**
Equipment manufacturing enterprises: design, production, installation, commissioning of machinery and equipment, manufacture of vehicle parts, machinery maintenance, product quality inspection, etc.

# 092 RAIL TRANSIT COMMUNICATION SIGNALEQUIPMENT MANUFACTURING AND MAINTENANCE

## Program Name

Rail transit communication signal equipment manufacturing and maintenance

## Program Definition

Rail transit communication signal equipment manufacturing and maintenance mainly research circuit foundation, computer communication, station signals, railway signals and other aspects of the basic knowledge and skills, and conducts maintenance, management, design, overhaul and application development of railway communication and signal equipment in the field of railway communication signal equipment manufacturing and maintenance. For example: railway communication and signal equipment assembly, debugging, testing, maintenance, process management, installation and construction and after-sales service.

## Core Subject Courses

Introduction to Railways, Analog Electronic Technology, Digital Electronic Technology, Introduction to Railway Communication, Communication Circuit Fundamentals, Electronic Measurement and Intelligent Instruments, Signal Basic Equipment, Intelligent Power Supply Technology, SCM Application Technology, Communication Signal System Engineering Construction, Communication Signal Product Manufacturing and Process Management, Circuit Board Inspection and Repair, Communication Signal EquipmentInspection and Maintenance,

## Employment Prospect

Rail transit enterprises: signal engineering survey and design, project budget, project construction and supervision, communication and signal equipment installation and maintenance, etc.

# 093 SHIP ENGINEERING TECHNOLOGY

**Program Name**
Ship engineering technology

**Program Definition**
Ship engineering technology mainly studies the basic knowledge and skills of engineering mechanics, ship electrical engineering, ship design, ship architecture, etc., and conducts shipbuilding production design, ship construction, and manufacturing inspection in the field of ship engineering technology. For example: ship production design, construction, repair, inspection, process design, ship construction, welding, etc.

**Core Subject Courses**
Engineering Mechanics, Fundamentals of Mechanical Design, Mechanical Drawing and Auto CAD, Ship Structure and Drawing, Marine Materials and Welding Process, Ship Structure Design, Ship Outfitting Engineering, Ship CAD/CAM, Ship Anticorrosion and Painting, Ship Construction and Repair Technology, Shipbuilding Production Safety Technology , Professional English, The Principles of Ships, etc.

**Employment Prospect**
Shipbuilding enterprises: ship construction and repair process formulation and on-site construction guidance, shipbuilding production design, drawing production design drawings, and compiling technical documents.

# 094 SHIP ELECTRICAL ENGINEERING TECHNOLOGY

## Program Name
Ship electrical engineering technology

## Program Definition
Marine electrical engineering technology mainly studies the basic knowledge and skills of motor and drag, Marine power station and commissioning, Marine signal and system, Marine power supply technology and other aspects, and conducts design, transformation, equipment installation, commissioning, maintenance, operation and management of marine electrical equipment, etc., in the field of marine electrical engineering technology. For example: operation and troubleshooting of marine power equipment and auxiliary machinery, use of marine motors, maintenance of marine electrical control system equipment, etc.

## Core Subject Courses
Electrical Technology, Electronic Technology, Motor and Electric Drive, Microcomputer Principle, Programmable Logic Controller (PLC), Electrical Lighting Technology, Introduction to Ships, Modern Detection Technology, Ship Electrical Equipment and System, Ship Auxiliary Machinery Electrical Control System, Ship Equipment Safety and Management, Navigation Instruments, Ship Communication and Navigation, Microcomputer Control System, etc.

## Employment Prospect
Electrical equipment manufacturing enterprises: installation, use, management and maintenance of marine electrical equipment and automatic control equipment.

# 095 AIRCRAFT ENGINE MANUFACTURING TECHNOLOGY

**Program Name**
Aircraft engine manufacturing technology

**Program Definition**
Aircraft engine manufacturing technology mainly researches the basic knowledge and skills of aircraft engine principle, the aircraft engine fault diagnosis, the aeroengine parameter measurement and test technology, and so on, and performs manufacturing and processing of aero-engine and other parts, manufacturing process design, assembly process design and process quality control in the field of aero-engine manufacturing technology.

**Core Subject Courses**
Mechanical drawing, journal of mechanical design, overview of aviation, aviation engine principle, the sheet metal forming and the mould design, the aircraft manufacturing process, the nc machining and programming, the CAD/CAM technology, the structure and principle of aeroengine, the aviation materials, the aircraft engine manufacturing technology, the aircraft engine assembly process, Special Processing Technology, etc.

**Employment Prospect**
Aero-engine manufacturing enterprises: sheet metal processing in the field of aircraft manufacturing, machining and assembly of aircraft parts, general mechanical parts, etc.

# 096 AIRCRAFT MAINTENANCE TECHNOLOGY

**Program Name**
Aircraft maintenance technology

**Program Definition**
Aircraft maintenance technology mainly studies the basic knowledge and skills of hydraulic transmission and control, aviation maintenance foundation, aircraft structure foundation, aircraft power device, etc., and conducts aircraft maintenance, aircraft and engine repair in the field of aircraft maintenance technology. For example: aircraft body structure and accessories repair, assembly and debugging in the field of aircraft manufacturing, aircraft mechanical fault diagnosis and elimination, aircraft repair technology management, aircraft field maintenance, etc.

**Core Subject Courses**
Mechanical Drawing and CAD, Fundamentals of Mechanical Engineering, Fundamentals of Electronic Technology, Fundamentals of Electrical Engineering, Professional English, Introduction to Aeronautical Engineering and Technology, Aerodynamics and Principles of Flight, Aviation Electrical and Instrumentation, Principle and Structure of Aero-Engine, Hydraulic and Pneumatic Transmission, Human Factors and Aviation Regulations, Aircraft Structure and System, Aircraft Accessories Maintenance, etc.

**Employment Prospect**
Aviation maintenance enterprises: air engine accessories repair, assembly, commissioning, testing, fault diagnosis, production site technical services, product quality inspection and production management, etc.

# 097 UAV APPLICATION TECHNOLOGY

**Program Name**
UAV application technology

**Program Definition**
UAV application technology mainly studies the basic knowledge and skills of UAV principle, UAV control, aircraft construction, UAV repair and other aspects, and carries out UAV parts processing, assembly, maintenance and repair, flight remote control and so on in the field of UAV application technology.For example: UAV pilot control, UAV data processing, UAV remote sensing mapping and so on.

**Core Subject Courses**
Engineering Drawing and CATIA, Mechanical Fundamentals, Electrical and Electronic Technology Fundamentals, Aerodynamics, Aviation Communication Technology, Aircraft Principle and Structure, UAV Introduction and Flight Regulations, UAV Construction and Manufacturing, UAV Flight Control Technology, Professional English, UAV Assembly and Maintenance, Electrical and Electronic Fundamentals, Remote Sensing Digital Image Processing, etc.

**Employment Prospect**
UAV application enterprises: UAV remote sensing data collection and processing, environmental monitoring, power inspection, agricultural plant protection, image aerial photography, photogrammetry, etc.

# 098 NEW ENERGY VEHICLE TECHNOLOGY

**Program Name**
New energy vehicle technology

**Program Definition**
New energy vehicle technology mainly studies the basic knowledge and skills of new energy vehicle electrical and electronic technology, new energy vehicle chassis technology, drive motor and control technology, etc., and conducts new energy vehicle structure, electronic control technology, charging operation and maintenance in the field of new energy vehicle technology. New energy vehicles can be divided into the following categories: pure electric vehicles, hybrid vehicles, plug-in hybrid vehicles, extended-range hybrid vehicles, and fuel cell vehicles.

**Core Subject Courses**
Electric Vehicle Principle and Maintenance, Power Battery and Drive Motor, Automotive New Energy and Energy-saving Technology, Automotive Chassis Construction and Maintenance, Automotive Electrical Equipment Construction and Maintenance, Automobile Performance and Testing, Automotive Body Electronic Control Technology, Auto Insurance and Claims, Electrical and Electronic Technology, New Energy Vehicle Technology, etc.

**Employment Prospect**
Automotive maintenance enterprises: new energy vehicles after-sales technical consultation, maintenance and repair, electrical and electronic and mechanical system fault diagnosis and elimination.

# 099 AUTOMOTIVE ELECTRONICS TECHNOLOGY

## Program Name
Automotive electronics technology

## Program Definition
Automotive electronics technology mainly studies the basic knowledge and skills of electrical and electronic technology, automobile engine electronic control system testing, automobile single chip microcomputer and bus technology, automobile air conditioning overhaul and other aspects, and conducts the use, testing, maintenance and repair of automotive electrical and electronic equipment in the field of automotive electronic technology. Automotive electronics include power supply system, start system, ignition system, lighting system, signal system, instrument system and auxiliary equipment system, engine electronic control system, chassis electronic control system, comfort system, etc.

## Core Subject Courses
Automobile Structure, Automotive Electronic Control Technology, Automotive Electric Drive Technology, Automotive Fault Detection and Diagnosis Technology, Automotive Audio and Video Technology, Single-chip Application Technology, Electrical Control, Electronic Product Drawing and Boarding, Marketing and Management, Computer Application Fundamentals, Electrical and Electronic Technology Fundamentals, Automobile Electrical Equipment Construction and Maintenance, etc.

## Employment Prospect
Automobile maintenance enterprises: automobile electronic control system, electronic components detection, fault analysis and maintenance, installation and debugging of electronic products, etc.

# 100 FOOD BIOTECHNOLOGY

**Program Name**
Food biotechnology

**Program Definition**
Food biotechnology mainly studies the basic knowledge and skills of food chemistry, food microbiology, food processing and inspection, etc., and conducts food research and development, production, inspection, analysis, quality control, etc. For example: the research and development and production of new snacks, the processing of meat products such as sausages and dried meat, the processing of dairy products such as yogurt, milk, and milk chips, the inspection and analysis of food nutrients and additives, and the control of food quality and hygiene.

**Core Subject Courses**
Inorganic and Analytical Chemistry, Food Chemistry, Food Microbiology, Food Nutrition and Hygiene, Meat Product Processing Technology, Fermented Food Production Technology, Dairy Product Processing Technology, Enzyme Preparation Biology Technology, Functional Food Processing Technology, Food Analysis and Inspection, etc.

**Employment Prospect**
Food enterprises: food production, food analysis, quality control, new product development; inspection enterprises and institutions: food inspection.

# 101 BIOLOGICAL PRODUCT INSPECTION AND QUARANTINE

**Program Name**
Biological product inspection and quarantine

**Program Definition**
Biological product inspection and quarantine mainly studies the basic knowledge and skills of biochemistry, animal and plant quarantine, microbiological inspection, food hygiene inspection, etc., and conducts inspection and quarantine and sanitary inspection of animal, plant, agricultural and livestock products. For example: inspection and prevention of animal and plant diseases and pests of chickens, ducks, wheat, rice, etc., inspection and testing of pesticide residues in vegetables, quarantine and health inspection of poultry and livestock products such as pork and beef, etc.

**Core Subject Courses**
Biochemistry, Microbiology, Plant Pathology, Entomology, Plant Inspection and Quarantine, Animal Hygiene Inspection, Microbial and Immunological Inspection Technology, Food Hygiene Inspection Technology, Pest Risk Analysis, Animal and Plant Inspection and Quarantine Regulations, etc.

**Employment Prospect**
Sanitation, inspection, agricultural enterprises and institutions: animal and plant inspection and quarantine, agricultural and livestock products health and safety testing.

# 102 PETROLEUM REFININGTECHNOLOGY

**Program Name**
Petroleum refining technology

**Program Definition**
Petroleum refining technology mainly studies the basic knowledge and skills of chemistry, petroleum refining technology, petroleum processing technology and equipment, etc., and conducts production operation, technology development, process design, etc. for petroleum refining and petrochemical enterprises. For example: distillation, separation, cracking and refining of crude oil, production of petroleum products such as gasoline, diesel oil, lubricating oil, petroleum asphalt, optimization design of petroleum processing technology, etc.

**Core Subject Courses**
Inorganic Chemistry, Analytical Chemistry, Organic Chemistry, Petroleum Processing Technology, Chemical Reaction Engineering, Chemical Unit Operation and Equipment, Fuel Oil Production Technology, Lubricating Oil Production Technology, Reaction System Principle and Equipment, Production Process Automation and Control, etc.

**Employment Prospect**
Petroleum enterprises: petroleum refining, petroleum processing, technology development, production management, process design.

# 103 PETROCHEMICAL TECHNOLOGY

**Program Name**
Petrochemical technology

**Program Definition**
Petrochemical technology mainly studies the basic knowledge and skills of chemistry, petroleum processing technology and equipment, petrochemical technology, etc., and conducts production and processing, quality inspection, product analysis, storage and transportation of petroleum products, chemical raw materials and products. For example: the production of petroleum products such as gasoline, kerosene, liquefied petroleum gas, and asphalt; the production of chemical raw materials such as ethylene, butadiene, and benzene; the production of petrochemical products such as plastics, synthetic fibers, synthetic rubber, and paints.

**Core Subject Courses**
Inorganic Chemistry, Organic Chemistry, Analytical Chemistry, Chemical Principles, Petroleum Processing Technology, Petroleum Refining Engineering, Petroleum Product Analysis, Petroleum Processing and Production Technology, Oil Storage and Transportation Technology, Chemical Instrument Automation, etc.

**Employment Prospect**
Petroleum enterprises: petroleum processing, chemical raw material production, product analysis, quality inspection, oil storage and transportation.

# 104 FURNITURE DESIGNAND MANUFACTURING

**Program Name**
Furniture design and manufacturing

**Program Definition**
Furniture design and manufacturing mainly studies the basic knowledge and skills of furniture drawing, furniture structure design, furniture manufacturing technology, furniture watch decoration, etc., and conducts product development design, store design, soft decoration design, etc. in the field of furniture design and manufacturing. For example: furniture structure design, production management, quality inspection, furniture marketing, etc.

**Core Subject Courses**
Furniture Drawing and Recognition, Furniture Materials, Design Composition, CAD, Photoshop, 3dmax, Furniture Equipment Operation and Maintenance, Furniture Design Technology, Furniture Manufacturing Technology, Furniture Surface Decoration Technology, Furniture Quality Inspection Technology, CNC Processing Technology, Sketch and Color, Furniture Design, Furniture Manufacturing Technology, etc.

**Employment Prospect**
Furniture manufacturing enterprises: furniture design and manufacture, furniture quality inspection, furniture marketing, interior decoration, wood product production, etc.

# 105 FOOTWEAR DESIGN AND CRAFTSMANSHIP

**Program Name**
Footwear design and craftsmanship

**Program Definition**
Footwear design and craftsmanship mainly studies the basic knowledge and skills of shoemaking process operation, shoe material cognition and application, shoe design and production, shoe color matching and other aspects and carries out finished shoe design, fashion creative design, shoe pattern computer-aided design, shoe development, brand planning and operation, etc. in the field of shoe design and technology. For example: shoe product design, shoe product plate-making, last design, etc.

**Core Subject Courses**
Sketch, Color Painting, Plane Composition, Three-dimensional Composition, Color Composition, Shoes and Boots Modeling Design, Shoes Materials Science, Shoemaking Machinery, Shoes and Boots Effect Drawing Techniques, Shoes and Boots Modeling Design, Leather Shoes Design, Sneaker Design and Boarding, Shoemaking Process Operation, Shoe Last Design, Graphic Design, Computer Color Matching, Shoe Design and Performance, etc.

**Employment Prospect**
Footwear enterprises: shoe sample development, computer color matching, sole design, shoe last design, finished shoe quality inspection, etc.

# 106 JEWELRY TECHNOLOGY AND MANAGEMENT

**Program Name**
Jewelry technology and management

**Program Definition**
Jewelry technology and management mainly studies the basic knowledge and skills of jewelry identification, jewelry design and flower carving, jewelry design and inlay, etc., and conducts jewelry processing, jewelry evaluation, and gemstone instrument operation in the field of jewelry technology and management. The world's famous jewelry includes Hope Star, Graff Diamond Peacock Brooch, Wetterbach-Graff Diamond, Pink Star, Oppenheimer and so on.

**Core Subject Courses**
Precious Metal Jewelry Materials, Jewelry Production Technology, Jewelry CAD, Jewelry Production Quality Inspection and Defect Analysis, Jewelry Enterprise Management, Gems and Jade Processing, Jewelry and Jade Identification, Crystal Chemistry, etc.

**Employment Prospect**
Jewelry processing enterprises: jewelry design, gem identification, gem cutting and processing, evaluation and appraisal of finished jewelry, etc.

# 107 PACKAGING ENGINEERING TECHNOLOGY

**Program Name**
Packaging engineering technology

**Program Definition**
Packaging engineering technology mainly studies the technical knowledge and skills of packaging materials, packaging machinery and equipment, packaging structure design, packaging modeling, etc., and conducts commodity packaging design, packaging printing production, packaging decoration design and computer production in the field of packaging engineering technology. For example: packaging process design, transportation packaging design, packaging materials and packaging testing, etc.

**Core Subject Courses**
Packaging Machinery and Equipment, Packaging Materials, Packaging Technology, Packaging Decoration Design, Packaging Structure Design, Packaging Modeling, Transportation Packaging, Packaging Testing Technology, Engineering Mechanics , Engineering Fluid Mechanics, Engineering Graphics, Mechanical Principles, Thermodynamics, Electrical Engineering, Computer Fundamentals, Industrial Art Fundamentals, etc.; Packaging CAD, Packaging Automation, Packaging and Sales Psychology, Packaging Art Appreciation, Packaging Management, Advertising Design, etc.

**Employment Prospect**
Packaging products enterprises: packaging and printing process flow, packaging equipment operation, packaging product quality control and testing, packaging and printing management, etc.

# 108 PACKAGING PLANNING AND DESIGN

**Program Name**
Packaging planning and design

**Program Definition**
Packaging planning and design mainly studies the basic knowledge and skills of packaging design, pre-press design, packaging materials and post-press technology, packaging and decoration, etc., and conducts packaging planning, graphic creative design, and soft text planning in the field of packaging planning and design. For example: print advertising design, Internet packaging design, packaging cost accounting, etc.

**Core Subject Courses**
Packaging Structure Design, Packaging Computer Aided Design, Packaging Materials Science,Packaging Decoration Design, Principles of Color Science, Photography Technology, Graphic Design, Photoshop Image Processing Technology, VI Design, 3D Printing Technology, Packaging Planning and Marketing, Packaging Decoration Design, etc.

**Employment Prospect**
Packaging design enterprises: packaging process design, packaging quality inspection, packaging planning, packaging structure design, packaging and decoration design.

# 109 PRINTING EQUIPMENT APPLICATION TECHNOLOGY

**Program Name**
Printing equipment application technology

**Program Definition**
Printing equipment application technology mainly studies the basic knowledge and skills of printing machine structure and operation, printing machine fault and troubleshooting, printing machine circuit, electrical control and PLC, etc., and carries out printing machine production and control, printing machine operation and maintenance, printing equipment manufacturing and assembly in the field of printing equipment application technology. Common printing equipment includes origami machines, paper cutters, glue binding machines, etc.

**Core Subject Courses**
Mechanical Application Technology, Electrical Technology, Mechanical Equipment Control Technology, Print Color Control Technology, Printing Materials and Processes, Printing Machine Structure and Adjustment Technology, Printing Troubleshooting, Mechanical Drawing , Post-press processing technology and equipment and so on.

**Employment Prospect**
Machinery manufacturing enterprises: manufacturing, installation, commissioning, operation, maintenance, management or sales and after-sales service of printing machinery and equipment.

# 110 MODERN TEXTILE TECHNOLOGY

**Program Name**
Modern textile technology

**Program Definition**
Modern textile technology mainly studies the basic knowledge and skills of textile materials, textile technology, knitted fabric design, textile testing and analysis, etc., and conducts modern textile industry process design, product development, and technical management in the field of modern textile technology. For example: knitting production management, quality control, technological transformation, new product development, knitwear trade, etc.

**Core Subject Courses**
Textile Materials Science, Spinning Technology, Weaving Technology, Textile Enterprise Management, Textile Trade, Modern Textile Electromechanical Technology, Textile Testing, Dyeing and Finishing Technology, Textile Fiber, Texture CAD, Textile Management and Trade, etc.

**Employment Prospect**
Textile enterprises: product testing and textile marketing, operation and maintenance of textile machinery, etc.

# 111 GARMENT DESIGN AND CRAFT

**Program Name**
Garment design and craft

**Program Definition**
Clothing Design and Craft mainly learn the basic knowledge and basic skills of clothing design, clothing technology and clothing production management, master the principles of clothing modeling and structural design, and be able to complete clothing styles and crafts through computer-aided design tools. Such as clothing board, sample making, clothing design and so on.

**Core Subject Courses**
Clothing Design, Clothing Graphic Structure Design, Clothing Industry Board, Clothing Dimensional Cutting, Clothing CAD, Clothing Technology, Clothing Production Management, Clothing Documentary, Design Sketch , Apparel Color and Pattern Design, Fundamentals of Apparel Sewing Technology, Fashion Painting Hand-painted and Computer Expression, Apparel Engineering, etc.

**Employment Prospect**
Apparel industry: Apparel design and development, apparel production process design, apparel production management.

# 112 TEXTILE DESIGN

**Program Name**
Textile design

**Program Definition**
Textile design mainly studies the basic knowledge and skills of weaving pattern design, fabric design, computer graphics and creativity, and conducts textile fabric design, home textile product design, decorative textile design, etc. in the field of textile design. For example: textile pattern design, modeling design, quality inspection, etc.

**Core Subject Courses**
Textile Materials Science, Textile Art Fundamentals, Fabric Organization, Textile CAD, Textures, Fabric Properties and Styles, Textile Foreign Trade, Textile Materials and Testing, Textile Testing and Standards, Modern Spinning Technology and Equipment, Modern Textile Materials, Textile Color and Pattern Design, etc.

**Employment Prospect**
Textile enterprises: textile fabric design, pattern design, textile logistics and related product design, trade, etc.

# 113 INTELLIGENT FOOD PROCESSING TECHNOLOGY

**Program Name**
Intelligent food processing technology

**Program Definition**
Intelligent food processing technology mainly studies the basic knowledge and skills of food production technology, quality control, new product development, food enterprise management and other aspects, and conducts food production and management, quality control, product research and development, etc. For example: processing, product testing, storage and preservation of seafood products such as fish and shrimp, processing and production of grain, oil, and baked foods, etc.

**Core Subject Courses**
Food Analysis, Food Chemistry, Food Microbiology, Food Machinery and Equipment, Dairy Product Processing Technology, Food Microbiology, Fruit and Vegetable Storage and Processing Technology, Food Nutrition and Hygiene, Fermented Food Technology, Food Analysis and Inspection, etc.

**Employment Prospect**
Food enterprises and institutions: food production, food quality monitoring, food hygiene inspection, food engineering design, food development, food marketing, food storage, transportation and management.

# 114 FOOD QUALITY AND SAFETY

**Program Name**
Food quality and safety

**Program Definition**
Food quality and safety mainly studies the basic knowledge and skills of food quality control and management, food testing and analysis, etc., and conducts food production and quality control, food quality supervision and management, food safety testing and analysis, etc. For example: nutritional component testing and safety inspection of sausage, bread and other foods, monitoring, storage and transportation of animal husbandry and agricultural products, scientific research on food, etc.

**Core Subject Courses**
Food Analysis, Food Chemistry, Food Microbiology, Food Machinery and Equipment, Dairy Product Processing Technology, Food Microbiology, Fruit and Vegetable Storage and Processing Technology, Food Nutrition and Hygiene, Fermented Food Technology, Food Analysis and Inspection, etc.

**Employment Prospect**
Food enterprises and institutions: production management of food raw materials, semi-finished products and finished products, food quality control, inspection and testing, quality certification, safety evaluation, food safety and quality supervision.

# 115 FOOD NUTRITION AND HEALTH

**Program Name**
Food nutrition and health

**Program Definition**
Food nutrition and health mainly studies basic knowledge and skills in nutrition, food hygiene, food testing technology, etc., and conducts public nutrition, clinical nutrition dietary calculation, nutrition consultation and evaluation, food hygiene inspection and supervision, health assessment, nutritional catering and production, etc. For example: nutritional collocation and scientific catering of cooked food, nutritional survey and quality evaluation, prevention and control of contamination by harmful substances in various links such as food processing, transportation, storage, and sales.

**Core Subject Courses**
Nutrition and Food Hygiene, Basics of Nutrition, Clinical Nutrition, Preventive Medicine, Food Toxicology, Basics of Traditional Chinese Medicine, Health Evaluation, Nutritional Meal Design, Meal Preparation Technology, Health Products and Sub-health, etc.

**Employment Prospect**
Food enterprises and institutions: food hygiene supervision, food safety testing, nutritional catering, menu design, dish marketing, public nutrition, public health service and management.

# 116 FOOD INSPECTION AND TESTINGTECHNOLOGY

## Program Name

Food inspection and testing technology

## Program Definition

Food inspection and testing technology mainly studies the basic knowledge and skills of food quality and safety inspection and testing, food production management, food nutrition catering and design and conducts food inspection, food nutrition analysis, food quality and safety evaluation and control, food production management, etc. For example: quality inspection of food raw materials, auxiliary materials, semi-finished products, finished products and by-products, detection of pesticide residues in vegetables and fruits, safety detection, evaluation and control of food adulteration and genetically engineered food, causes of food poisoning and food-borne diseases and control etc.

## Core Subject Courses

Nutritional Catering and Design, Food Nutrition and Hygiene, Food Safety and Nutrition, Dietary Survey and Evaluation, Food Quality Management, Food Quality and Safety Control Technology, Cooking Technology, Food adulteration identification test, Identification and Application of Food Additives, Food Chemistry, Food Analysis and Testing, Fundamentals of Food Processing, Food Microbiology, Food Enzymology, Food Physical and Chemical Inspection Technology, Principles of Food Engineering, Food Storage and Processing, etc.

## Employment Prospect

Food enterprises and institutions: food production, food nutrition management, food catering design, food preservation, food quality analysis and testing, product safety assessment and control, product planning, product design, product sales, and technical management.

# 117 DRUG QUALITY AND SAFETY

**Program Name**
Drug quality and safety

**Program Definition**
Drug quality and safety mainly studies the basic knowledge and skills of quality inspection and quality management of raw materials, intermediate products and finished drugs, and conducts quality inspection and quality management in the whole process of drug development, production and distribution. For example: quality control and testing of finished vaccines, safety inspection of drugs through microscopic identification, physicochemical identification or thin-layer chromatography identification, etc.

**Core Subject Courses**
Pharmacognosy, Safety Production Knowledge, Medicinal Chemistry, Pharmaceutics, Chinese Medicinal Materials Inspection, Production and Operation Quality Management, Modern Testing Technology, Drug Quality Management Technology, Analysis and Inspection Equipment Maintenance, Biological Product Quality Inspection, etc.

**Employment Prospect**
Pharmaceutical enterprises and institutions: drug physical and chemical testing, quality supervision, instrument analysis, biological testing and drug quality management, drug research and development and sales.

# 118 FOOD AND DRUG SUPERVISION AND ADMINISTRATION

**Program Name**
Food and drug supervision and administration

**Program Definition**
Food and drug supervision and administration mainly studies the basic knowledge and skills of drug quality management, food quality management, quality inspection, etc., and conducts quality control and supervision and management during food and drug production and operation. For example: detection of toxic and harmful substances, excessive additives in food, drug safety monitoring, quality inspection, etc.

**Core Subject Courses**
Pharmacology, Pharmaceutics, Drug Storage and Maintenance Technology, Chinese Proprietary Pharmacy, Food and Its Products Inspection, Grain and Oil Storage Technology, Food Safety and Quality Control, Pharmaceutical Service Technology , Pharmacy Management Practice, Automatic Control Technology of Grain Processing, etc.

**Employment Prospect**
Food and drug enterprises and institutions: food and drug production, product process design, product quality inspection, analysis and control, product quality supervision and management.

# 119 REHABILITATION ENGINEERING TECHNOLOGY

**Program Name**
Rehabilitation engineering technology

**Program Definition**
Rehabilitation engineering technology mainly studies the basic knowledge and skills of clinical medicine, kinesiology, rehabilitation therapy, rehabilitation equipment and auxiliary equipment, etc., and conducts auxiliary design, production, assembly, quality inspection, maintenance, marketing management and after-sales service of rehabilitation equipment. Common rehabilitation devices include: prosthetics, orthoses, wheelchairs, etc.

**Core Subject Courses**
Kinesiology, Medical Physics, Rehabilitation Assessment, Clinical Kinesiology, Physical Therapy, Traditional Chinese Rehabilitation Therapy, Occupational Therapy, Rehabilitation Engineering, Medical and Surgical Diseases, Musculoskeletal Rehabilitation, etc.

**Employment Prospect**
Rehabilitation equipment enterprises: manufacturing, quality inspection, installation and commissioning, maintenance and after-sales service.

# 120 HEALTH FOOD QUALITY AND MANAGEMENT

**Program Name**
Health food quality and management

**Program Definition**
Health food quality and management mainly studies basic knowledge and skills in medicine, life science, nutrition, health food science, etc., and conducts health care products, food production, quality inspection, business management, etc. For example: the production of nattokinase food additives that have special effects on three high, weight loss and detoxification, the production and management of supplementary food for increasing bone density and improving nutritional anemia, and the research and development of medicinal health products.

**Core Subject Courses**
Basic Medicine, Chinese Pharmacy, Immunology, Nutrition, Dietotherapy of Chinese Medicine, Pharmaceutical Preparation Analysis, Microbiology and Immunology, Food Engineering Principles, Health Products Production Technology and Equipment, Nutrition and Health Care, etc.

**Employment Prospect**
Health care products enterprises and institutions: health care product production, health care product quality testing, health care product management, health care product research and development and marketing, nutrition and health care consulting and guidance.

# 121 GRAIN ENGINEERING TECHNOLOGY AND MANAGEMENT

**Program Name**
Grain engineering technology and management

**Program Definition**
Grain engineering technology and management mainly studies the basic knowledge and skills of grain and oil storage, grain and oil quality inspection, etc., and conducts grain production technology management, grain and oil product processing, grain product inspection and storage, and grain machinery installation and debugging. For example: warehouse pest control in grain storage and transportation, grain ventilation and dust removal and material transportation, design and maintenance of grain production and operation systems, etc.

**Core Subject Courses**
Inspection of Grain and Its Products, Grain Processing Technology, Automatic Control Technology of Grain Processing, Feed Processing and Testing Technology, Ventilation, Dust Removal and Material Transportation, Grain and Oil Storage Technology, Food Safety and Quality Control , Design and Installation of Grain Processing Plants, Pulverizing Technology and Equipment, Mechanical Design Fundamentals, etc.

**Employment Prospect**
Grain enterprises and institutions: grain production, product procurement, storage and pest control, grain product processing, process design, new product development, and sales.

# 122 GRAIN STORAGE AND TRANSPORTATION AND QUALITY SAFETY

**Program Name**

Grain storage and transportation and quality safety

**Program Definition**

Grain storage and transportation and quality safety mainly study the basic knowledge and skills of grain and oil storage, grain and oil inspection, storage and logistics, etc., and carries out grain and oil storage and quality inspection, hygiene inspection, etc. For example: routine items inspection of grains such as wheat, rice, corn, soybeans, etc., formulation of grain treatment plans such as condensation, heat, mildew, insect pests, etc., overall plan design of grain and oil in and out storage, etc.

**Core Subject Courses**

Grain and Oil Storage, Grain and Oil Transportation, Grain Condition Inspection, Grain and Oil Food Safety Inspection, Grain and Oil Storage Technology, Grain Microbiology, Granary Machinery, Grain Pest Control, Grain and Oil Storage Business Management, Granary and Laboratory Electrical Appliances, etc.

**Employment Prospect**

Grain and oil enterprises and institutions: grain and oil storage, grain and oil transportation and storage operations, grain condition inspection, grain condition control and processing, grain quality inspection, oil quality inspection, grain and oil logistics and sales.

# 123 RAILWAY ENGINEERING TECHNOLOGY

**Program Name**
Railway engineering technology

**Program Definition**
Railway engineering technology mainly studies the basic knowledge and skills of engineering mechanics, soil mechanics, engineering surveying, railway engineering, etc., and conducts railway and subway design, construction, quality inspection, supervision, maintenance, etc. For example: the selection and survey and design of railway lines, the measurement and construction of railways and subways, the planning and design of railway stations, the maintenance of railway tracks, etc.

**Core Subject Courses**
Railway Engineering Surveying, Engineering Drawing and CAD, Engineering Mechanics, Soil Mechanics and Geotechnical Testing, Building Materials, Engineering Geology, Structural Design Principles, Railway Lines and Stations, Subgrade Engineering, Railway Track, etc.

**Employment Prospect**
Railway units: design, construction, maintenance, management and supervision of railway projects.

# 124 HIGH-SPEED RAILWAY CONSTRUCTION AND MAINTENANCE

**Program Name**

High-speed railway construction and maintenance

**Program Definition**

High-speed railway construction and maintenance mainly studies basic knowledge and skills in architectural mechanics, engineering drawing and CAD, engineering surveying, high-speed railway engineering, etc., and conducts high-speed railway surveying, construction, overhaul, maintenance, and management. For example: measurement and construction of high-speed railway projects, railway construction organization and management and budget estimation, inspection and maintenance of high-speed railway lines, etc.

**Core Subject Courses**

Architectural Engineering Drawing, Engineering Surveying, Architectural Mechanics, Engineering Material Testing and Inspection, Architectural Engineering CAD, Introduction to High-speed Railway, High-speed Railway Precision Measurement, High-speed Railway Track Engineering, High-speed Railway Line Monitoring and Maintenance, High-speed Railway Engineering Construction Organization, etc.

**Employment Prospect**

High-speed railway units: engineering survey, engineering construction, line inspection, high-speed railway maintenance, railway overhaul.

# 125 RAILWAY BRIDGE AND TUNNEL ENGINEERING TECHNOLOGY

**Program Name**
Railway bridge and tunnel engineering technology

**Program Definition**
Railway bridge and tunnel engineering technology mainly studies basic knowledge and skills in engineering mechanics, engineering drawing, railway bridge engineering, railway tunnel engineering, etc., and conducts survey, construction, maintenance, and management of railway bridges and tunnels. For example: terrain survey of railway bridges, structural design of railway tunnels, construction and maintenance of railway bridges and tunnels, etc.

**Core Subject Courses**
Bridge Superstructure Construction, Bridge Substructure Construction, Construction Site Management, Railway Line Construction, Railway Tunnel Construction, Engineering Measurement and Pricing, Structural Design Fundamentals, Railway Engineering Drawing and CAD, Engineering Mechanics, Engineering Surveying, etc.

**Employment Prospect**
Railway units: bridge and tunnel survey, construction, maintenance and management.

# 126 RAILWAY VEHICLE TECHNOLOGY

**Program Name**
Railway vehicle technology

**Program Definition**
Railway vehicle technology mainly studies basic knowledge and skills of vehicle dynamics, rail vehicle structure, braking device, electrical device, refrigeration device, testing and maintenance technology, etc., and conducts fault detection, repair, maintenance and management of rail vehicles. Common rail vehicles include: trains, bullet trains, subways, urban railways, etc.

**Core Subject Courses**
Introduction to Railways, Vehicle Dynamics Fundamentals, Electrical Equipment for EMUs, Vehicle Construction and Maintenance, Vehicle Braking and Maintenance, Vehicle Inspection and Safety Monitoring, Vehicle Operation and Management, Vehicle Electrical Equipment Inspection and Maintenance, Vehicle Refrigeration and Air Conditioning Equipment, Urban Rail Transit Vehicle Traction Drive, etc.

**Employment Prospect**
Railway and subway enterprises and institutions: rail vehicle overhaul, rail vehicle maintenance, rail vehicle inspection, and vehicle management.

# 127 HIGH SPEED RAILWAY COMPREHENSIVE MAINTENANCE TECHNOLOGY

**Program Name**
High speedrailway comprehensive maintenance technology

**Program Definition**
High-speed railway comprehensive maintenance technology studies the integration of comprehensive maintenance knowledge and technical skills of high speed railway lines, roadbed, bridges, tunnels, signal, catenary, electricity and other facilities (hereinafter generally referred to as the high-speed rail infrastructure), and trains high quality technical personnel to engage in high speed railway infrastructure operation and maintenance and general-speed railway integrated maintenance production work.

**Core Subject Courses**
Precision Measurement Technology of High-speed Railway Infrastructure, High-speed Railway Infrastructure Inspection Data Analysis, High-speed Railway Line Construction and Maintenance, High-speed Railway Bridge and Tunnel Equipment Construction and Maintenance, Four Electric Systems, High-speed Railway Signal Equipment Construction and Maintenance , High-speed rail catenary structure and operation and maintenance and so on.

**Employment Prospect**
High-speed railway infrastructure operation and maintenance field: high-speed railway equipment and facility inspection, fault diagnosis and emergency response, general maintenance and repair, etc.

# 128 RAILWAY SIGNAL AUTOMATIC CONTROL

**Program Name**
Railway signal automatic control

**Program Definition**
Railway signal automatic control mainly studies the basic knowledge and skills of signal safety technology, urban rail traffic signals, railway signals, station signals, interval signals, etc., and conducts testing, repair and maintenance of railway signal equipment.

**Core Subject Courses**
Introduction to Railways, Mechanical Drawing and CAD, Microcomputer Principles and SCM Technology, Communication Signal Safety Technology, Analog Electronic Technology, Digital Pulse Circuit, Urban Rail Transit Signal Equipment and Construction, Station Signal Equipment Construction, Railway Signal Remote Control, Interval Signal Equipment Maintenance, etc.

**Employment Prospect**
Railway and rail transit units: construction, testing, maintenance, management and engineering supervision of signal equipment.

# 129 ROAD AND BRIDGE ENGINEERING TECHNOLOGY

**Program Name**

Road and bridge engineering technology

**Program Definition**

Road and bridge engineering technology mainly studies the basic knowledge and skills of engineering mechanics, building materials, road engineering, bridge engineering, etc., and conducts survey and design, construction, inspection and testing, repair and maintenance of highways, urban roads and bridges. For example: survey of topography and landforms of roads and highway paving areas, construction of roads, highways and bridges, inspection and testing of bridge bearing capacity, maintenance and management of highways and roads, etc.

**Core Subject Courses**

Road Engineering Drawing,Engineering Mechanics, Soil Mechanics and Foundation, Highway Construction Materials, Road Engineering, Bridge Engineering, Road and Bridge Engineering Measurement and Pricing, Road and Bridge Engineering Construction Technology and Construction Organization, Highway Survey Technology, Highway Maintenance and Management, etc.

**Employment Prospect**

Transportation and engineering enterprises and institutions: road survey, road construction, bridge construction, bridge inspection, road maintenance.

# 130 ROAD ENGINEERING INSPECTION TECHNOLOGY

**Program Name**
Road engineering inspection technology

**Program Definition**
Road engineering testing technology mainly studies basic theories and methods of subgrade and pavement testing, road engineering, and carries out engineering design parameters, construction quality control, construction acceptance assessment, maintenance management decision-making, etc. For example: control and assess project quality, use local raw materials to promote and apply new materials, use new technologies and new processes to improve project quality, speed up project progress, reduce project cost, and promote the progress of road construction technology.

**Core Subject Courses**
Traffic Safety Facilities, Mechatronic Engineering, Road Engineering, Modern Control Theory, Sensing Technology and Application, Computer Control,Detection Technology, Measurement and Control System Design, Industrial Computer Distribution Control Systems, Materials Science, etc.

**Employment Prospect**
Transportation and engineering enterprises and institutions: road survey, bridge inspection, engineering quality control, road maintenance, etc.

# 131 AUTOMOTIVE TECHNICAL SERVICE AND MARKETING

## Program Name
Automotive technical service and marketing

## Program Definition
Automotive technical service and marketingmainly studies the basic theory and technology of modern automobiles, and the theory and skills of vehicle and accessories marketing. Students are not only proficient in operating car diagnosis, testing and maintenance techniques, but also proficient in the use of sales and after-sales service processes and skills, having the ability to investigate and forecast the automobile market, plan automobile marketing, sell automobiles, and diagnose automobile faults. For example: auto insurance consultation, loss assessment and compensation, car purchase and credit loan, etc.

## Core Subject Courses
Automobile Structure, Automotive Electrical and Electronic Fundamentals, Automotive Engine Mechanical System Maintenance, Automotive Chassis Mechanical System Maintenance, Application Writing, Speech and Eloquence, Automobile Marketing Etiquette, Automobile Display Board and Graphics Advertising Design and Production, Automobile Consumer Psychology, Automotive E-commerce, Front Desk Reception, Automobile Marketing, Auto Parts Marketing and Management, Automotive Business Communication, Automotive Trade Negotiation Skills, Automobile Insurance and Claims, Automobile Technical Service and Management, Automobile Business Etiquette Training, Automobile Marketing Training, Automobile Insurance and Claims Training, etc.

## Employment Prospect
Automobile enterprises: automobile sales, automobile parts sales, automobile after-sales service, automobile transportation, automobile marketing business management.

# 132 AUTOMOBILE INSPECTION AND MAINTENANCE TECHNOLOGY

**Program Name**
Automobile inspection and maintenance technology

**Program Definition**
Automobile inspection and maintenance technology mainly studies the basic knowledge and skills of automobile fault detection and maintenance, automobile performance detection and maintenance, engine principle and automobile theory, and carries out automobile detection, diagnosis, maintenance, sales and service in the field of automobile detection and maintenance technology. For example: vehicle identification, evaluation, claims, vehicle accident survey, etc.

**Core Subject Courses**
Automotive Driving Technology, Automobile Construction and Disassembly, Engine System Diagnosis and Repair, Automotive Transmission System Inspection and Repair, Steering and Braking System Inspection and Repair, Automotive Chassis Control System Diagnosis and Repair, Automotive Electronic Control System Diagnosis and Repair, Automotive Comfort and Safety System Diagnosis and Overhaul, Car Maintenance and Maintenance, Automotive Performance Testing and Evaluation, Automobile Comprehensive Performance Fault Analysis and Diagnosis, Automobile Maintenance Operation and Management, Automobile Insurance and Claims, etc.

**Employment Prospect**
Automobile maintenance enterprises: automobile inspection, repair, basic maintenance of automobiles, quality inspection of automobile maintenance, etc.

# 133 NEW ENERGY VEHICLE INSPECTION AND MAINTENANCE TECHNOLOGY

**Program Name**
New energy vehicle inspection and maintenance technology

**Program Definition**
New energy vehicle inspection and maintenance technology mainly studies the basic knowledge and skills of new energy vehicle composition, battery design, fault diagnosis, maintenance and other aspects, and conducts new energy vehicle manufacturing, assembly and debugging, inspection and maintenance, etc. Common new energy vehicles include: pure electric vehicles, extended-range electric vehicles, plug-in hybrid electric vehicles, and fuel cell electric vehicles.

**Core Subject Courses**
Automotive Electronics Technology, New Energy Vehicle Battery Technology, Electric Vehicle Construction and Maintenance, Electric Vehicle Motor and Controller, Engine Emission Control, Electric Vehicle New Technology, Electric Vehicle Detection and Diagnosis Technology, Fuel Cell Design and Manufacturing, Gas Vehicle Modification Technology, Automobile Energy and Environmental Protection, etc.

**Employment Prospect**
Automotive enterprises: new energy vehicle manufacturing, assembly, commissioning, quality inspection, and maintenance.

# 134 NAVIGATION TECHNOLOGY

**Program Name**
Navigation technology

**Program Definition**
Navigation technology mainly studies the basic knowledge and skills of navigation, marine meteorology, ship structure and equipment, ship driving, maritime communication, etc., and conducts ship operations and management. For example: driving of ships at sea, cargo transportation and management at sea, pilotage of ships at sea, etc.

**Core Subject Courses**
Navigation, Navigation English, Navigation Meteorology and Oceanography, Ship Principles, Ship Structure and Equipment, Ship Maneuvering and Collision Avoidance, Ship Structure and Freight, Navigation Instruments, GMDSS Communication, Ship Management, etc.

**Employment Prospect**
Shipping and port enterprises: ship driving, marine transportation; maritime affairs institutions: marine pilotage, marine rescue.

# 135 PORT AND WATERWAY ENGINEERING TECHNOLOGY

**Program Name**
Port and waterway engineering technology

**Program Definition**
Port and waterway engineering technology mainly studies the basic knowledge and skills of engineering surveying, engineering materials, port engineering, waterway engineering, water transportation engineering, canalization engineering, etc., and carries out planning, surveying, construction, inspection, management of port and waterway. For example: construction of piers, breakwaters, revetments, docks, navigation marks and other port hydraulic structures, planning, dredging and remediation of waterways, construction of barrages and ship locks, etc.

**Core Subject Courses**
Engineering Drawing, Engineering Surveying, Engineering Mechanics, River Dynamics, Engineering Material Testing and Testing, Principles of Hydraulic Structure Design, Soil Mechanics and Foundation Treatment, Port Engineering Construction, Waterway Improvement Construction, Water Transport Engineering and Construction Monitoring, etc.

**Employment Prospect**
Port and waterway enterprises: engineering surveying, port construction, waterway construction, project supervision, project inspection, etc.

# 136 MARINE ENGINEERING TECHNOLOGY

**Program Name**
Marine engineering technology

**Program Definition**
Marine engineering technology mainly studies the basic knowledge and skills in mechanics, marine engineering, maintenance and repair of marine electromechanical equipment and power equipment, and carries out installation, commissioning, fault diagnosis, maintenance and repair of marine electromechanical equipment. Common marine electromechanical equipment includes ship main engine, transmission device, propeller, generator set, switchboard, steam boiler, marine pump, water generator, etc.

**Core Subject Courses**
Basics of Marine Engineering, Mechanism and Mechanical Transmission, Marine Diesel Engine, Marine Auxiliary Engine, Marine Electrical Equipment, Marine Automation, Operation and Disassembly of Marine Power Equipment, Ship Management, Engine Maintenance and Repair, Marine Engine English, etc.

**Employment Prospect**
Ships and shipping enterprises: ship repair, engine maintenance, equipment installation, fault diagnosis.

# 137 PORT AND SHIPPING MANAGEMENT

**Program Name**
Port and shipping management

**Program Definition**
Port and Shipping Management mainly studies the basic knowledge and skills of transportation, port operation management, freight forwarding, shipping agency, shipping regulations, etc., and conducts business operations and management for the front line of ports and shipping. For example: sorting of goods and management of warehouses, customs declaration and commodity inspection declaration of import and export goods, leasing, scheduling and management of ships, etc.

**Core Subject Courses**
Transportation, Transportation Economics, International Shipping Marketing, Port Handling Technology, Ship Agency Business Practice, International Freight Forwarding Practice, Port Operation Management, International Freight Insurance , Practice of Customs Declaration and Inspection, Practice of Shipping Regulations, etc.

**Employment Prospect**
Port and shipping enterprises: cargo management, storage management, berth planning, ship scheduling, customs declaration and inspection, shipping management.

# 138 SHIP INSPECTION

**Program Name**
Ship inspection

**Program Definition**
Ship inspection mainly studies the basic knowledge and skills of electrical and electronic technology, ship materials, ship machinery and equipment, ship electrical equipment, ship inspection and repair technology, etc., and conducts ship inspection and testing, including hull inspection, ship mechanical equipment inspection, ship electrical equipment inspection, ship communication tool inspection, ship class inspection, etc.

**Core Subject Courses**
Engineering Mechanics, Circuits and Electronic Technology, Ship Materials, Ship Principles, Ships and Drawings, Ship Power Plants, Hull Repair and Construction Technology, Ship Engine Repair and Construction Technology, Hull and Equipment Inspection, Ship Electrical Appliances and Inspection, etc.

**Employment Prospect**
Ships and shipping enterprises: hull inspection, ship engine inspection, ship electrical inspection.

# 139 CONTAINER TRANSPORTATION MANAGEMENT

## Program Name
Container transportation management

## Program Definition
Container transportation management mainly studies the basic knowledge and skills of logistics, container terminal business management, multimodal transportation, international freight transportation regulations, etc., and conducts container leasing, customs declaration, transportation, management, and multimodal transportation. For example: import and export customs declaration and inspection of containers, management of empty containers, dangerous goods containers and transfer containers at the terminal, combined transportation of containers by sea and air, etc.

## Core Subject Courses
Basics of Logistics Management, Cargo Science, Maritime Geography, International Freight Forwarding, Container Transport Practice, Container Terminal Business Management, Foreign Ship Tally Business, Container Multimodal Transport, Container Leasing and Management, Container Management Practice and Regulations, etc.

## Employment Prospect
Shipping and port enterprises: freight forwarding, container transport management, container terminal management, container multimodal transport management.

# 140 HELICOPTER PILOTING TECHNOLOGY

**Program Name**
Helicopter piloting technology

**Program Definition**
Helicopter piloting technology mainly studies the basic knowledge and skills of flight principles, helicopter flight driving technology, aviation electrical and instrumentation, aviation regulations, etc., and conducts general aviation helicopter driving and flight teaching. The flight operations of modern helicopters cover many fields such as aerial photography, aerial tourism, medical rescue, meteorological detection, aerial inspection, artificial precipitation, and ocean monitoring.

**Core Subject Courses**
Principles of Helicopter Flight, Helicopter System, Aviation Meteorology, Air Navigation, Aviation Power Plant,Helicopter Electrical Instrumentation and Communication System, Aircraft Structure and System, Human Factors and Crew Resource Management, Flight English, Aviation Regulations, etc.

**Employment Prospect**
General aviation enterprises: helicopter driving,flight teaching.

# 141 FLIGHT ATTENDANT

**Program Name**
Flight attendant

**Program Definition**
The flight attendant mainly studies the basic knowledge and skills of civil aviation service, aviation first aid, civil aviation regulations, social etiquette and communication skills, makeup and image design, and conducts air service, etc. For example: the supply of passengers' in-flight meals, the guidance and use of on-board safety equipment, the safety confirmation in the cockpit when the plane takes off and land, the first aid for passengers' sudden illness, the organization of passengers' jumping in emergency situations, etc.

**Core Subject Courses**
Introduction to Civil Aviation, Service Psychology, Civil Aviation Crew Skills and Management, Cabin Safety and Emergency Response, Aviation Service Etiquette, Interpersonal Communication Theory and Practice, Passenger Aviation Organization and Management, Image Design and Makeup Skills, Civil Aviation Crew English, Civil Aviation Regulations, etc.

**Employment Prospect**
Civil aviation enterprises: air services.

# 142 AIRPORT OPERATION SERVICE AND MANAGEMENT

**Program Name**
Airport operation service and management

**Program Definition**
Airport operation service and management mainly studies the basic knowledge and skills of civil aviation service, airport service, apron service, airport operation and management, civil aviation laws and regulations, etc., and conducts airport operation command, airport ground handling service, airport ticket management, etc. For example:airport on-site scheduling and operation control, maintenance of airport roadways, aircraft oil and water supply and fuselage cleaning, supplementary loading of aircraft meals,sales and return of airport tickets, etc.

**Core Subject Courses**
Modern Air Transport Management, Airport Passenger and Cargo Transport Management, Air Traffic Control, Communication Navigation, Aviation Meteorological Service, Airport Operation Management, Airport Field Operation Command, Airport Planning and Engineering, Airport Field Management, Civil Aviation Regulations and Practice, etc.

**Employment Prospect**
Civil aviation and airport enterprises: airport operation command, airport service, ticketing service, check-in, ground handling.

# 143 AIRCRAFT MECHANICAL AND ELECTRICAL EQUIPMENT MAINTENANCE

**Program Name**
Aircraft mechanical and electrical equipment maintenance

**Program Definition**
Aircraft mechanical and electrical equipment maintenance mainly studies the basic knowledge and skills of electrical and electronic technology, aircraft system structure and working principle, aircraft fault diagnosis and maintenance, etc., and conducts inspection, repair and maintenance of aircraft mechanical and electrical equipment before and after flight. Common aircraft mechanical and electrical equipment are: generators, engines, power devices, electrical systems, etc.

**Core Subject Courses**
Electrical and Electronic Technology, Sensor and Detection Technology, Aircraft Structure Fundamentals, Aerodynamic Fundamentals, Aviation Materials, Avionics Equipment, Aviation Engine Principle and Structure, Aircraft Electrical System, Aircraft Fault Diagnosis and Monitoring Technology, Aircraft Structure Corrosion Protection and Flaw Detection, etc.

**Employment Prospect**
Aviation and airport enterprises: aircraft inspection, aircraft repair, aircraft maintenance.

# 144 GENERAL AIRCRAFT MAINTENANCE

**Program Name**
General aircraft maintenance

**Program Definition**
General aircraft maintenance mainly studies the basic knowledge and skills of mechanics, electrical and electronic technology, general aircraft structure and system, general aircraft equipment and maintenance, etc., and conducts regular inspection, troubleshooting, and maintenance of general aircraft. General-purpose aircraft refers to aircraft that are engaged in operation and flying in industries such as industry, agriculture, forestry, fishery, and construction, including agricultural aircraft, forest protection aircraft, aerial survey aircraft, and medical ambulances.

**Core Subject Courses**
Mechanical Design Fundamentals, Electrical Engineering Fundamentals, Aeronautical Materials and Corrosion Protection, Aerodynamic Fundamentals and Flight Principles, Aircraft Maintenance Technology Fundamentals, General Aircraft Structures and Systems, General Aircraft Power Systems, Piston Engine Structure and System, Turboshaft Engine Structure and System, General Aircraft Type Maintenance, etc.

**Employment Prospect**
General aviation enterprises: general aviation aircraft repair, general aviation aircraft maintenance.

# 145 AIRPORT FIELD TECHNOLOGY AND MANAGEMENT

**Program Name**
Airport field technology and management

**Program Definition**
Airport field technology and management mainly studies the basic knowledge and skills of airport field service, flight area site management, airport ground equipment and facility maintenance, etc., and conducts flight area maintenance and management. For example: maintenance of runways, taxiways, apron and other field facilities in the flight area, cleaning and sanitation management of the flight area pavement, renovation and refreshment of the flight area marking lines and division of various areas, regular test and analysis of the friction coefficient of the runway and glue removal of runways, etc.

**Core Subject Courses**
Airport English, Civil Aviation Laws and Regulations, Airport Group Mobile Office System, Airport Management Practice, Ice Prevention and De-icing Practice, Airport Fire and Rescue, Clearance Management, Airport Safety Equipment Management , Special Vehicle Driving Technology, Airline Operation and Management, etc.

**Employment Prospect**
Civil aviation and airport enterprises: airport field services.

# 146 GENERAL AVIATION TECHNOLOGY

**Program Name**
General aviation technology

**Program Definition**
General aviation technology mainly studies the basic knowledge and skills of aviation meteorology, general aircraft systems and equipment, general aviation operations, aviation regulations and systems, etc., and carries out general aircraft navigation support and management. For example: formulate and apply for flight plans and routes, dispatch and deploy various flight missions, and collect information and data related to meteorology and routes required for air navigation.

**Core Subject Courses**
Introduction to General Aviation, Flight Principles, Aviation Meteorology, Aviation Information Science, Basics of Air Traffic Control, General Aviation Flight Procedure Design and Flight Planning, General Aviation Electronic Equipment, Aeronautical Charts, Aircraft System and Power Plant, Communication and Navigation Radar Service Facilities, Aviation Regulations, etc.

**Employment Prospect**
General aviation enterprises: flight dispatch, aeronautical information service, airport command.

# 147 PIPELINE ENGINEERING TECHNOLOGY

**Program Name**
Pipeline engineering technology

**Program Definition**
Pipeline engineering technology mainly studies the basic knowledge and skills of engineering mechanics, engineering measurement, engineering design, pipeline engineering construction and management, and carries out the design, construction, inspection and maintenance of pipeline engineering. For example: design and construction of natural gas transmission pipelines, planning and laying of water supply and drainage pipelines, corrosion protection of the inner and outer walls of pipelines, inspection and investigation of side leakage of pipelines, etc.

**Core Subject Courses**
Engineering Fluid Mechanics, Engineering Thermodynamics, Engineering Measurement, Pipeline Engineering Materials, Pipeline Engineering Structure, Pipeline Engineering Design, Pipeline Engineering Construction and Management, Pipeline Corrosion and Protection, Pipeline Insulation Engineering, Pipeline Leak Detection, etc.

**Employment Prospect**
Urban underground pipeline network, municipal construction enterprises: pipeline engineering design, pipeline construction, pipeline inspection, pipeline maintenance.

# 148 PIPELINE TRANSPORTATION MANAGEMENT

**Program Name**
Pipeline transportation management

**Program Definition**
Pipeline transportation management mainly studies the basic knowledge and skills of engineering mechanics, pipeline transportation engineering, pipeline equipment operation monitoring and management, and carries out the design of pipeline transportation engineering and the operation, maintenance, repair and management of pipeline equipment. For example: the design of water, oil and natural gas pipeline transportation projects, the repair and maintenance of pipeline equipment such as compensators, waterproof casings, rubber joints, and expansion joints, and the protection of pipeline leakage and corrosion.

**Core Subject Courses**
Engineering Drawing, Engineering Mechanics, Engineering Fluid Mechanics, Pipeline Engineering Materials, Pipeline Transportation Technology, Pipeline Transportation Engineering, Pipeline Transportation Fault Diagnosis, Pipeline Operation Monitoring, Pipeline Corrosion and Protection, Pipeline Equipment Operation Management, etc.

**Employment Prospect**
Pipeline transportation enterprises: engineering design, equipment monitoring, equipment maintenance, and technical management.

# 149 URBAN RAIL TRANSIT ENGINEERING TECHNOLOGY

**Program Name**
Urban rail transit engineering technology

**Program Definition**
Urban rail transit engineering technology mainly studies the basic knowledge and skills of engineering mechanics, construction machinery, road construction materials, urban rail transit engineering, etc., and conducts survey, construction, testing, overhaul, and maintenance of urban rail transit engineering. For example: survey and design of subway lines, construction of underground railways and urban light rail projects, safety testing and routine maintenance of rail transit lines, maintenance and overhaul of tracks and turnouts, etc.

**Core Subject Courses**
Engineering Mechanics, Rail Transit Engineering Survey, Engineering Drawing and Computer Graphics, Road Construction Materials and Testing, Engineering Geology, Urban Rail Transit Engineering Technology, Metro Light Rail Line Design, Elevated Structure, Urban Rail Transit Line Construction and Maintenance, Underground Railroad, etc.

**Employment Prospect**
Urban rail transit enterprises and institutions: engineering survey, urban rail construction, engineering quality inspection, rail line troubleshooting, rail line maintenance.

# 150 ELECTRONIC INFORMATION ENGINEERING TECHNOLOGY

**Program Name**
Electronic information engineering technology

**Program Definition**
Electronic information engineering technology mainly studies the basic knowledge and skills of electronic information engineering system integration,electronic information engineering product development, etc., and conducts electronic product design, development, debugging, maintenance, management, etc. For example: the processing of mobile phone digital signals, the integration of information big data systems in Taobao and other applications, and the use of C language for electronic programming, etc.

**Core Subject Courses**
Analog Electronic Technology, Digital Electronic Technology, SCM Principle and Application, Communication Principle, High Frequency Electronic Technology, WinCE Operating System and Program Development, Embedded Hardware and ADS Development, Electronic Product Production Process, Digital Circuit EAD Design, Digital Signal Processing, etc.

**Employment Prospect**
Information enterprises and institutions: electronic information product design, technological transformation, sales management, electronic engineering system integration, equipment installation and debugging, inspection and maintenance.

# 151 INTERNET OF THINGS APPLICATION TECHNOLOGY

**Program Name**
Internet of things application technology

**Program Definition**
Internet of things application technology mainly studies the basic knowledge and skills of information collection, wireless transmission, information processing, etc., and conducts network system design, project management, installation and debugging of terminal nodes, system integration, construction, etc. For example: equipment application of system perception and information collection in each link of logistics transportation, warehousing, packaging, loading and unloading, distribution processing, distribution, information service, etc., intelligent power distribution transformer monitoring and fault detection, etc.

**Core Subject Courses**
Introduction to the Internet of Things, Electrical Circuit Fundamentals, Computer Network Technology, Architecture Recognition, Wiring Engineering, SCM Technology and Application, Database Principle and Application, JAVA Programming, Sensor Technology and Application, Embedded System Development, etc.

**Employment Prospect**
Information enterprises and institutions: production, application and maintenance of Internet of Things equipment, development and maintenance of embedded systems, sales and promotion of Internet of Things system products.

# 152 APPLIED ELECTRONIC TECHNOLOGY

**Program Name**
Applied electronic technology

**Program Definition**
Applied electronic technology mainly studies the basic knowledge and skills of intelligent electronic product design, quality inspection, production management, etc., and conducts electronic product design and development, quality inspection, production management, etc. For example: development and design of electronic product components of watches, mobile phones, and TVs, product quality inspection and management of electronic products, and computer room construction and management of electronic equipment.

**Core Subject Courses**
Computer Application Fundamentals, Advanced Programming Language, Basic Physics, Electrical Fundamentals, Electrical and Electronic Technology, Mechanical Drawing, High Frequency Electronic Circuits, Control Engineering Fundamentals, Electronic Measurement and Sensor Technology, Theoretical Mechanics, etc.

**Employment Prospect**
Electronic product enterprises and institutions: electronic product production, technical guidance, product inspection, electronic product equipment installation, debugging, maintenance, quality inspection and after-sales service, research and development of electronic products.

# 153 ELECTRONIC PRODUCT MANUFACTURING TECHNOLOGY

## Program Name
Electronic product manufacturing technology

## Program Definition
Electronic product manufacturing technology mainly studies the basic knowledge and skills of electronic equipment manufacturing, operation, maintenance, acquisition, processing and application of electronic information, and carries out electronic product production process skills and production management, new product research and development, electronic equipment assembly, debugging, maintenance, operation management and sales. For example: production and application of electronic products such as resistors, capacitors, inductors, printed circuit boards, maintenance and repair of central air conditioners, elevators and other equipment, related technology research and development and product management, etc.

## Core Subject Courses
Principle of Single Chip Microcomputer, Electronic Technology, Principle of Microcomputer and Interface Technology, Signal Processing Technology, Principle of Electronic Measurement, Motor Control and Maintenance, Computer Application Fundamentals, Electronic Product Manufacturing Technology, Programmable Controller Application Technology, SCM Application Technology, Electronic Circuit CAD, Electronic Measuring Instrument, PCB Circuit Board Design and Production, Quality Management, EDA Technology, Electronic Equipment and Information System, etc.

## Employment Prospect
Electronics industry: manufacturing of electronic products and electronic equipment, quality inspection, equipment maintenance, production process, process design, process documentation, quality management and product development.

# 154 MOBILE INTERNET APPLICATION TECHNOLOGY

**Program Name**
Mobile Internet application technology

**Program Definition**
Mobile Internet Application Technology mainly studies basic theoretical knowledge of electronics and communication related to mobile Internet technology and professional knowledge of mobile Internet, and conducts production and sales of mobile Internet, smart home, smart city, smart wear and other equipment, design, installation and maintenance of mobile Internet application system, mobile application software programming and testing, etc.

**Core Subject Courses**
Electronic Product Design and Production, Embedded Application Technology, Wireless Communication Technology and Application (Short Distance), Mobile Internet Equipment Installation and Debugging, Mobile Internet Application System Integration and Testing, Mobile Internet Application Design, Mobile Internet Application Comprehensive Application, etc.

**Employment Prospect**
Engage in the production and sales of mobile Internet, smart home, smart city, smart wear and other equipment, the design, installation and maintenance of mobile Internet application systems, and the programming and testing of mobile application software.

# 155 INTELLIGENT PHOTOELECTRIC TECHNOLOGY APPLICATION

**Program Name**
Intelligent photoelectric technology application

**Program Definition**
Intelligent photoelectric technology application mainly studies the basic knowledge and skills of optoelectronic technology and optoelectronic product production technology, and conducts optoelectronic technology product production, equipment maintenance, product marketing and operation management. For example: production of LED displays, solar cells and other products, application and maintenance of optoelectronic products such as ultraviolet lamps and infrared cameras, optoelectronic measurement and signal processing, etc.

**Core Subject Courses**
Basics of Circuit Analysis, Electronic Measurement and Instruments, Analog Electronic Circuits, Digital Electronic Technology, High-Frequency Electronic Circuits, Applied Optics, The Principle and Application of Single Chip Microcomputers, Programmable Control PLC , PCB Printed Circuit Board Design, Photoelectric Sensor Technology and so on.

**Employment Prospect**
Electronic enterprises and institutions: manufacturing and management of optoelectronic products, inspection and maintenance of optoelectronic products, construction and management of optoelectronic lighting projects, construction and testing of optical cable lines, sales and after-sales service of optoelectronic products.

# 156 COMPUTER APPLICATION TECHNOLOGY

**Program Name**
Computer application technology

**Program Definition**
Computer application technology mainly studies the basic knowledge and skills of computer system management, application software development, network management, information system management and website construction, and conducts database application development, website configuration and testing, website operation and maintenance, and technical services. For example: design and development of JD.com, Dangdang and other websites, database construction and management, software testing and maintenance, etc.

**Core Subject Courses**
Computer Fundamentals, Computer System Assembly and Maintenance, Website Planning and Production, Database Principles and Applications, Microcomputer Principles, Computer Network Technology, C/Java Language Programming, Graphic Design and Production, NET Programming, Graphics and Image Processing Technology, etc.

**Employment Prospect**
Network information enterprises and institutions: website design and development, network planning and design, network system design and testing, application software development, system management and maintenance, information product design and technical support.

# 157 COMPUTER NETWORK TECHNOLOGY

**Program Name**
Computer network technology

**Program Definition**
Computer network technology mainly studies the basic knowledge and skills of computer network and network engineering, and conducts network installation and maintenance, network management, network software deployment, system integration, maintenance and marketing of computer software and hardware, database management, etc. For example: installation and debugging of computers and other equipment, testing, maintenance and repair of computer systems, multimedia design and production of web graphics, images, animations, videos, sounds, etc.

**Core Subject Courses**
Computer Network, Web Design and Scripting Language, Computer Assembly and Debugging, Routing and Switching Technology, Dynamic Website Development and Practice, Enterprise Network Construction, Network Server Configuration, Linux Operation System Application, Network Programming Technology, Network Security, etc.

**Employment Prospect**
Network information enterprises and institutions: network planning and scheme design, network installation and management, network security protection, server configuration, management and maintenance, website development, database management.

# 158 SOFTWARE TECHNOLOGY

**Program Name**
Software technology

**Program Definition**
Software technology mainly studies the basic knowledge and skills of software development, mobile programming technology, etc., and carries out system software development, software testing, system maintenance, etc. For example: development and testing of office related software, development and iteration of iOS and Android systems in mobile phones, testing and maintenance of various software, etc.

**Core Subject Courses**
C Language Programming, Data Structure, Database Fundamentals, Web Page Design and Production, SQL Server, Oracle Database, Dynamic Website Programming, Java Programming, Java Web Application Development, Net Application Development, etc.

**Employment Prospect**
Software development enterprises and institutions: mobile application development, mobile game development, front-end development, software development, software testing, technical support, software maintenance, marketing after-sales service and production management.

# 159 INFORMATION SECURITY TECHNOLOGY APPLICATION

## Program Name
Information security technology application

## Program Definition
Information security technology application mainly studies the basic knowledge and skills of network security management, information security system integration and maintenance, and carries out the installation and debugging of network security products, data backup and system reinforcement, network virus prevention, website security management and so on. For example: banks, securities, customs and other network virus and hacker prevention, network information security risk assessment and detection, information security technology research and development and application.

## Core Subject Courses
Computer Network Fundamentals, Establishment and Maintenance of Enterprise Networks, Windows Management and Services, Linux Management and Services, Database Technology, Network Security and Management, Static Website Design, Information Security System Evaluation, Firewall and VPN Configuration and Management, Applied Cryptography Technology, etc.

## Employment Prospect
Network information enterprises and institutions: network information security risk detection and assessment, network security system design and development, information security management, network system construction, management and maintenance, server configuration and management, corporate website and software development and maintenance.

# 160 ARTIFICIAL INTELLIGENCE TECHNOLOGY APPLICATION

**Program Name**
Artificial intelligence technology application

**Program Definition**
Cultivate talents who have basic professional theoretical knowledge and application technology of artificial intelligence, and the ability of artificial intelligence technology application development, system management and maintenance, etc., engaging in artificial intelligence-related application development, system integration and operation and maintenance, product sales and consulting, pre-sales and after-sales technical support, etc.

**Core Subject Courses**
Artificial Intelligence Data Set Processing, Distributed Computing and Storage Technology, Machine Learning, Deep Learning, Intelligent Perception and Understanding, Natural Language Processing, Intelligent Product Marketing and Service, etc.

**Employment Prospect**
Enterprises and institutions related to artificial intelligence industry and its application: engage in artificial intelligence application product development and testing, data processing, system operation and maintenance, product marketing, technical support, etc. in artificial intelligence technology application development, system operation and maintenance, product marketing, technical support and other post groups.

# 161 ANIMATION PRODUCTION TECHNOLOGY

**Program Name**
Animation production technology

**Program Definition**
Animation production technology mainly studies the basic knowledge and skills of painting and design, 3D modeling and animation, film and television media production, animation design and production, etc., and carries out animation design and planning, web design and planning, advertising design, etc. For example: TV commercial title design, animation planning and production, print advertising planning, web design, etc.

**Core Subject Courses**
Graphic Design, Basic Photography, Photoshop, 3D Animation Modeling Design, Character and Scene Design, Stop Motion Animation Design and Production, Animation Project Planning and Proposal, Flash Animation Design, Web Design, Animation Director, etc.

**Employment Prospect**
Design enterprises and institutions: UI design, media design, graphic design, 3D animation, 3D special effects, 3D models, UI/UE design of mobile products, game art, video editing, commercial illustration, video packaging and post-production.

# 162 MODERN MOBILE COMMUNICATION TECHNOLOGY

**Program Name**
Modern mobile communication technology

**Program Definition**
Modern mobile communication technology mainly studies the basic knowledge and skills of mobile communication base station equipment maintenance, wireless network planning and optimization, mobile Internet application, etc., and carries out network planning and construction, operation management, mobile terminal application design and development, equipment marketing and maintenance, etc. For example: development and application of 3G, 4G and 5G communication technologies, development and sales of communication terminals such as mobile phones and notebooks.

**Core Subject Courses**
3G Terminal Technology and Application, Java Core Volume Application, Android Basic Development Training, HIBERNATE Technology Application, Software Engineering, UML Technology Application, WAP and MMS Application and Technology Development, Oralce Database Application, Android Advanced Development, Mobile Communication Equipment Installation, etc.

**Employment Prospect**
Communication enterprises and institutions: mobile communication equipment development, mobile software testing, enterprise resource management system development, software technical support, software sales, software after-sales maintenance, database maintenance.

# 163 COMMUNICATION ENGINEERING DESIGN AND SUPERVISION

## Program Name
Communication engineering design and supervision

## Program Definition
Communication engineering design and supervision mainly studies the basic knowledge and skills of communication principles, communication survey and measurement, etc., and conducts communication pipeline engineering design, communication equipment installation engineering design, and communication engineering supervision. For example: management of fixed telephone network and mobile communication network, design of optical cable line system for communication, quality inspection and management of communication products, etc

## Core Subject Courses
Communication Engineering Drawing, Communication Line Engineering, Communication Engineering Budget, Communication Construction Project Budget and Final Account Fundamentals, Communication Pipeline Engineering Design, Project Management, Communication Pipeline Engineering Communication Equipment Training, Computer Network Technology, Communication Construction Supervision Management and Practice, Communication Equipment Engineering, etc.

## Employment Prospect
Communication enterprises and institutions: survey and design of communication engineering, construction and supervision of communication engineering, project management and consultation of communication engineering, production, installation and management of communication engineering equipment.

# 164 NURSING

**Program Name**
Nursing

**Program Definition**
Nursing mainly studies the basic knowledge and skills of human physiology and pathology, basic medicine, clinical nursing, preventive health care, etc., and conducts clinical nursing, community nursing and rehabilitation health care in hospitals at all levels, community health service centers, nursing homes, etc. For example: daily cleaning and care of patients who cannot take care of themselves, postpartum care for newborns and mothers, health care and disease prevention for the elderly, publicity and popularization of health knowledge, etc.

**Core Subject Courses**
Human Anatomy, Histology and Embryology, Pathology, Pharmacology, Foundations of Nursing, Internal Medicine Nursing, Surgical Nursing, Obstetrics and Gynecology Nursing, Pediatrics Nursing, Health Assessment, etc.

**Employment Prospect**
Medical and health institutions: clinical care, community care, rehabilitation care.

# 165 TRADITIONAL CHINESE MEDICINE

**Program Name**
Traditional Chinese Medicine

**Program Definition**
Traditional Chinese medicine mainly studies the basic knowledge and skills of human physiology and pathology, Chinese medicine disease diagnosis and treatment, and health rehabilitation. Graduates will be able to conduct Chinese medicine diagnosis and treatment in primary medical and health institutions in cities, communities, and rural areas. For example: Diagnose the condition by looking, listening, questioning and feeling the pulse, using Chinese herbal decoctions, acupuncture, and cupping to treat diseases and regulate the body, and perform Chinese medicine health care and Chinese medicine health preservation.

**Core Subject Courses**
Basic theories of TCM, TCM diagnostics, Chinese materia medica, prescriptions, ancient medical literature, TCM internal medicine, TCM surgery, TCM gynecology, TCM pediatrics, Treatise on Febrile Diseases, etc.

**Employment Prospect**
Primary medical and health units: TCM medical treatment and TCM health care.

# 166 TRADITIONAL CHINESE MEDICINE ORTHOPEDICS

**Program Name**
Traditional Chinese Medicine Orthopedics

**Program Definition**
TCM Orthopedics mainly studies the basic knowledge and skills of traditional Chinese medicine, Chinese materia medica, human physiology and pathology, diagnosis and treatment of TCM orthopaedics, etc., and conducts diagnosis, treatment, prevention, health care and rehabilitation of TCM orthopaedic diseases in medical and health institutions at all levels. For example: use pushing, pulling, pressing and other manipulations to treat bone trauma diseases such as fractures and dislocations.

**Core Subject Courses**
TCM Orthopedics mainly studies the basic knowledge and skills of traditional Chinese medicine, Chinese materia medica, human physiology and pathology, diagnosis and treatment of TCM orthopaedics, etc., and conducts diagnosis, treatment, prevention, health care and rehabilitation of TCM orthopaedic diseases in medical and health institutions at all levels. For example: use pushing, pulling, pressing and other manipulations to treat bone trauma diseases such as fractures and dislocations.

**Employment Prospect**
Medical and health institutions: clinical treatment of bone injuries in traditional Chinese medicine, and prevention and health care of bone injuries in traditional Chinese medicine.

# 167 ACUPUNCTURE AND MASSAGE

**Program Name**
Acupuncture and massage

**Program Definition**
Acupuncture and massage mainly studies the basic knowledge and skills of TCM, Chinese materia medica, human acupoints, acupuncture and massage operation techniques, and carries out acupuncture and massage treatment, rehabilitation and health care. For example: acupuncture of human body specific acupoints, moxibustion fumigation of body surface acupoints, hands massage of human meridians and acupoints, scraping and rubbing human body surface skin with scraping instruments, etc.

**Core Subject Courses**
Human anatomy, physiology, pathology, meridians and acupoints, acupuncture and moxibustion, acupuncture and moxibustion therapy, massage techniques, massage therapy, TCM regimen, scraping, etc.

**Employment Prospect**
Medical and health institutions: acupuncture treatment, massage treatment, rehabilitation and health care.

# 168 1CHINESE MEDICINAL MATERIALS PRODUCTION AND PROCESSING

**Program Name**

Chinese medicinal materials production and processing

**Program Definition**

Chinese medicinal materials production and processing mainly studies the basic knowledge and skills of Chinese medicinal materials identification, Chinese medicinal materials pre-treatment, TCM preparation production, TCM preparation detection, TCM preparation dispensing and marketing, and carries out TCM preparation production, quality inspection, marketing and management, etc. For example: TCM solid medicine anti-corrosion and insect prevention, pharmaceutical products microbial pollution prevention, important products frying, heating, calcining, processing and so on.

**Core Subject Courses**

Medicinal botany, cultivation technology of medicinal plants, identification of Chinese materia medica, resource science of Chinese materia medica, prevention and control of diseases and insect pests of medicinal plants, processing technology of Chinese medicinal materials at the place of origin, processing of Chinese medicine decoction piece, preparation of Chinese medicine extract, identification technology of Chinese medicine, quality testing technology of Chinese medicine, etc.

**Employment Prospect**

Chinese medicine enterprises and institutions: Chinese medicine production and processing operation, identification of Chinese medicine extract and decoction piece, Chinese medicine storage and preservation, Chinese medicine production organization and management, Chinese medicine sales, technology promotion, development and production management.

# 169 TRADITIONAL CHINESE MEDICINE REHABILITATION TECHNOLOGY

**Program Name**
Traditional Chinese medicine rehabilitation technology

**Program Definition**
Traditional Chinese medicine rehabilitation technology mainly studies the basic knowledge and skills of TCM, TCM regimen, rehabilitation technology, etc., and carries out the rehabilitation of common diseases and TCM health care. For example: the use of acupuncture, massage, cupping, scraping and other therapies for the rehabilitation treatment of cervical spondylosis, lumbar disease and other diseases, the use of medicinal diet, dietary therapy for TCM health care in order to prevent diseases and prolong life.

**Core Subject Courses**
Fundamentals of TCM, Diagnosis of TCM, meridian science, acupuncture and moxibustion science, massage science, TCM regimen, rehabilitation assessment technology, physical therapy technology, occupational therapy technology, speech therapy technology, etc.

**Employment Prospect**
Rehabilitation institutions, sanitariums: rehabilitation treatment, TCM health care.

# 170 TRADITIONAL CHINESE MEDICINE HEALTH CARE

**Program Name**
Traditional Chinese Medicine Health Care

**Program Definition**
Traditional Chinese medicine health care mainly studies the basic knowledge and skills of TCM, nutrition, TCM health care, health assessment and management, and carries out TCM health care and TCM recuperation. For example: TCM massage, massage health care, TCM acupuncture and moxibustion, scraping conditioning, sub-health detection and conditioning, the production of medicinal food, etc.

**Core Subject Courses**
Basic theory of TCM, nutrition, medicated diet therapy technology, TCM regimen, diet and health care of TCM, sports and health care of TCM, TCM Qigong health care, TCM acupuncture and massage for health care, health assessment, health management, etc.

**Employment Prospect**
Medical care institutions: TCM health care, TCM regimen guidance.

# 171 MEDICINAL DIET AND DIET THERAPY

**Program Name**
Medicinal Diet and Diet Therapy

**Program Definition**
Medicinal diet and diet therapy mainly studies the basic knowledge and skills of Traditional Chinese medicine(TCM), nutrition, medicinal diet production, formula of medicinal diet and other aspects, and uses medicinal diet and dietary therapy to carry out health care and recuperation of TCM. For example: the production of medicated food, sub-health detection and conditioning, sexual sub-health medicated food therapy.

**Core Subject Courses**
Basic theory of TCM, nutrition, pharmacology of TCM, pharmaceutical technology of TCM, dietary therapy technology of medicinal diet, TCM regimen, health science of TCM diet, health assessment and management, etc.

**Employment Prospect**
Medical and health care institutions: comprehensive intervention and regulation of sub-health, TCM health care, TCM regimen guidance.

# 172 MEDICAL LABORATORY TECHNOLOGY

**Program Name**
Medical laboratory technology

**Program Definition**
Medical laboratory technology mainly studies the basic knowledge and skills of chemistry, basic medicine, clinical testing, etc., and conducts clinical testing, health testing,and pathological testingin primary medical and health institutions, blood stations, and disease control centers. For example: blood type test before blood transfusion, blood glucose, hemoglobin, virus and other substances test, hemostasis and coagulation function test, pathological test of tumor tissue, etc.

**Core Subject Courses**
Biochemistry, Analytical Chemistry, Histology and Embryology, Physiology, Clinical Laboratory Basics, Clinical Biochemical Testing, Clinical Hematology Testing, Clinical Microbiology Testing, Clinical Immunology Test, Human Parasitology Test, etc.

**Employment Prospect**
Primary medical and health institutions, blood stations: clinical examination, hygiene examination, pathological examination.

# 173 HYGIENE INSPECTION AND QUARANTINE TECHNOLOGY

**Program Name**
Hygiene inspection and quarantine technology

**Program Definition**
Health inspection and quarantine technology mainly studies the basic knowledge and skills of chemistry, basic medicine, preventive medicine, inspection and quarantine, sanitation physical and chemical inspection, etc., and conducts health inspection and quarantine of water quality, atmosphere, food, medicine, etc. For example: testing of water and air quality, hygienic testing of food and medicines, quarantine of agricultural and sideline products such as pork, chicken, vegetables, parasite testing of snails, shellfish and lobsters, etc.

**Core Subject Courses**
Analytical Chemistry, Biochemistry, Inspection and Quarantine, Hygienic Microbiology and Inspection, Biological Material Inspection, Physical and Chemical Inspection of Water Hygiene, Physical and Chemical Inspection of Food Hygiene, Physical and Chemical Inspection of Air Hygiene, Health Toxicology, Parasitology and Inspection, etc.

**Employment Prospect**
Disease control, inspection and quarantine units: food hygiene inspection, environmental hygiene inspection, animal and plant inspection, import and export inspection.

# 174 REHABILITATION TECHNOLOGY

**Program Name**
Rehabilitation technology

**Program Definition**
Rehabilitation technology mainly studies basic knowledge and skills in basic medicine, rehabilitation medicine, rehabilitation therapy, etc., and performs rehabilitation therapy and rehabilitation management in hospital rehabilitation medicine departments, rehabilitation centers, and sanatoriums. Rehabilitation treatment includes exercise therapy, occupational therapy, speech therapy, physical therapy, acupuncture, cupping, massage, etc., mainly for cervical spondylosis, lumbar spondylosis, gout, osteoporosis, stroke hemiplegia and other diseases.

**Core Subject Courses**
Physiology, Pathology, Pharmacology, Introduction to Rehabilitation Medicine, Rehabilitation Assessment, Kinetic Therapy, Speech Therapy, Physiotherapy Therapy, Occupational Therapy Therapy, Rehabilitation Engineering, etc.

**Employment Prospect**
Rehabilitation institutions: rehabilitation treatment, rehabilitation management.

# 175 PUBLIC HEALTH MANAGEMENT

**Program Name**
Public health management

**Program Definition**
Public health management mainly studies basic knowledge and skills in basic medicine, preventive medicine, epidemiology and infectious diseases, public health management, etc., and conducts public health services and management, disease prevention and control, and health care. For example: Statistical analysis of the fatality rate and recovery rate of epidemics, prevention and control of epidemics and infectious diseases such as influenza and hepatitis A, and handling of public health emergencies such as food poisoning and mass epidemics.

**Core Subject Courses**
Basics of Epidemiology, Health Statistics, Public Health Management, Pathogen Biology, Basics of Diagnostics, Infectious Diseases, Health Law, Nutrition and Food Hygiene, Children's Hygiene, Health Education and Health Promotion, etc.

**Employment Prospect**
Public health institutions: public health services, public health management, preventive health care.

# 176 HEALTH INFORMATION MANAGEMENT

**Program Name**
Health information management

**Program Definition**
Health information management mainly studies the basic knowledge and skills of health statistics, health information management, office software and database technology, etc., and conducts the collection, processing and management of medical and health information and maintenance of network information systems in various medical and health institutions at all levels. For example: management of patient information, medical record information, health records, disease classification and data statistics, maintenance of hospital network information system, etc.

**Core Subject Courses**
Basics of Management, Health Information Management, Network and Office Modern Technology, Database and Statistical Software, Health Statistics and Application, Disease Taxonomy, Network Management, Medical Record Management , etc.

**Employment Prospect**
Medical and health institutions: disease classification, medical record management, information collection, and information system maintenance.

# 177 PREVENTIVE MEDICINE

**Program Name**
Preventive medicine

**Program Definition**
Preventive medicine mainly studies the basic knowledge and skills of basic medicine, clinical medicine, preventive medicine, etc., and carries out the prevention and control of infectious diseases and epidemics, as well as community health services. For example, the prevention and control of infectious diseases and epidemics such as influenza, hepatitis A, and tuberculosis, the publicity and popularization of community health knowledge, the vaccination and health management of children aged 0-6, and the health examination of pregnant women and the elderly.

**Core Subject Courses**
Preventive Medicine, Infectious Diseases, Health Statistics, Epidemiology, Environmental Hygiene, Hygienic Laboratory Science, Basics of Hygiene Toxicology, Health Education, Nutrition and Food Hygiene, Sanitation Supervision and Sanitation Regulations, etc.

**Employment Prospect**
Primary medical and health institutions: preventive health care, disease prevention and control, maternal and child health care; health supervision institutions: health supervision, health management.

# 178 GERIATRIC HEALTH CARE AND MANAGEMENT

**Program Name**
Geriatric health care and management

**Program Definition**
Elderly health care and management mainly studies the basic knowledge and skills of elderly psychology and communication skills, elderly health care and nursing technology, nutrition and dietary health care, etc., and provides elderly care and elderly care services. For example: daily nursing and psychological comfort for the elderly, nutritional guidance and matching of meals for the elderly, care for common diseases of the elderly such as senile dementia, presbycusis, hypertension, etc.

**Core Subject Courses**
Introduction to the Physiology and Psychology of the Elderly, Communication Skills for the Elderly, Comprehensive Ability Assessment of the Elderly, Traditional Elderly Rehabilitation and Health Care, Commonly Used Elderly Rehabilitation Techniques, Commonly Used Elderly Care Techniques, Special Elderly Comprehensive Care Techniques , Nutrition Management and Elderly Care, Sports Health for the Elderly, etc.

**Employment Prospect**
Aged care institutions: Aged care services, elderly health care.

# 179 MEDICAL NUTRITION

**Program Name**
Medical nutrition

**Program Definition**
Medical nutrition mainly studies basic knowledge and skills in basic medicine, food science, nutrition, food analysis and inspection, etc., and conducts nutrition consultation and guidance, dietary design and matching, etc. For example: evaluation and guidance of human nutritional status and dietary nutrition, matching of nutritious lunch for middle and primary school students, dietary nutrition guidance for pregnant women, children and patients with chronic diseases, detection and evaluation of food nutrients, etc.

**Core Subject Courses**
Summary of Clinical Medicine, Biochemistry, Food Chemistry, Food Microbiology, Pediatric Nutrition, Obstetrics and Gynecology Nutrition, Geriatric and Geriatric Nutrition, Applied Nutrition and Guidance , Food Chemistry and Analysis, Food Safety and Inspection, etc.

**Employment Prospect**
Nutrition service institutions: nutrition assessment, meal design, nutrition counseling, nutrition education.

# 180 OCULAR OPTOMETRY

**Program Name**
Ocular optometry

**Program Definition**
Ocular optometry mainly study the basic knowledge and skills of ophthalmology, optometry, eye refraction examination and optometry, and conduct optometry and glasses sales. For example: inspection of eye vision and eye refraction degree, design and matching of glasses, optometry and matching of contact lenses, sales and management of glasses, frames, eye drops, eye washes and other products.

**Core Subject Courses**
Basics of Ophthalmology, Optometry Theory and Methods, Ophthalmology, Ophthalmic Refractive Examination, Optical Optics, Introduction to Ophthalmology, Contact Lens Science, Optical Technology, Optometry Technology, Glasses Materials and Technology, etc.

**Employment Prospect**
Glasses companies: eye refraction examination, glasses customization, contact lens fitting, glasses sales.

# 181 ACCOUNTING INFORMATION MANAGEMENT

**Program Name**
Accounting information management

**Program Definition**
Accounting information management mainly studies the application and maintenance of finance, taxation, financial software and financial laws and regulations, including economic law, financial accounting, the application of financial software and tax calculation and declaration, etc. It is the management of various accounting data generated after processing, including the management of computerized accounting information. For example: collection and management of the company's assets, liabilities, owners' equity, revenue, expense, profit and other information.

**Core Subject Courses**
Basic Accounting, Primary Accounting Practice, Tax Planning Practice, Financial Management Practice, Accounting Information System, Enterprise Resource Planning ERP, etc.

**Employment Prospect**
Financial enterprises: accounting, financial management, information management, financial software maintenance, investment and wealth management, ERP implementers, audit assistants.

# 182 INTERNATIONAL BUSINESS

**Program Name**
International business

**Program Definition**
International Business mainly studies the basic theories of modern economics and the basic theories and business knowledge of international business and transnational operations. Students are required to be familiar with international trade practices and international business culture, and have professional skills such as import and export business, customs declaration, and inspection declaration. For example: the production of import and export documents such as invoices, bills of exchange, customs declarations, and inspection declarations, the development of overseas institutions, technology platforms and market platforms, the introduction of international projects and business negotiations, the signing and tracking of cooperation agreements, etc.

**Core Subject Courses**
Business Accounting, Economics, Marketing, E-commerce, International Trade Practice, International Exchange and Settlement, International Marketing, International Logistics and Customs Practice, Business Culture and Strategy, International Business Law, International Business Negotiation, etc.

**Employment Prospect**
Financial enterprises: international business operation and management, business event planning, international business management.

# 183 MARKETING

**Program Name**
Marketing

**Program Definition**
Marketing mainly studies the basic theories and knowledge of management, economics and modern marketing. Students will master the qualitative and quantitative analysis methods of marketing, be familiar with China's marketing guidelines, policies and regulations, and understand the conventions and rules of international marketing, and have the ability of marketing research and prediction, marketing planning and implementation, public relations and negotiation, etc.

**Core Subject Courses**
Marketing, Modern Advertising, Consumer Behavior, Market Research and Forecasting Technology, Marketing Planning, Public Relations, Business Negotiation and Sales Skills, Internet Marketing , E-commerce, Management, Western Economics, Accounting, Statistics, Financial Management, Economic Law and so on.

**Employment Prospect**
Industrial and commercial enterprises: marketing planning, marketing management, market research, advertising planning, economic management.

# 184 E-COMMERCE

**Program Name**
E-Commerce

**Program Definition**
E-commerce mainly studies the basic theory and basic knowledge of computer information technology, marketing, international trade, management, law and modern logistics. Students will master the analysis methods and management techniques of e-commerce, have the ability to use the network to carry out business activities, and the ability to use computer information technology and modern logistics methods to improve enterprise management methods. For example: electronic payment and settlement, e-commerce system design, e-commerce case analysis; promotion of enterprise products and services, network marketing, advertising, etc.

**Core Subject Courses**
Marketing Practice, Promotion and Negotiation, Web Page Editing and Beautification, E-commerce Operation Practice, E-commerce Legal Basis, E-commerce Logistics and Distribution, E-commerce Website Design and Management, Online Shop Operation and Management, International Trade Practice, etc.

**Employment Prospect**
Technology enterprises: website construction and management, network maintenance, network marketing and research.

# 185 CROSS-BORDER E-COMMERCE

**Program Name**
Cross-border e-commerce

**Program Definition**
Cross-border e-commerce mainly studies relevant professional theoretical knowledge in the field of cross-border e-commerce, and cultivates high-quality technical talents with cross-border e-commerce network marketing, event planning, platform operation and other abilities, who are engaged in cross-border e-commerce platform operation and data analysis, visual marketing, online customer service and other work.

**Core Subject Courses**
Cross-border E-commerce Platform Practice, Cross-border E-commerce Data Analysis and Application, Cross-border E-commerce Marketing Planning,Cross-border E-commerce Visual Design, Cross-border E-commerce Customer Service, Cross-border E-commerce Procurement and Logistics Management, etc.

**Employment Prospect**
Cross-border e-commerce application enterprises: cross-border e-commerce platform operation, visual design, cross-border e-commerce network marketing and event planning, cross-border e-commerce customer service, international logistics and supply chain management, international market promotion, etc.

# 186 LOGISTICS ENGINEERING TECHNOLOGY

**Program Name**
Logistics engineering technology

**Program Definition**
Logistics engineering technology mainly studies the planning and design of logistics systems and the optimal allocation of resources, the planning and control of logistics operation processes, and enterprise logistics management, including logistics transportation technology, logistics warehousing technology, logistics handling technology, logistics packaging technology, and logistics circulation processing technology, supply chain management technology, etc. For example: Routine inspection and maintenance of logistics equipment, exploring how to effectively store goods in transit, etc.

**Core Subject Courses**
Introduction to Logistics Engineering, Logistics Software Design Fundamentals, Logistics Facilities and Equipment, Logistics Information Technology, Logistics System Simulation Technology, Warehousing Service and Operation, Distribution Management, Logistics Transportation Technology and Management etc.

**Employment Prospect**
Logistics enterprises: logistics equipment installation, operation, maintenance, development and management of warehousing technology, logistics equipment operation, logistics warehousing, logistics distribution, customer relationship management.

# 187 MODERN LOGISTICS MANAGEMENT

**Program Name**
Modern logistics management

**Program Definition**
Modern logistics management mainly studies the knowledge of modern, international logistics management and logistics engineering, as well as the related knowledge of management, economics, logistics technology and computer network. Students will master the theory, methods and basic skills of logistics management in the field of modern production, operation and circulation, and have a strong ability to plan and analyze and solve practical problems in logistics management. For example: operation, overhaul and maintenance of logistics equipment; maintenance of management information system; logistics work such as procurement, transportation, warehousing management, distribution, and information management of items.

**Core Subject Courses**
Warehouse Management, Logistics Cost Management, Logistics and Transportation Management, Logistics Enterprise Management, Logistics Distribution Management, Supply Chain Management, Third-Party Logistics and International Freight Forwarding, Logistics Program Planning and Design etc.

**Employment Prospect**
Logistics enterprises: logistics industry planning, logistics management, logistics operation planning, logistics business management, logistics system planning and maintenance, logistics information technology application.

# 188 PORT LOGISTICS MANAGEMENT

**Program Name**
Port logistics management

**Program Definition**
Port logistics management mainly studies the basic principles and methods of port logistics management, as well as the basic knowledge and skills of port transportation, warehousing, distribution, etc., and carries out planning, management and logistics informatization operations in the field of port logistics. For example: warehousing and distribution management of port goods, quality management of port logistics, receiving and collection of port freight, etc.

**Core Subject Courses**
Logistics Basics, Purchasing Management Practice, Warehousing and Distribution Management, Container and Multimodal Transport, Port Logistics Operation Practice, International Freight Forwarding Practice, Customs Declaration Practice, Inspection Application Practice , Supply Chain Management, Maritime Law etc.

**Employment Prospect**
Port logistics, freight enterprises: logistics management, freight forwarding, customs declaration and inspection, warehousing management.

# 189 TOURISM MANAGEMENT

**Program Name**
Tourism management

**Program Definition**
Tourism management mainly studies the basic knowledge and skills of tourism management and tourism services, and conducts service and management of tour guides, restaurants, scenic spots, and travel agencies. For example: long-distance and short-distance tourism planning, tourism route design, tourism economic management of theme parks, tourism publicity planning, etc.

**Core Subject Courses**
Basic Tour Guide, Introduction to Tourism, China Tourism Geography, Travel Agency Planning and Adjustment Practice, Tourism Policies and Regulations, Tourism Marketing, Tourism Scenic Spot Service and Management, Tourism Economics , Tourism English, Modern Hotel Management, etc.

**Employment Prospect**
Tourism enterprises and institutions: hotels, scenic spots, travel agency services and management, tourism planning, tourism development and tourism marketing, exhibition services and management.

# 190 TOUR GUIDE

**Program Name**
Tour guide

**Program Definition**
Tour guide mainly study the basic knowledge and skills of tour guide business, tourism geography, etc., and conduct tourism service reception, management, scenic spot development, public relations marketing, etc. For example: to provide tourism activities arrangement, explanation, translation and other services for tour groups, to guide and explain in museums, nature reserves, etc., to arrange reception plans and organize tourists to visit and tour.

**Core Subject Courses**
Introduction to Tourism, Fundamentals of Tourism Economics, Fundamentals of Management, Tourism Geography, Tourism Resources and Development, Tourism Service Etiquette, Basic Knowledge of Tour Guides, Practice Guidelines for Tour Guides, Tourism Marketing, Tourism Public Relations, etc.

**Employment Prospect**
Tourism enterprises and institutions: tour guides, tourism program planning, tourism services, tourism resource development, tourism product marketing.

# 191 HOTEL MANAGEMENT AND DIGITAL OPERATION

**Program Name**
Hotel management and digital operation

**Program Definition**
Hotel management and digital operation mainly study the basic knowledge and skills of tourism management, hotel operation and management, and carry out hotel operation, management and service. For example: banquet design and menu production, work procedures and standard formulation in room sales, customer service, cleaning and maintenance, etc., planning, organization, command, control and coordination of various work links in the hotel.

**Core Subject Courses**
Management, Hotel Service Psychology, Hotel Service Etiquette, Basic Accounting, Hotel Human Resource Management, Tourism Marketing, Hotel Marketing and Planning, Modern Hotel Management, Hotel Room Management, Banquet Design and Management, etc.

**Employment Prospect**
Catering enterprises and institutions: hotel management, hotel marketing and planning, customer relationship management, marketing, human resource management, banquet design and management.

# 192 TEA ART AND TEA CULTURE

**Program Name**
Tea art and tea culture

**Program Definition**
Tea art and tea culture mainly studies the basic knowledge and technical knowledge of tea production, processing, tea art aesthetics and so on. Students will master modern tea marketing skills, tea brewing skills, tea tasting environment design, holding tea parties and other skills, and have the development and marketing capabilities of tea art and beverages, beverages and food, and teahouse management capabilities.

**Core Subject Courses**
Tea Art Aesthetics and Performing Arts, Chinese Tea Culture, Publicity and Etiquette, Tea Marketing and Trade, Consumer Psychology, Commodities and Marketing Strategies, Tea Art House Decoration and Design, Tea Biochemistry, Tea Standardized Processing Technology, Office Automation and Management, etc.

**Employment Prospect**
Food enterprises: tea artists, tea reviewers, marketing, food testing, tea production, management and sales.

# 193 COOKING CRAFT AND NUTRITION

**Program Name**
Cooking craft and nutrition

**Program Definition**
Cooking craft and nutrition mainly studies the basic knowledge and skills of modern cooking theory, nutritional analysis, catering management, etc., and conducts Chinese and Western cooking operations, nutritional analysis and nutritional matching, hotel management, etc. For example: Preliminary processing, cutting, seasoning, etc. of cooking materials according to the requirements of the dishes, cold plate platters, food carving design in Chinese food, and egg tarts in Western food.

**Core Subject Courses**
Culinary Technology, Culinary Nutrition, Culinary Chemistry, Culinary Hygiene, Food Additives, Food Processing and Storage, Food Materials Science, Food Hygiene and Safety, Chinese and Western Cooking Craft, Catering Operation and Management, etc.

**Employment Prospect**
Catering enterprises and institutions: Chinese and Western pastry making, food carving, cold dish platter, nutrition catering, nutrition consultation, nutrition supervision, catering technology management.

# 194 CHINESE AND WESTERN PASTRY CRAFTS

**Program Name**
Chinese and western pastry crafts

**Program Definition**
Chinese and western pastry crafts mainly studies the basic knowledge and skills of Chinese pastry making and Western pastry production, and conducts Chinese and Western pasta production, product development and management. For example: production of western pastries such as egg tarts and bread, processing and development of Chinese pastries such as almond cakes, research and development and sales of Chinese and western pastries, etc.

**Core Subject Courses**
Cognition and Identification of Cooking Materials, Food Nutrition and Pairing, Introduction to Chinese and Western Cooking, Chinese Pastry Technology and Production, Western Pastry Baking Technology and Production, Cake Decoration Technology and Production, Food Health and Safety, Catering Cost Accounting, Chinese Fast Food Chain Operation and Management, etc.

**Employment Prospect**
Chinese and Western pastry technology and catering enterprises and institutions: Western pastry technology and management, nutrition and catering, Chinese pastry production, research and development, production management, product sales.

# 195 PRODUCT ART DESIGN

**Program Name**
Product art design

**Program Definition**
Product art design mainly studies the basic knowledge of innovative design and product modeling design. It is a comprehensive discipline integrating engineering technology, humanities art and computer technology. Students need to have design ability, master computer-aided design technology, have independent modeling design ability and be competent for product modeling design. For example: design and make drawings for a product.

**Core Subject Courses**
Engineering Drawing and AUTOCAD Presentation, Industrial Design History and Design Introduction, Product Shape Creativity and Prediction, Model Modeling, Material and Application, Three-dimensional Shape Design Fundamentals, Applied Ergonomics , Product Design Performance, Computer Aided Design, Furniture Design, Public Environmental Facilities Design, Transportation Equipment Design, etc.

**Employment Prospect**
Design institutions: product display design, furniture design, creative design of product appearance, product planning and development, product design consulting.

# 196 APPAREL AND APPAREL DESIGN

**Program Name**
Apparel and Apparel Design

**Program Definition**
Apparel and Apparel Design mainly studies the basic theory of clothing art and related professional knowledge such as painting, computer design, plate making, and merchandising. Students will master the technology of plate making and plate pushing in the garment industry, be able to accurately analyze orders, be familiar with the craftsmanship, production process, quality control, and management of garment equipment, etc., and have strong capabilities in garment modeling, garment pattern design and garment refinement. For example: designing and sketching clothing.

**Core Subject Courses**
Color Composition, Three-dimensional Composition, Makeup and Modeling (color makeup), Three-dimensional Cutting, Fashion Design, Tie-dye, Clothing Aesthetics, Clothing Accessories, Clothing History and so on.

**Employment Prospect**
Apparel enterprises: clothing design and production, clothing board design, brand store clothing display and marketing; Image design companies: overall image design, makeup, styling.

# 197 INTERIOR ART DESIGN

**Program Name**
Interior art design

**Program Definition**
Interior art design mainly studies the basic knowledge of interior decoration design. Students will have the skills of interior space decoration design, interior decoration scheme design, construction, project management skills, architectural decoration plan and effect drawing performance skills, with space design ability as the core, having interior furnishings and soft decoration design ability and handicraft production ability. Students can draw renderings and construction drawings by hand. For example: the indoor home environment, indoor office environment, indoor comprehensive business environment design.

**Core Subject Courses**
Home Space Design, Office Space Design, Dining and Entertainment Space Design, Exhibition Design, Landscape Design, Furniture Design, Decorative Materials Technology and Budget, Construction Technology, Architectural Model Production, Architectural Decoration Drawing CAD, 3DS MAX, etc.

**Employment Prospect**
Decoration enterprises: interior design, construction drawing, effect drawing, decoration engineering construction worker, decoration engineering budget, decoration engineering supervision, decoration project management.

# 198 ANIMATION DESIGN

**Program Name**
Animation design

**Program Definition**
Animation design mainly studies the basic theory and related knowledge of animation design and production. Students are familiar with graphics and image production technology, have a certain art foundation, and are proficient in operating game, film and television animation related software, and have skills in digital art illustration, 2D and 3D game film and television animation design and production, and cartoon derivative development and design. For example: designing and painting characters in cartoons.

**Core Subject Courses**
Cartoon Painting, CG Illustration, Original Painting Design, Animation Drama, Animation Motion Law, Animation Modeling Design, Animation Scene Design, Computer Graphics Processing, Animation Post Synthesis , Animation Short Film Creation, Web Animation, etc.

**Employment Prospect**
Entertainment enterprises: digital art illustration, animation design and production, film and television advertising production, post-production synthesis, animation design, game original painting, game character modeling, concept design, animation special effects production.

# 199 CULTURAL CREATIVITY AND PLANNING

**Program Name**
Cultural creativity and planning

**Program Definition**
Cultural creativity and planning mainly studies the basic knowledge of aesthetics and cultural arts. Students will master the basic theory of creativity and planning, understand the market rules of the cultural industry, consumer psychology, laws and regulations of the cultural industry, master the development trend of new media, and have strong skills in cultural and creative product development and design, copywriting, and marketing and promotion. For example: planning and editing of media such as newspapers and magazines.

**Core Subject Courses**
Creativity and Planning of Cultural Industry, Cultural Marketing, Creativity and Planning of Advertising, Foundation of Creative Design, Internet Marketing of Cultural Products, Website Planning and Design, Cultural Project Management, Graphic Aided Design, Cultural and Creative Product Design and Development, Brand Planning and Management, Cultural and Creative Classic Case Analysis, etc.

**Employment Prospect**
Media enterprises: book editing, newspaper editing, book proofreading, text typesetting, advertising design, computer graphics, marketing, cultural creativity.

# 200 NETWORK NEWS AND COMMUNICATION

## Program Name

Network news and communication

## Program Definition

Network news and communication mainly studies the development law and related knowledge of network news communication. Students will systematically master network news communication skills, especially new media operation planning, public opinion monitoring, crisis public relations, event promotion and other new media design skills in print, video, webpage, H5, etc., will be engaged in news editing, network operation and promotion, media design and production related work.

## Core Subject Courses

Mass Communication, News Interview and Writing, Speech and Eloquence, Audio and Video Editing Technology, Network News and Editing Practice, Photoshop Image Processing, Flash, Web Design, Office Automation, Chinese Quick Record, News Interview and Writing Training, Speech and Eloquence Training, Audio and Video Editing Training, Network News and Editing Practical Training, Office Automation Training , Internship and so on.

## Employment Prospect

News and dissemination enterprises: website copywriters, network content editors, media public relations, media clerks, media assistants, etc.; National publicity management agencies, enterprises and institutions: website editor assistants, website reporter assistants, information auditors, and information input personnel.

# 201 DIGITAL MEDIA EQUIPMENT APPLICATION AND MANAGEMENT

## Program Name

Digital media equipment application and management

## Program Definition

Digital media equipment application and management mainly studies digital publishing, digital printing technology and process, so that students can have professional knowledge of digital media equipment, digital media processing ability and digital media equipment management practice skills. Students will be engaged in the use, daily maintenance, marketing and technical support of various common digital media equipment in the IT industry, digital publishing, digital printing, film and television animation, publishing and printing business management and other related work.

## Core Subject Courses

Printing Color Control Technology, Computer Network Technology, Digital Publishing Media Preparation, Printing Image Processing, Digital Printing, Digital Prepress Equipment, Digital Multimedia Equipment, Computer Networking Technology, Digital Printing Press Use and Maintenance and so on.

## Employment Prospect

Digital publishing companies: digital publishing, digital printing process technology, use of digital media equipment, routine maintenance, marketing and technical support.

# 202 FILM AND TELEVISION ANIMATION

## Program Name
Film and television animation

## Program Definition
Film and television animation mainly studies the basic knowledge and skills required by film and television animation creation, so that students can be engaged in animation, original painting, creative design, 3D animation production and other work in animation design, film and television production, game design and operation institutions, news media, schools and other units. For example: advertising periodicals, magazine illustrators, animation production.

## Core Subject Courses
Fundamentals of Painting, Animation Movement Law, Computer Image Processing, Commercial Photography, DV Shooting,Audio-Visual Language, Examination and Sketching, Stop Motion Animation, Two-dimensional Animation Creation Training , Character Sculpture, 3D Animation Design, Film and Television Comprehensive Training, Game Model Design, Original Painting Design, 2D Animation Techniques, 3D Design Fundamentals, Film and Television Synthesis and SpecialEffects, etc.

## Employment Prospect
Advertising film and television companies: program packaging and design, film and television production, story book drawing, original painting design, illustration design; animation game companies: 2D animation production, 3D art production, animation production, 3D film and television special effects production.

# 203 PHOTOGRAPHY AND VIDEOGRAPHY TECHNOLOGY

**Program Name**
Photography and videography technology

**Program Definition**
Photography and videography technology research the basic theory and basic skills of photography, television camera, enable students to master product photography, wedding photography, commercial photography, film and television advertising, film, film and television post-production capabilities, be able to engage in photography related jobs, such as commercial photographers, graphic designers, television cameraman, editing, etc. in film and television industry.

**Core Subject Courses**
Camera Principle and Use, Photography and Camera Composition, Photography and Camera Technology Application, Photographic Materials and Post-processing, Graphics and Image Processing Technology, Digital Image Production, Portrait photography, Advertising Photography, Art Photography, etc.

**Employment Prospect**
Media enterprises: photography, film and television production, graphic design, post-editing, wedding photography, etc.

# 204 MODERN EDUCATIONAL TECHNOLOGY

## Program Name
Modern educational technology

## Program Definition
Modern educational technology mainly studies the basic theoretical knowledge of computer science. Students will have solid teaching and application skills, and have the ability to design, develop, apply and manage teaching media and teaching systems, and be competent in computer science education and research in primary and secondary schools. For example: primary school information technology education and teaching, multimedia teaching courseware design and production, campus network establishment and maintenance and teaching equipment maintenance and management.

## Core Subject Courses
C Language Programming, Microcomputer System Maintenance, Web Page Production, Animation Production, Image Processing, Photography Technology, Multimedia Production, Courseware Design, Video Editing, Computer Network Technology, Multimedia Technology, Computer Assembly and Maintenance, Database Principle and Technology.

## Employment Prospect
Educational institutions: educational technology course teachers, educational technicians, information technology teaching, audio-visual education managers, design and production of teaching aids; Software enterprises: software design, development, testing personnel, website construction management, etc.

# 205 CHINESE

**Program Name**
Chinese

**Program Definition**
Chinese mainly studies the basic theoretical knowledge of linguistics and literature, including ancient Chinese, modern Chinese, introduction to literature, ancient Chinese literature, modern Chinese literature, contemporary Chinese literature, etc., so that students have a systematic knowledge and professional skills of Chinese, linguistics, and applied writing. For example: teaching the content of Chinese subjects to improve students' performance; tutoring students in composition, enabling them to participate in competitions, etc.

**Core Subject Courses**
Intermediate Chinese, Chinese Reading, Intensive Chinese Reading, Chinese Listening and Speaking, Translation Theory and Practice, Chinese Teaching Method, Chinese Practical Writing, Chinese and Foreign Literature, Modern Chinese, Ancient Chinese, Applied Writing, Secretary Studies, Documentary Studies, Public Relations Studies, etc.

**Employment Prospect**
Educational institutions: Chinese language teachers, composition tutoring, course consultation; cultural enterprises: editing, publicity, administration, secretarial writing.

# 206 SPORTS TRAINING

**Program Name**
Sports training

**Program Definition**
Sports training mainly studies the basic theoretical knowledge related to competitive sports. Students will have sports-specific knowledge and practical ability, and need to have a healthy body, nutrition, and hygiene-related knowledge, and be able to independently organize and guide sports and fitness, sports entertainment, and leisure activities. For example: training and teaching football, basketball, volleyball, track and field, swimming, boxing, sanda, taekwondo, weightlifting, etc.

**Core Subject Courses**
Sports Training, Sports Anatomy, Exercise Physiology, Sports Psychology, Sports Health Science, Sports English, Computer, Health Massage, Sports Agent, Introduction to Sports, Special Improvement Course, etc.

**Employment Prospect**
Educational institutions: physical education teachers, sports nutrition, sports training; fitness institutions: fitness coaches, shaping guide, course consultants.

# 207 PHYSICAL HEALTH AND REHABILITATION

**Program Name**
Physical health and rehabilitation

**Program Definition**
Physical health and rehabilitation mainly studies the basic theoretical knowledge of sports human science, sports science, basic medicine and clinical medicine. Students will master basic theories of sports rehabilitation and health, as well as skills in traditional therapeutic methods such as acupuncture and massage, physiotherapy and health care, sports and health care, and sports judging. For example: sports rehabilitation, Chinese medicine health care physiotherapy, nutrition conditioning, scientific fitness guidance.

**Core Subject Courses**
Traditional Chinese medicine, hot spring health, medicated diet therapy, massage therapy, medical beauty practical technology, sports health care, fitness and bodybuilding, health yoga, swimming and rescue and so on.

**Employment Prospect**
Health care institutions: health evaluation and management, health care massage, sports health care, physiotherapy rehabilitation, physical therapy rehabilitation, fitness coach, bodybuilding guidance.

# 208 POLICE COMMAND AND TACTICS

**Program Name**
Police command and tactics

**Program Definition**
Police command and tactics mainly learn the basic knowledge of police tactics, police combat command, police arrest tactics, etc., and have the ability of police law enforcement, combat and assistance command, and tactical application. Examples of specific work content: formulation of arrest work plans, law enforcement and battle command, etc.

**Core Subject Courses**
Police Tactics, Police Battle Command, Weapons and Police Equipment and Support, Police Chart Recognition and Application, Police Arrest Tactics, Patrol scrutiny and Inventory Tactics, Transportation Control Techniques , Police Collaborative Tactics, Alarming and Police Command Automation, Police Tactical Strategy, etc.

**Employment Prospect**
Public security, police station: public security law enforcement, combat command, staff work.

# 209 CRIMINAL INVESTIGATION TECHNOLOGY

**Program Name**
Criminal investigation technology

**Program Definition**
Criminal investigation technology mainly studies the basic knowledge and skills of investigation information science, case investigation technology, criminalpsychology and so on. As an important part of China's public security work, this discipline aims at discovering, exposing and confirming all kinds of criminal activities and assisting the police to solve cases smoothly. For example: DNA examination, voice print identification technology, odor identification technology, psychological determination (lie detection) technology, human appearance identification technology, detection communication technology and so on.

**Core Subject Courses**
General Introduction to Criminal Investigation, Investigative Information Science, Criminal Psychology, Investigative Measures and Strategies, Investigative Interrogation, Site Investigation, Criminal Case Investigation, Trace Inspection, Criminal Imaging Technology , Document Inspection, Prison Administration Practice, Prison Case Investigation Technology, Unarmed Defense and Control, Police Equipment and Weapon Use, Police Tactics, Police Vehicle Driving and Criminal Law, Civil Law, Administrative Law, etc.

**Employment Prospect**
Public security organs: work related to technical investigation.

# 210 SMART ELDERLY HEALTH CARE SERVICE AND MANAGEMENT

**Program Name**
Smart elderly health care service and management

**Program Definition**
Smart elderly health care service and management mainly studies basic knowledge and operational skills in health care, health promotion, institutional operation and management. Students are familiar with the policies and regulations of the national old-age care industry, understand the cutting-edge knowledge and application prospects of the cause of old-age care, master the knowledge of modern rehabilitation therapy and traditional Chinese medicine rehabilitation, and have the ability to engage in elderly social work, elderly care and healthcare, and elderly service management. For example: planning the life of the elderly, organizing club activities.

**Core Subject Courses**
Introduction to Sociology, Social Psychology, Introduction to Gerontology, Geriatrics, Geriatric Sociology, Geriatric Theory and Practice, Geriatric Nutrition and Diet, Geriatric Industry Management, Aged Care, etc.

**Employment Prospect**
Aged care institutions: senior business management, senior industrial management, senior social activities, senior university teaching and management, senior psychological analysis and consultation, senior nutrition analysis and conditioning, senior living planning development and design.

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