

# 2021 Edition of the Training Program for Water Supply and Drainage Science and Engineering

Major Code: 081003

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## I. Objectives of Professional Training

This major aims to cultivate individuals who are adaptable to China's new urbanization construction and rural revitalization strategy, align with the needs of regional economic and social development, achieve comprehensive development in morality, intelligence, physical fitness, aesthetics, and labor skills. Students will acquire fundamental theoretical knowledge, engineering skills, and management methods related to the benign social circulation process of urban water systems. They will possess the ability to collaborate in teams, innovate, and engage in self-directed learning. Furthermore, they will uphold the core socialist values, demonstrate a sense of social responsibility and a concept of sustainable development, exhibit humanistic qualities, professional ethics, and entrepreneurial awareness. Graduates will be capable of engaging in design, construction, operation, management, and preliminary research and development in areas such as water quality security, sewage treatment and resource utilization, comprehensive water environment governance, building water supply and drainage, smart water services, and engineering management. They will serve as high-quality applied engineering and technical personnel in the field of water supply and drainage science and engineering, as well as related industries.

Within approximately five years after graduation, students of this major are expected to achieve the following goals:

I. Embrace the core socialist values, uphold the concept of sustainable development, actively fulfill social responsibilities, possess a sound personality, and exhibit good humanistic and social science literacy while adhering to professional ethics and engineering ethical standards.

II. Adapt to the development requirements of the water supply and drainage science and engineering field, possess a comprehensive understanding of relevant professional knowledge, engage in design, construction, operation, management, and preliminary research and development in related fields, demonstrate the capacity for engineering and technical leadership roles.

III. Demonstrate strong teamwork spirit and effective communication skills, capable of assuming team and management roles in water engineering project teams in areas such as engineering planning, design, construction, operation, and management.

IV. Possess a consciousness of innovation, entrepreneurship, self-directed learning, and lifelong learning, continuously acquire and apply new theories, methods, technologies, and equipment in the field of water supply and drainage science and engineering to address complex engineering challenges.

## II. Basic Graduation Requirements

Graduates of this major should meet the following graduation requirements:

Embrace the leadership of the Communist Party of China, love the socialist motherland, master Marxist, Mao Zedong Thought, and the theoretical system of socialism with Chinese characteristics, possess correct worldviews, outlooks on life, values, abide by laws and regulations, foster unity, cooperation, dedication to work, and a willingness to contribute.

#### **1. Engineering Knowledge:**

**Acquire mathematical, natural science, engineering fundamentals, and professional knowledge to solve complex engineering problems in the field of water supply and drainage science and engineering related to engineering planning, design, construction, operation, and management.**

1.1 Master mathematical knowledge related to water supply and drainage science and engineering to understand basic principles of the profession.

1.2 Apply physics, chemistry, biology, and other knowledge to describe and explain important phenomena in complex water supply and drainage science and engineering problems.

1.3 Utilize mechanics, engineering knowledge in engineering planning, design, construction, and operation management.

1.4 Apply professional knowledge in the field of water supply and drainage science and engineering and engineering management to solve complex engineering problems in water supply and drainage projects.

#### **2. Problem Analysis:**

**Apply mathematical, natural science, engineering, and basic principles of water supply and drainage science and engineering to identify and analyze complex problems in the field. Propose feasible solutions through literature research to obtain effective conclusions. Problem Analysis: Being able to apply the fundamental principles of mathematics, natural sciences, engineering, and water supply and drainage science and engineering, and through literature review, identify and analyze complex issues in water supply and drainage science and engineering, propose feasible approaches to obtain effective conclusions.**

2.1 Capable of integrating the principles and methods of mathematics, natural sciences, engineering, and water supply and drainage science and engineering, possessing the ability to identify, assess, analyze, and articulate complex engineering problems.

2.2 By consulting literature databases, standards, regulations, and manuals, comprehensively analyze complex engineering issues in water engineering planning, design, construction, and operation management, propose economical and effective strategies to obtain practical solutions and conclusions.

#### **3. Design/Development of Solutions:**

**Capable of proposing effective and rational design solutions for complex issues in the field of water supply and drainage science and engineering, designing systems, process flows, or process units that meet specific requirements, demonstrating innovation in the design process, and considering the impact of factors such as societal, health, safety, legal, cultural, and environmental aspects.**

3.1 Proficient in the analysis and design methods of units or process flows, developing rational solutions based on the specific requirements of water supply and drainage science and engineering, and meeting the specific needs of practical engineering projects.

3.2 Considering the impact of societal, health, safety, legal, cultural, and environmental factors on solutions, and demonstrating a certain level of innovation in the design process.

#### **4. Research:**

**Capable of designing experiments, acquiring, analyzing, and interpreting data, and deriving rational and effective conclusions for complex issues in water supply and drainage science and engineering based on the fundamental principles of the discipline.**

4.1 Proficient in utilizing the fundamental principles of natural science and engineering, mastering methods and skills for engineering basic experimental design, testing, and detection, designing experiments based on engineering problems, selecting appropriate research platforms, correctly applying analytical testing and detection methods, conducting scientific experiments accurately, and collecting, analyzing, and interpreting experimental data correctly.

4.2 When addressing complex water supply and drainage engineering issues, able to comprehensively analyze data using the fundamental principles of water supply and drainage science and scientific methods to arrive at valid conclusions.

#### **5. Utilization of Modern Tools:**

**Capable of developing, selecting, and utilizing appropriate technologies, resources, modern engineering tools, and information technology tools for addressing complex issues in water supply and drainage science and engineering. Proficient in applying mathematical, engineering, and management models and methods for the simulation, analysis, prediction, and optimization of complex engineering problems, while understanding their limitations.**

5.1 Mastery of the usage methods of modern engineering tools, information technology tools, engineering technologies, and resources, and the ability to make rational selections of modern tools based on complex engineering problems. Proficiency in the fundamental methods of engineering technology and modern engineering tool development.

5.2 Ability to apply technical, engineering, economic, and management models and methods for the development, selection, and utilization of modern tools in simulation, analysis, prediction, and optimization to address complex engineering problems. Capable of understanding the limitations associated with these tools.

**6. Engineering and Society: Capable of conducting rational analysis and evaluation, based on the background knowledge of water supply and drainage science and engineering, of the impact of professional engineering practices and solutions to complex engineering problems on society, health, safety, law, and culture, and understanding the responsibilities that need to be assumed.**

6.1 Able to utilize knowledge of water engineering-related laws and regulations, industry policies, technical standards systems, etc., to rationally analyze and evaluate the impact of solutions to complex water supply and drainage engineering problems on society, health, safety, law, and culture.

6.2 Capable of understanding the responsibilities that needed to be assumed throughout the entire process of implementing engineering solutions. Environment and Sustainable Development:

#### **7. Environment and Sustainable**

**Development: Possessing an awareness of harmonious development between humans and nature, environmental protection knowledge, and adhering to the concept of social sustainable development. Capable of understanding and evaluating the impact of engineering practices in solving complex engineering problems on social, environmental, and economic sustainable development.**

7.1 Understanding the essence and significance of the environment and sustainable development, and being able to evaluate the impact of water engineering practices on the environment and nature.

7.2 Using professional knowledge to analyze and evaluate the impact of water engineering practices on social, environmental, and economic sustainable development.

#### **8. Professional Ethics:**

**Upholding the core socialist values, possessing humanistic and social science literacy, and a sense of social responsibility. Being able to understand and adhere to professional**

**ethical norms and engineering ethical principles in engineering practice within the profession, and fulfill responsibilities.**

8.1 Practicing the core socialist values, possessing humanistic literacy and legal awareness, and consciously complying with them in water engineering practice.

8.2 Understanding the engineer's responsibility for the safety, health, welfare of the public, and environmental protection, and being able to adhere to professional ethical norms and engineering ethical principles, and conscientiously fulfill responsibilities.

**9. Individual and Team:**

**Being able to take on roles as an individual, team member, and leader in a multidisciplinary team, possessing strong collaborative spirit and some organizational management skills.**

9.1 Understanding the inherent connections among various disciplines in the field of water engineering, having team awareness and collaborative spirit, and correctly understanding one's role and responsibilities within the team.

9.2 Having a sense of responsibility as a leader and organizational management skills in a multidisciplinary team.

**10. Communication:**

**Being able to effectively communicate and interact with industry peers and the general public on complex issues in the field of water science and engineering, including writing reports and design documents, creating drawings, making presentations, and responding to instructions. Having proficiency in a foreign language, possessing listening, speaking, reading, and writing abilities, and having an international perspective to communicate and interact in a cross-cultural context.**

10.1 Addressing complex issues in water science and engineering through design drawings, design documents, research reports, presentations, etc., for professional communication. Being able to correctly understand the relationship between water science and engineering and various disciplines, while providing clear and accurate responses to queries from industry peers and the general public.

10.2 Mastering a foreign language, understanding international trends and research advancements in urban and rural water engineering fields. Being able to comprehend and respect the impact of different cultural backgrounds on engineering practices and effectively communicate and interact in a cross-cultural context.

**11. Project Management:**

**Understanding and mastering the principles of water engineering project management and economic decision-making methods, and being able to apply them in a multidisciplinary environment. Possessing a certain level of organizational and management skills.**

11.1 Mastering the principles and methods of engineering management, operations management, and economic decision-making related to water engineering.

11.2 Being able to apply the principles and methods of engineering management, operations management, and economic decision-making in water engineering practices within a multidisciplinary context, and having the ability to organize and manage engineering projects effectively.

**12. Continuous Learning:**

**Having a sense of self-directed and lifelong learning, and the ability to continuously learn and adapt to one's own developmental needs.**

12.1 Recognizing the importance of self-directed learning and staying updated with new knowledge. Having a sense of self-directed learning, understanding avenues and methods for expanding knowledge and enhancing skills.

12.2 Possessing the ability for self-directed and lifelong learning, being able to integrate industry developments with personal developmental needs, and continuously learning and adapting to both societal and personal growth.

### **III Special Features**

1 Aligning with the forefront of the new urbanization, focusing on the integration of industry and education, cultivating applied talents with equal emphasis on design and management.

2 Aligning with the national rural revitalization strategy, focusing on "urban-rural water supply integration," and cultivating high-quality applied talents in the field of urban construction.

### **IV. Main Discipline**

Civil Engineering

### **V. Core Courses**

- Water Resources Utilization and Protection
- Water Supply and Drainage Network Systems (Part One)
- Water Supply and Drainage Network Systems (Part Two)
- Building Water Supply and Drainage Engineering
- Water Quality Engineering (Part One)
- Water Quality Engineering (Part Two)
- Water Engineering Construction
- Basics of Water Treatment Equipment
- Instrumentation and Control of Water Supply and Drainage Engineering

### **VI. Key Practical Teaching Components**

- Major Professional Experiments: University Physics Experiment, Water Analysis Chemistry Experiment, Water Treatment Biology Experiment, Hydraulics Experiment, Water Quality Engineering Experiment.
- Major Professional Internships and Training: Introductory Internship, Electrical and Electronic Training A, Surveying Internship, Metalworking Internship, Production Internship, Graduation Internship.
- Major Professional Course Design (Thesis): Pump and Pumping Station Course Design, Building Water Supply and Drainage Engineering Course Design, Water Supply Network Systems Course Design, Drainage Network Systems Course Design, Water Treatment Course Design, Wastewater Treatment Course Design, Water Engineering Economics and Budgeting Course Design, Graduation Comprehensive Training.

### **VII. Duration and Degree Conferment**

Standard Duration: 4 years, with a study period of 3-6 years; for those who meet the requirements of the "Regulations on the Conferring of Bachelor's Degrees by Hunan City College," a Bachelor of Engineering degree will be conferred.

### **VIII. Graduation Credit Requirements**

The minimum credit requirement for graduation in this major is 230 credits, with the graduation comprehensive training requirement being: Pass.
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## **IX. Talent Development Program Schedule**

Note: The comprehensive graduation training refers to the graduation project. Students are required to choose one of the following directions: urban water supply, urban drainage, or building water supply and drainage engineering, to complete their graduation project. For water supply and drainage directions, students need to complete the design of pipeline networks and water treatment plants. In the building water supply and drainage direction, the focus is on the design of building water supply systems, building drainage systems, building fire protection systems, building hot water systems, and other related system

Serial number	Course type	Course category	Course code	Course Name	credit	Total study hours	Contact learning time	Self-study Study hours	Assessment Method	Weekly hours	Semester
1	Compulsory	General Education	9123311011	Ideological and moral education and the rule of law	3	90	48	42	exam	3	one
2	Compulsory	General Education	9124311041	Outline of Modern and Contemporary Chinese History	3	90	48	42	exam	3	two
3	Compulsory	General Education	9121311021	Basic Principles of Marxism	3	90	48	42	exam	3	Three
4	Compulsory	General Education	9122311021	The theory of socialism with Chinese characteristics and the thought of Xi Jinping	5	150	80	70	exam	5	Four
5	Compulsory	General Education	9128311071	Introduction to Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era	3	90	48	42	exam	3	Five
6	Compulsory	General Education	9125111050	Situation and Policy	2	60	32	28	examination	2	One, four
7	Compulsory	General Education	9054311011	College English (1)	2.5	75	40	35	exam	4	one
8	Compulsory	General Education	9054311021	College English (2)	3.5	105	56	49	exam	4	two
9	Compulsory	General Education	9054311031	University English Extension Series Course (1)	1.5	45	24	21	exam	2	Three
10	Compulsory	General Education	9054311041	University English Expansion Series Course (2)	1.5	45	24	21	exam	2	Four
11	Compulsory	General Education	9051111050	Application writing	1.5	45	32	13	examination	2	one
12	Compulsory	General Education	9131311010	Mental Health Education for College Students	1.5	45	32	13	examination	2	two
13	Compulsory	General Education	9151311010	Career Development and Employment Guidance for College Students (1)	1	30	20	10	examination		Four
	Compulsory	General Education		Career Development and							

14	pulso ry	General Education	9151311020	Employment Guidance for College Students (2)	1	30	18	12	examin ation		six
15	Com pulso ry	General Education	9163311010	Foundation of Innovation and Entrepreneurship	1.5	45	32	13	examin ation	2	two
16	Com pulso ry	General Education	9132311020	Military Theory for College Students	2	60	36	24	Examin ation		one
17	Com pulso ry	Engineering fundamentals	9063311011	Basic Computer Skills for College Students	1.5	45	32	13	exam	4	one
18	Com pulso ry	Engineering fundamentals	9063311021	Computer language (C language)	3	90	32	58	exam	4	two
19	Com pulso ry	General Education	9103811010	University Physical Education and Health (1)	1.5	45	32	13	examin ation	2	one
20	Com pulso ry	General Education	9103811020	University Physical Education and Health (2)	1.5	45	32	13	examin ation	2	two
21	Com pulso ry	General Education	9103811030	University Physical Education and Health (3)	1	30	20	10	examin ation	2	Thr ee
22	Com pulso ry	General Education	9103811040	University Physical Education and Health (4)	1	30	20	10	examin ation	2	Fou r
22	Com pulso ry	Minxue Natural Science	9092112011	Advanced Mathematics A (1)	4.5	135	72	63	exam	6	one
23	Com pulso ry	Minxue Natural Science	9092112021	Advanced Mathematics A (2)	5	150	80	70	exam	6	two
24	Com pulso ry	Mathematics and Natural Sciences	9092112051	Linear Algebra	2	60	32	28	exam	5	Thr ee
25	Com pulso ry	Mathematics and Natural Sciences	9092112061	Probability Theory and Mathematical Statistics	2.5	75	40	35	exam	4	Fou r
26	Com pulso ry	Mathematics and Natural Sciences	9065112011	University Physics A (1)	3	90	48	42	exam	4	two
27	Com pulso ry	Minxue Natural Science	9065112021	University Physics A (2)	3	90	48	42	exam	4	Thr ee
	Com	Mathematics							exam		Thr



28	pulso ry	and Natural Sciences	9065212030	University Physics Experiment	1.5	45	16	29	examin ation	4	thr ee
29	Com pulso ry	Engineering fundamentals	9112112111	Engineering drawing	2.5	75	40	35	exam	4	one
30	Com pulso ry	Mathematics Natural Science	9021312371	General Chemistry	2	60	32	28	exam	4	-
31	Com pulso ry	Professional foundation	9021112010	Introduction to Water Supply and Drainage Science and Engineering	2	60	16	44	examin ation	4	one

32	Compulsory	Minxue Natural Science	9021312381	Organic Chemistry	1.5	45	24	21	exam	2	.
33	Compulsory	Minxue Natural Science	9021312391	Physical Chemistry	2	60	32	28	exam	4	Three
34	Compulsory	Engineering fundamentals	9061312300	Electrical and Electronic Engineering	2	60	32	28	examination	4	Three
35	Compulsory	Engineering fundamentals	9034112101	Engineering Mechanics	3	90	40	50	exam	4	Three
36	Compulsory	Professional foundation	9021312021	Hydraulics	3	90	56	34	exam	4	Three
37	Compulsory	Professional foundation	9021312401	Water Analytical Chemistry	2.5	75	48	27	exam	4	Four
38	Compulsory	Engineering fundamentals	9021112410	Civil engineering foundation	2	60	24	36	examination	4	Four
39	Compulsory	Professional foundation	9021112361	Hydrology and Hydrogeology	2	60	32	28	exam	4	Four
40	Compulsory	Core specialty	9021312041	Pumps and pump stations	2	60	32	28	exam	4	Four
41	Compulsory	Professional foundation	9021312051	Water Treatment Biology	2.5	75	48	27	exam	4	Five
42	Compulsory	Core specialty	9021213140	Water Quality Engineering Experiment	1.5	45	16	29	examination	4	six
43	Compulsory	Engineering fundamentals	9021112421	Water Engineering Economics and Budgeting	2	60	32	28	exam	4	six
44	Compulsory	Core specialty	9021113431	Utilization and Protection of Water Resources	2	60	32	28	exam	4	Four
45	Compulsory	Core specialty	9021113081	Water supply and drainage pipe network system (1)	3	90	48	42	exam	4	Five
46	Compulsory	Core specialty	9021113091	Water supply and drainage pipe network system (2)	3	90	48	42	exam	4	Five
47	Compulsory	Core specialty	9021313101	Building Water Supply and Drainage Engineering	3	90	48	42	exam	4	Five
48	Compulsory	Core specialty	9021113111	Water Quality Engineering (1)	3	90	40	50	exam	4	six
49	Compulsory	Core specialty	9021113441	Water Quality Engineering (2)	3	90	48	42	exam	4	six
50	Compulsory	Core specialty	9021113450	Water engineering construction	2	60	32	28	examination	4	six
51	Compulsory	Core specialty	9021113460	Water engineering equipment foundation	2	60	32	28	examination	4	six
52	Compulsory	Core specialty	9021113160	Water Supply and Drainage Engineering Instruments and Control	1.5	45	24	21	examination	4	Seven
53	Elective	Engineering fundamentals	9024312821	Engineering Surveying	2	60	32	28	exam	4	Three

		fundamentals										cc
54	Elective	Professional foundation	9021324170	AutoCAD Basics	1.5	45	32	13	examination	2	two	
55	Elective		9021324180	Environmental monitoring					examination	2		
56	Elective	Professional foundation	9021324190	Basic Computer Applications in Water Supply and Drainage Engineering (including BIM technology)	2	60	32	28	examination	4	Five	
57	Elective		9080324400	Environmental Impact Assessment					examination	4		
58	Elective	Engineering fundamentals	9021112470	Project Management	1.5	45	24	21	examination	4	Seven	
59	Elective		9022124440	Building electrical					examination	4		
60	Elective	Professional foundation	9021113200	Professional English	1	30	16	14	examination	4	Seven	
61	Elective		9080124500	Urban waste management					examination	4		
62	Elective	Core specialty	9021824210	Interpretation and Application of Water Supply and Drainage Design Standards	1	30	16	14	examination		Five	
63	Elective	Core specialty	9021824480	Water Engineering Operations and Smart Management	1.5	45	32	13	examination	4	Seven	
64	Elective	General Education	9171824030	Art and sports category	2	60	32	28	examination			
65	Elective	General Education	9171824020	Humanities and social sciences	2	60	32	28	examination			

66	Electiv e	General Education	9163311020	Innovation and entrepreneurship category	3	90	32	58	examin ation	
67	Compu lsory	General Education	9122311030	Entrance education and military training	4	120	96	24	examin ation	one
68	Compu lsory	General Education	9123315010	Public service labor	2	60	32	28	examin ation	One - Two
69	Compu lsory	General Education	9141315010	Social practice and volunteer service	2	60	32	28	examin ation	Holid ay
70	Compu lsory	Concentrated practice	9161715010	Electronic Electrical Training A	2	60	32	28	examin ation	Three
71	Compu lsory	Concentrated practice	9024715810	Measurement internship	2	60	32	28	examin ation	Three
72	Compu lsory	Concentrated practice	9021615490	Internship	2	60	32	28	examin ation	Four
73	Compu lsory	Concentrated practice	9021415250	Pump and Pump Station Course Design	2	60	32	28	examin ation	Four
74	Compu lsory	Concentrated practice	9021415260	Building Water Supply and Drainage Course Design	4	120	64	56	examin ation	Five
75	Compu lsory	Concentrated practice	9021415270	Water Supply Pipeline Network Course Design	4	120	64	56	examin ation	Five
76	Compu lsory	Concentrated practice	9031415280	Drainage Pipe Network Course Design	4	120	64	56	examin ation	Five
77	Compu lsory	Concentrated practice	9021415300	Processing course design (including practical ability training for water supply plant engineering)	4	120	64	56	examin ation	six
78	Compu lsory	Concentrated practice	9021415310	Water Treatment Course Design (Including Wastewater Treatment Plant Engineering Practice Ability Training)	4	120	64	56	examin ation	six
79	Compu lsory	Concentrated practice	9021415500	Water Engineering Economics and Budgeting Course Design	2	60	32	28	examin ation	six
80	Compu lsory	Concentrated practice	9021615510	Production internship	16	480	256	224	examin ation	Seven
81	Compu lsory	Concentrated practice	9021715330	Metalworking internship	4	120	64	56	examin ation	Seven
82	Compu lsory	Concentrated practice	9021615340	Graduation internship	4	120	64	56	examin ation	Seven
83	Compu lsory	Concentrated practice	9021515350	Graduation Comprehensive Training	26	780	416	364	examin ation	eight
84	Compu lsory	Concentrated practice		Graduate education	2	60	32	28	examin ation	eight

Everysemestercourseschedule

First year													
The one study Period	Course code	Course Name	Total credit hours	Contac t credit hours	Self- study credit hours	credit	The two study Period	Course code	Course Name	Total credit hours	Contac t credit hours	Self-study credit hours	credit
	9123311031	Ideology, Morality, and LawGovernance	90	48	42	3		9124311041	Outline of Modern and Contemporary Chinese History	90	48	42	3
	9054311011	College English (1)	75	40	35	2.5		9054311021	College English (2)	105	56	49	3.5
	9051111050	Application writing	45	32	13	1.5		9131311010	Mental Health Education for College Students	45	32	13	1.5
	9132311020	Military Theory for College Students	60	36	24	2		9163311010	Foundation of Innovation and Entrepreneurship	45	32	13	1.5
	9063311011	Basic Computer Skills for College Students	45	32	13	1.5		9063311021	Computer Language (C Language)	90	32	58	3
	9103811010	University Sports and Health (1)	45	32	13	1.5		9103811020	University Sports and Health (2)	45	32	13	1.5
	9092112011	Advanced MathematicsA (1)	135	72	63	4.5		9092112021	Advanced MathematicsA (2)	150	80	70	5
	9112112111	Engineering drawing	75	40	35	2.5		9065112011	University PhysicsA (1)	90	48	42	3

	9021312371	General Chemistry	60	32	28	2		9021312381	Organic Chemistry	45	24	21	1.5
	9021112010	Introduction to Water Supply and Drainage Science and Engineering	60	16	44	2		9125111050	Situation and Policy (2 )	15	8	7	0.5
	9125111050	Situation and Policy (1 )	15	8	7	0.5		9021324170	AutoCADBasics	45	32	13	1.5
	9122311030	Entrance education and military training	120	96	24	4		9141315010	Social practice and volunteer service	30	16	14	1
	9123315010	Labor	30	16	14	1				795	440	355	26.5
			855	500	355	28.5							
Second year													
The one study Period	Course code	Course Name	Total credit hours	Contact credit hours	Self-study credit hours	credit	The two study Period	Course code	Course Name	Total credit hours	Contact credit hours	Self-study credit hours	credit
	9121311011	Basic Principles of Marxism	90	48	42	3		9122311021	Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	150	80	70	5
	9054311031	University English Expansion Series Course (1 )	45	24	21	1.5		9125111050	Situation and Policy (4 )	15	8	7	0.5
	9103811030	University Sports and Health (3 )	30	20	10	1		9054311041	University English Expansion Series Course (2)	45	24	21	1.5
	9092112051	Linear Algebra	60	32	28	2		9151311010	Career Development and Employment Guidance for College Students (1 )	30	20	10	1
	9065212030	University Physics Experiment	45	16	29	1.5		9103811040	University Sports and Health (4)	30	20	10	1

	9065112021	University PhysicsA（2）	90	48	42	3		9092112061	Probability Theory and Mathematical Statistics	75	40	35	2.5
	9021312391	Physical Chemistry	60	32	28	2		9021312401	Water Analytical Chemistry	75	48	27	2.5
	9061312300	Electrical and Electronic Engineering	60	32	28	2		9021112361	Hydrology and Hydrogeology	60	32	28	2
	9034112101	Engineering Mechanics	90	40	50	3		9021312041	Pumps and pump stations	60	32	28	2
	9021312021	Hydraulics	90	56	34	3		9021112410	Civil engineering foundation	60	24	36	2
	9024312821	Engineering Surveying	60	32	28	2		9021113431	Utilization and Protection of Water Resources	60	32	28	2
	9161715010	Electronic Electrical TrainingA	60	32	28	2		9021615470	Internship	60	32	28	2
	9024715810	Measurement internship	60	32	28	2		9021415250	Pump and Pump Station Course Design	60	32	28	2
	9125111050	Situation and Policy (3)	15	8	7	0.5				780	424	356	26
			855	452	403	28.5							
	Third year												
The one study Period	Course code	Course Name	Total credit hours	Contact credit hours	Self-study credit hours	credit	The two study Period	Course code	Course Name	Total credit hours	Contact credit hours	Self-study credit hours	credit
	9021113081	Water Supply and Drainage Pipeline Network System（1）	90	48	42	3		9151311020	Career Development and Employment Guidance for College Students (2)	30	18	12	1
	9021113091	Water Supply and Drainage Pipeline Network System (2)	90	48	42	3		9021213140	Water Quality Engineering Experiment	45	16	29	1.5
	9021313101	Building Water Supply and Drainage Engineering	90	48	42	3		9021113111	Water Quality Engineering(1)	90	40	50	3
	9021324190	Basic Computer Applications in Water Supply and Drainage Engineering (includingBIM)	60	32	28	2		9021113121	Water Quality Engineering(2)	90	40	50	3

	9021312051	Water Treatment Biology	75	48	27	2.5		9021113130	Water engineering construction	60	32	28	2
	9021824210	Interpretation and Application of Water Supply and Drainage Design Standards	30	16	14	1		9021113440	Water engineering equipment foundation	60	32	28	2
	9021415260	Building Water Supply and Drainage Course Design	120	64	56	4		9021112421	Water Engineering Economics and Budgeting	60	32	28	2
	9021415270	Water Supply Pipeline Network Course Design	120	64	56	4		9021415300	Water Treatment Course Design (Including Practical Training in Water Supply Plant Engineering)	120	64	56	4
	9031415280	Drainage Pipe Network Course Design	120	64	56	4		9021415310	Sewage Treatment Course Design (Including Practical Training in Sewage Plant Engineering)	120	64	56	4
	9128311071	Introduction to Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era	90	48	42	3		9021415480	Water Engineering Economics and Budgeting Course Design	60	32	28	2
			885	480	405	29.5				735	370	365	24.5
Fourth year													
The one	Course code	Course Name	Total study hours	Contact credit hours	Self-study credit hours	credit	The two	Course code	Course Name	Total study hours	Contact credit hours	Self-study credit hours	credit



study Period	9021113160	Water Supply and Drainage Engineering Instruments and Control	45	24	21	1.5	study Period	9021515350	Graduation Comprehensive Training	780	416	364	26
	9041124010	Project Management	45	24	21	1.5			Graduate education	60	32	28	2
	9021113200	Professional English	30	16	14	1				840	448	392	28
	9021824430	Water Engineering Operations and Smart Management	45	32	13	1.5							
	9021715450	Metalworking internship	120	64	56	4							
	9021615440	Production internship	480	256	224	16							
	9021615340	Graduation internship	120	64	56	4							
			885	480	405	29.5							